ORIGO

Gigabit Ethernet L2 Switch

User Manual

Table of Contents

1. Getting Started

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.

1.1 Power

1.1.1 Connecting to Power

This chapter mainly introduces the basic configuration operation of the switch. This chapter includes the following topics:

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.

Figure 1. Rear View AC Power Socket.

1.1.2 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.

Connect the switch to end nodes using a standard Cat 5/5e Ethernet cable (UTP/STP) to connect the switch to end nodes as shown in the illustration below.

Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which the switch is connected.

1.1.3 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.

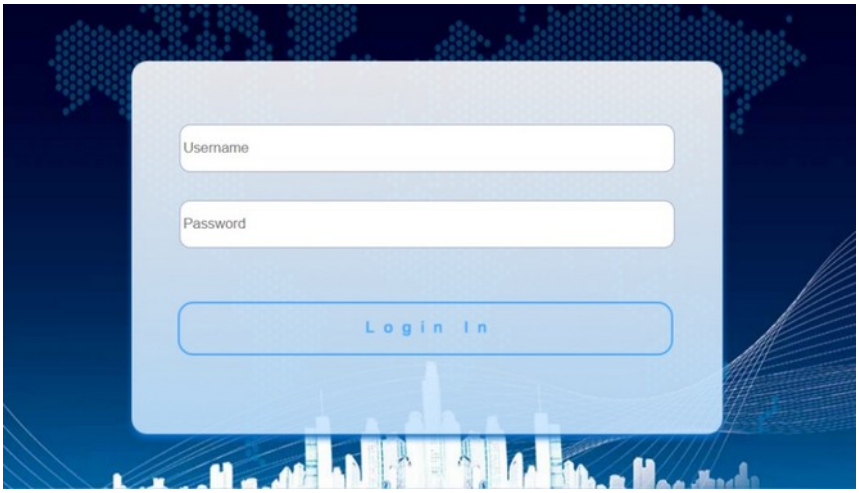


Figure 2. Login Window

1.1.4 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.

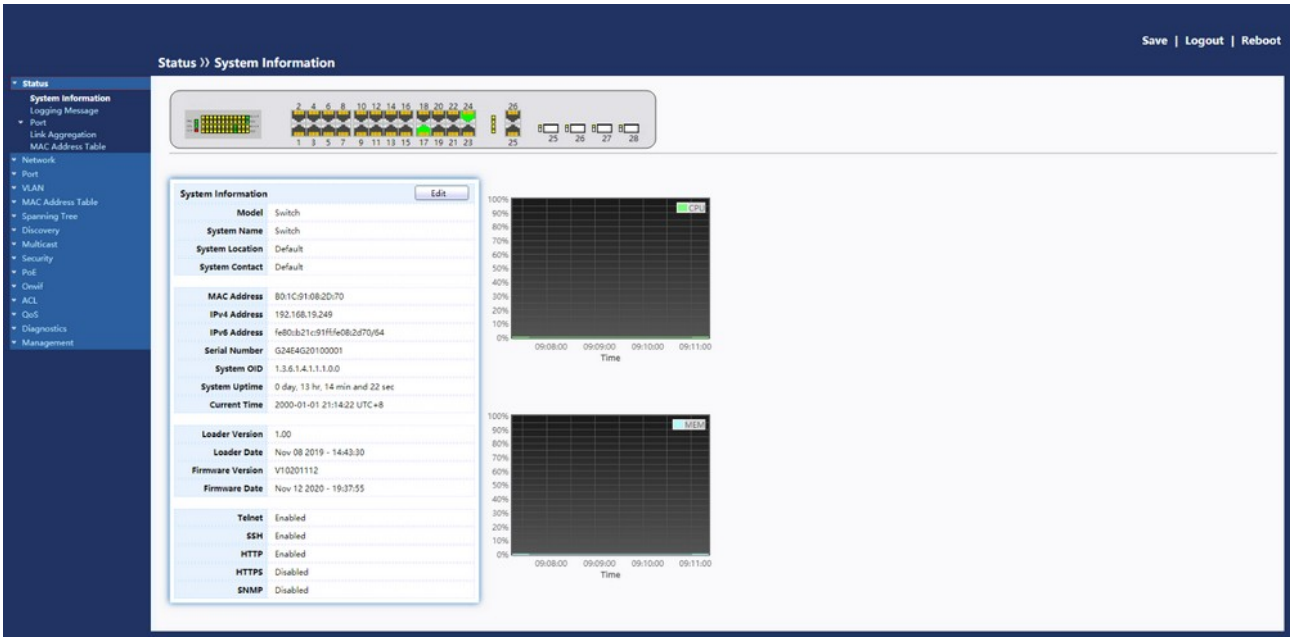


Figure 3. System Information.

2. Web-based Switch Configuration

The PoE 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:

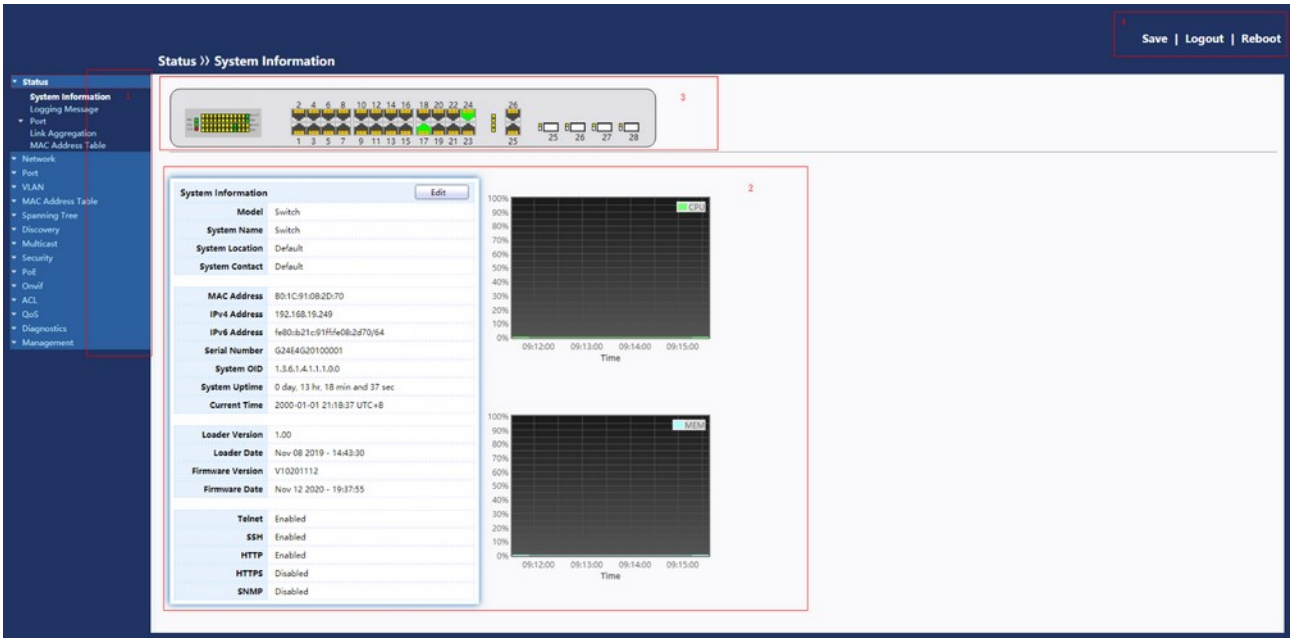


Figure 4. User Interface.

No.	Name	Description
1	Configuration menu	Navigate to locate specific switch functions.
2	Configuration settings	Edit specific function settings.
3	Switch's current link	Green squares indicate the port link is up, while black squares indicate the port link is down.
4	Common toolbar	Provides access to frequently used settings.

2.1 Status

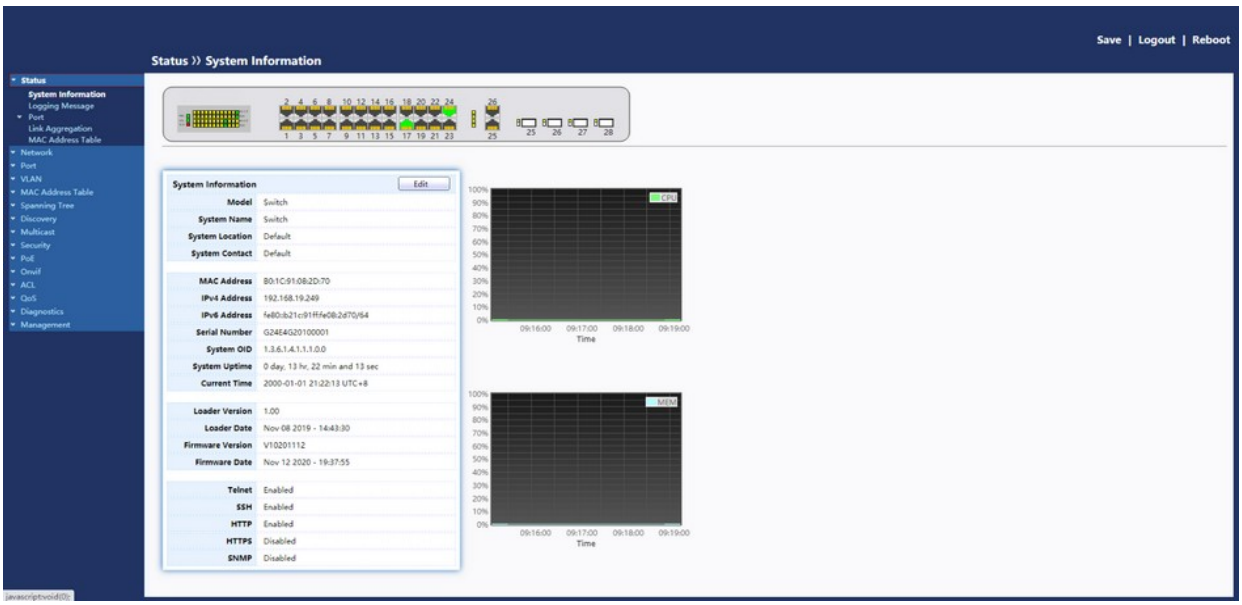
Use the Status pages to view system information and status.

2.1.1 System Information

This page shows switch panel, CPU utilization, Memory utilization and other system current information. It also allows the user to edit some system information.

To display the Device Information web page, click Status > System Information.

Figure 5. Status > System Information.



Item	Description
Model	Model name of the switch.
System Name	System name of the switch. This name will also use as CLI prefix of each line. (“Switch>” or “Switch#”).
System Location	Location information of the switch.
System Contact	Contact information of the switch.
IPv4 Address	Current system IPv4 address.
IPv6 Address	Current system IPv6 address.
System OID	SNMP system object ID.
System Uptime	Total elapsed time from booting.
Current Time	Current system time.
Loader Version	Boot loader image version.
Loader Date	Boot loader image build date.
Firmware Version	Current running firmware image version.
Firmware Date	Current running firmware image build date.
Telnet	Current Telnet service enable/disable state.
SSH	Current SSH service enable/disable state.
HTTP	Current HTTP service enable/disable state.
HTTPS	Current HTTPS service enable/disable state.
SNMP	Current SNMP service enable/disable state.

Click “Edit” button on the table title to edit following system information.

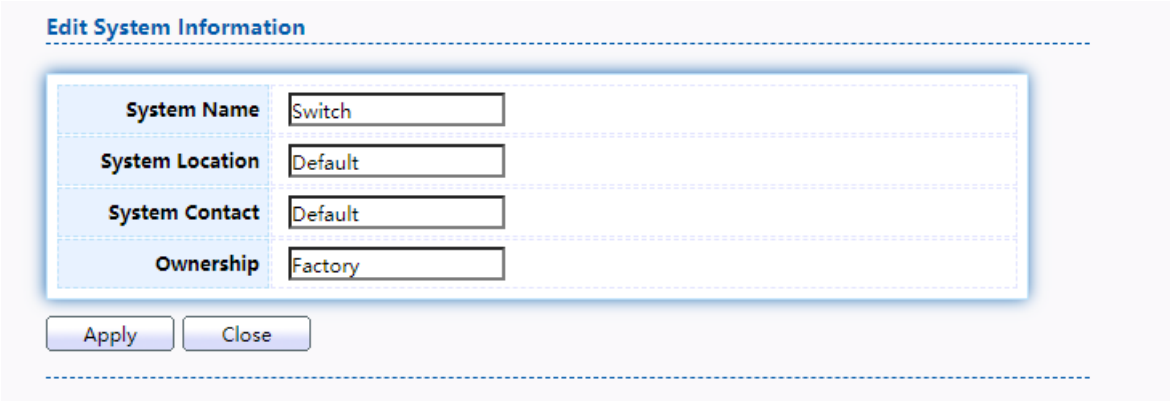


Figure 6. Status > System Information > Edit System Information.

Item	Description
System Name	System name of the switch. This name will also use as CLI prefix of each line. (“Switch>” or “Switch#”).
System Location	Location information of the switch.
System Contact	Contact information of the switch.
Ownership	Ownership information of the switch.

2.1.2 Logging Message

To view the logging messages stored on the RAM and Flash, click Status > Logging Message.

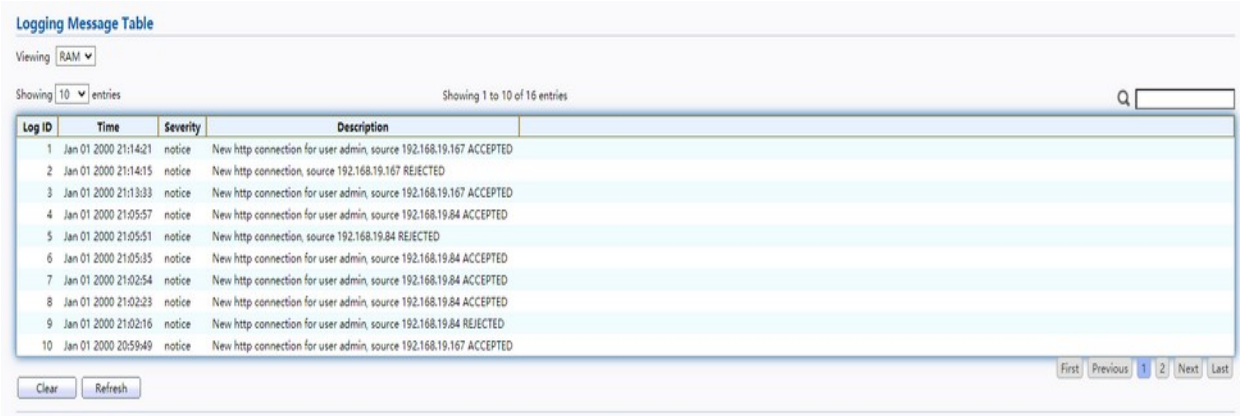


Figure 7. Status > Logging Message.

Item	Description
Log ID	The log identifier.
Time	The time stamp for the logging message.
Severity	The severity for the logging message.
Description	The description of logging message.

Viewing	The logging view including: • RAM: Show the logging messages stored on the RAM. • Flash: Show the logging messages stored on the Flash.
Clear	Clear the logging messages.
Refresh	Refresh the logging messages.

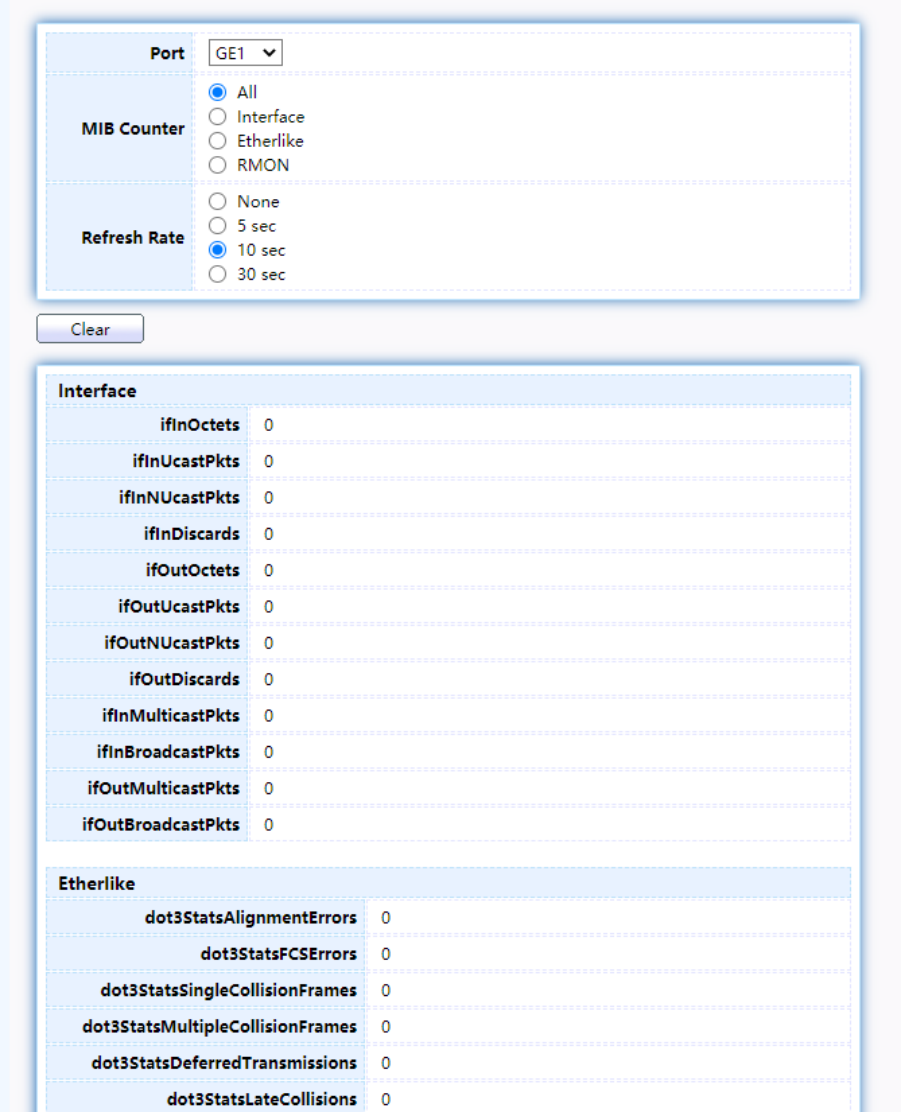
2.1.3 Port

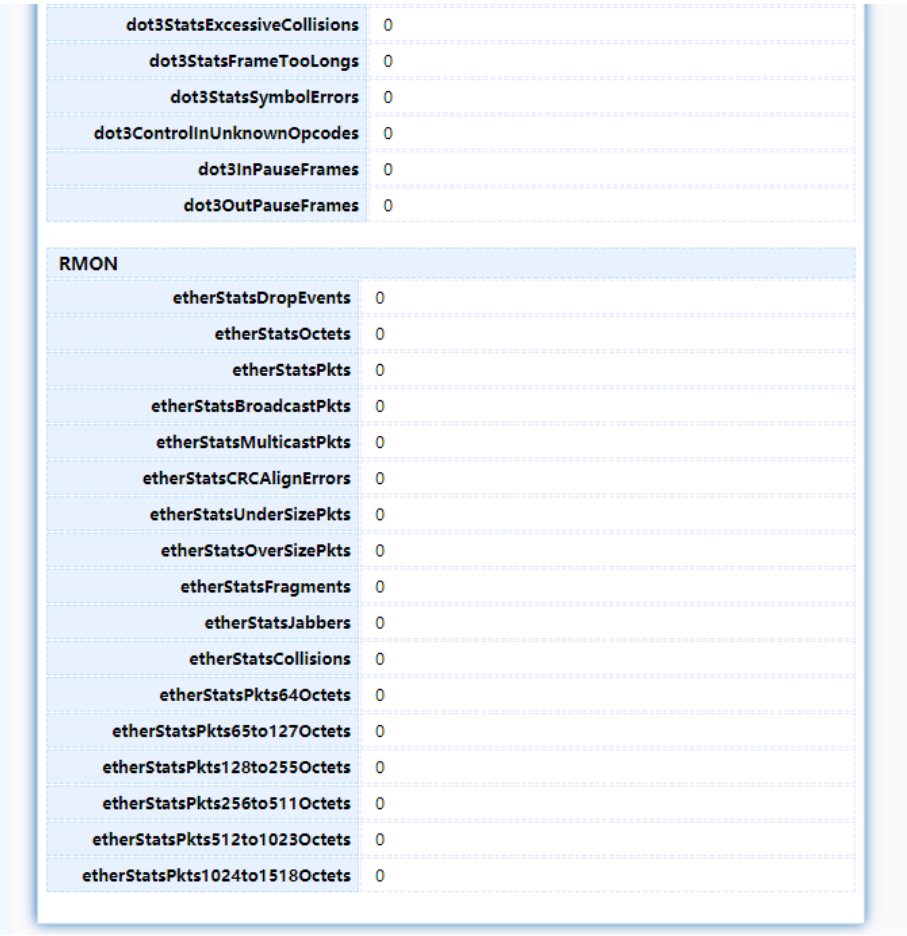
The Port configuration page displays port summary and status information.

2.1.3.1 Statistics

This page displays standard counters on network traffic form the Interfaces, Ethernet-like and RMONMIB. Interfaces and Ethernet-like counters display errors on the traffic passing through each port. RMON counters provide a total count of different frame types and sizes passing through each port. The “Clear” button will clear MIB counter of current selected port.

To display the Port Flow Chart web page, click Status > Port > Statistics.





dot3StatsExcessiveCollisions	0
dot3StatsFrameTooLongs	0
dot3StatsSymbolErrors	0
dot3ControlInUnknownOpcodes	0
dot3InPauseFrames	0
dot3OutPauseFrames	0
RMON	
etherStatsDropEvents	0
etherStatsOctets	0
etherStatsPkts	0
etherStatsBroadcastPkts	0
etherStatsMulticastPkts	0
etherStatsCRCAlignErrors	0
etherStatsUnderSizePkts	0
etherStatsOverSizePkts	0
etherStatsFragments	0
etherStatsJabbers	0
etherStatsCollisions	0
etherStatsPkts64Octets	0
etherStatsPkts65to127Octets	0
etherStatsPkts128to255Octets	0
etherStatsPkts256to511Octets	0
etherStatsPkts512to1023Octets	0
etherStatsPkts1024to1518Octets	0

Figure 8. Status > Port > Statistics.

Item	Description
Port	Select one port to show counter statistics.
MIB Counter	Select the MIB counter to show different counter type: • All: All counters. • Interface: Interface related MIB counters. • Etherlike: Ethernet-like related MIB counters. • RMON: RMON related MIB counters.
Refresh Rate	Refresh the web page every period of seconds to get new counter of specified port.

2.1.3.2 Error Disabled

To display the Error Disabled web page, click Status > Port > Error Disabled.

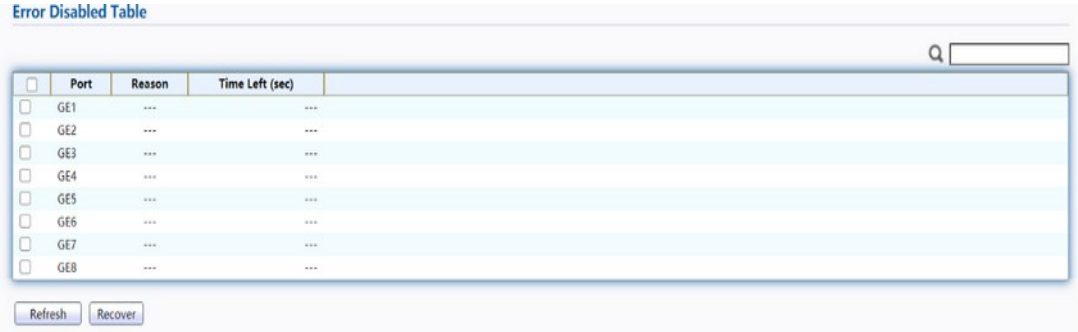


Figure 9. Status > Port > Error Disabled.

Item	Description
□	Select one or more port to operate.
Reason	Port will be disabled by one of the following error reason: • BPDU Guard, • UDLD, • Self Loop, • Broadcast Flood, • Unknown Multicast Flood, • Unicast Flood, • ACL, • Port Security Violation, • DHCP rate limit, • ARP rate limit.
Time Left (sec)	The time left in second for the error recovery.
Refresh	Refresh the current page.
Recover	Recover the selected port status.

2.1.3.2 Bandwidth Utilization

This page allows the user to browse ports' bandwidth utilization in real time. This page will refresh automatically in every refresh period.

To display Bandwidth Utilization web page, click Status > Port > Bandwidth Utilization.

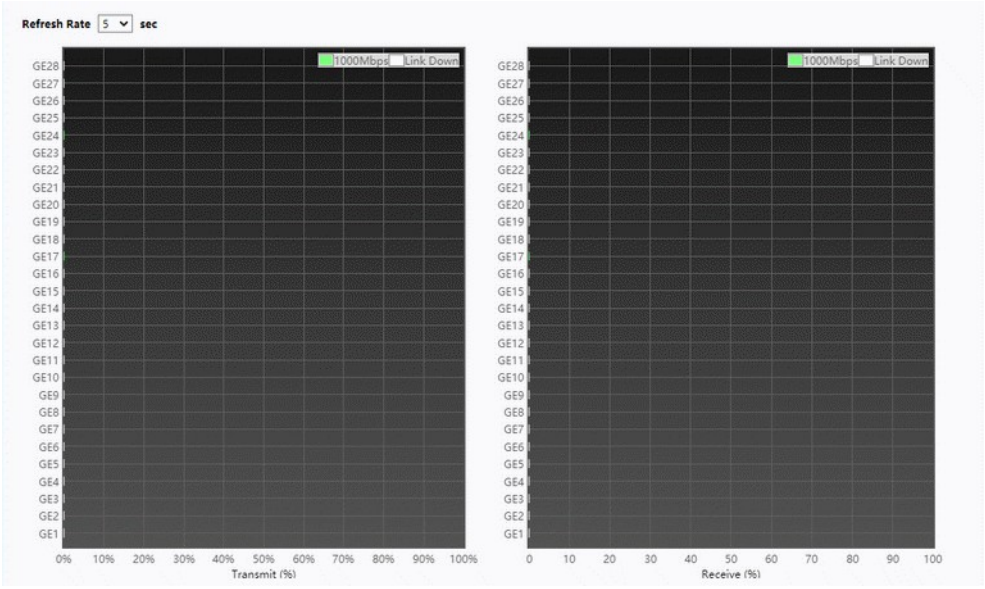


Figure 10. Status > Port > Bandwidth Utilization.

Item	Description
Refresh Rate	Refresh the web page every period of seconds to get new bandwidth utilization data.

2.1.4 Logging Message

To display the Link Aggregation web page, click Status > Link Aggregation.

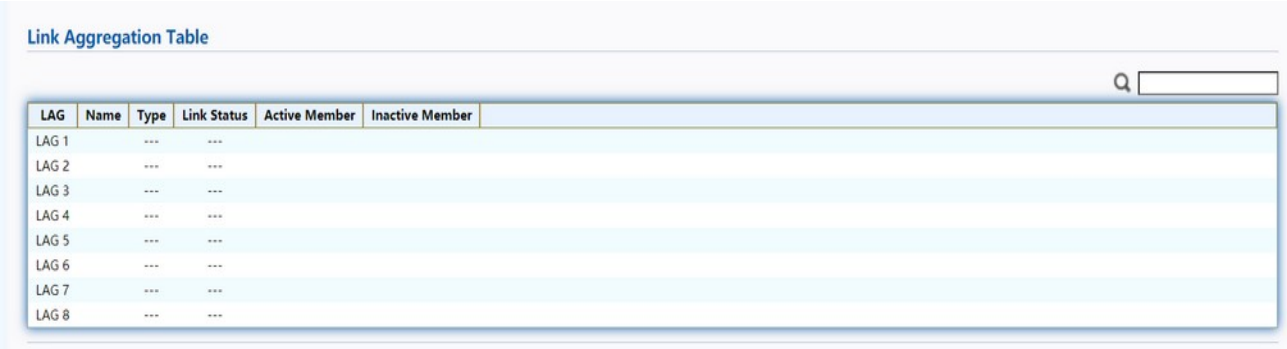


Figure 11. Status > Link Aggregation.

Item	Description
LAG	LAG Name.
Name	LAG port description.
Type	The type of the LAG. • Static: The group of ports assigned to a static LAG are always active members. • LACP: The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active member ports.

Link Status	LAG port link status.
Active Member	Active member ports of the LAG.
Inactive Member	Inactive member ports of the LAG.

2.1.5 MAC Address Table

The MAC address table page displays all MAC address entries on the switch including static MAC address created by administrator or auto learned from hardware. The “Clear” button will clear all dynamic entries and “Refresh” button will retrieve latest MAC address entries and show them on page.

To display the MAC Address Table web page, click Status > MAC Address Table.

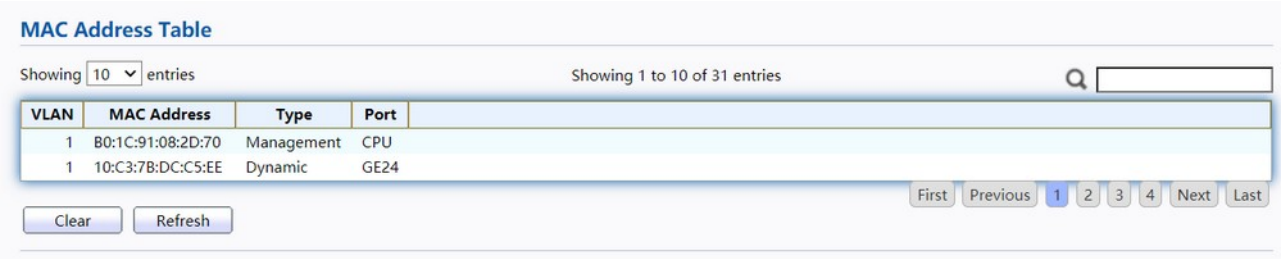


Figure 12. Status > MAC Address Table.

Item	Description
VLAN	VLAN ID of the mac address.
MAC Address	MAC address.
Type	The type of MAC address. • Management: DUT’s base mac address for management Purpose. • Static: Manually configured by administrator. • Dynamic: Auto learned by hardware.
Port	The type of Port. • CPU: DUT’s CPU port for management purpose. • Other: Normal switch port.

2.2 Network

Use the Network pages to configure settings for the switch network interface and how the switch connects to a remote server to get services.

2.2.1 IP Address

This section allows you to edit the IP address, Netmask, Gateway and DNS server of the switch.

To view the IP Address menu, navigate to Network > IP Address.

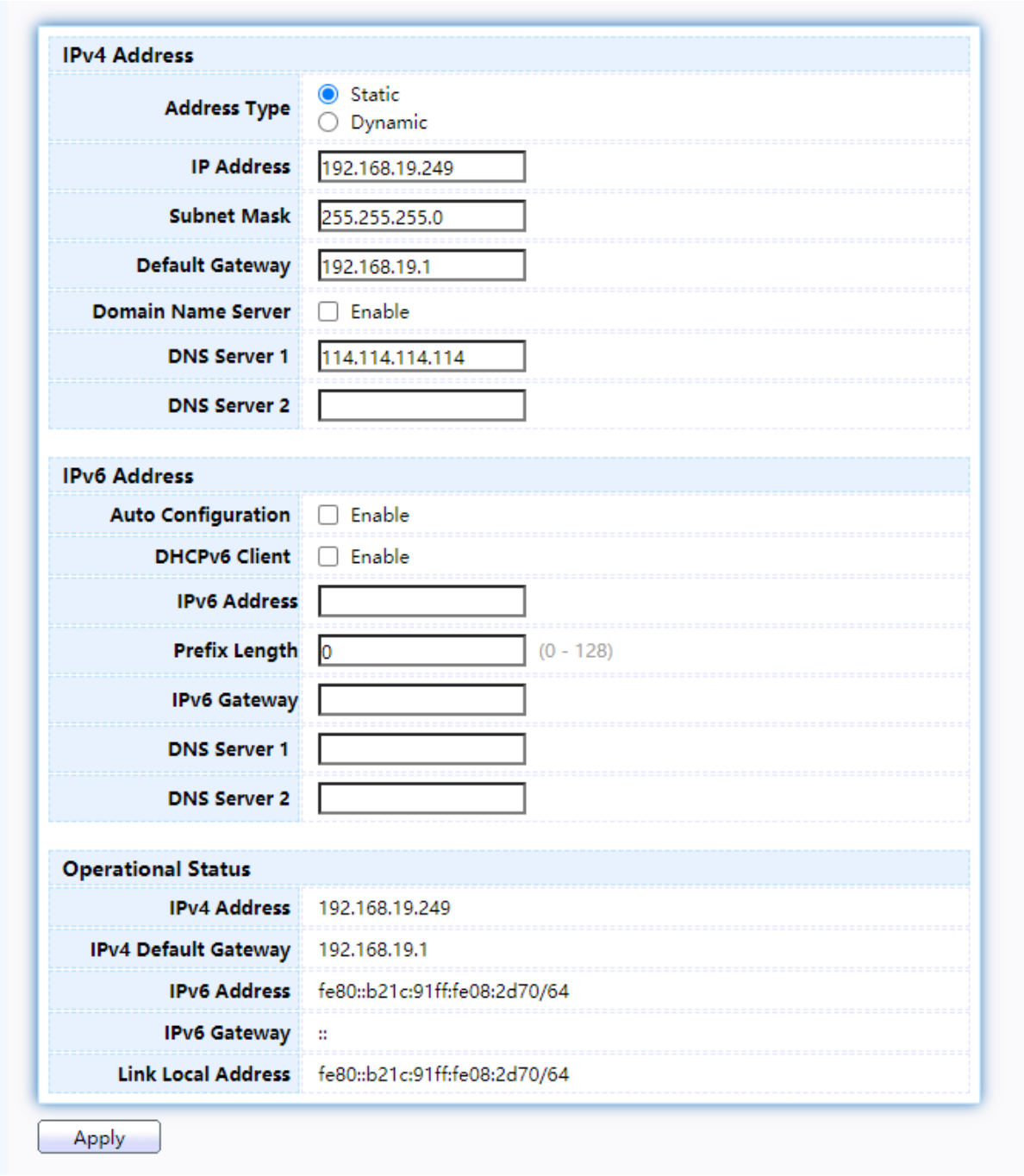


Figure 13. Network > IP Address.

Item	Description
Address Type	The address type of switch IP configuration including: • Static: Static IP configured by users will be used. • Dynamic: Enable the DHCP to obtain the IP address from a DHCP server.
IP Address	Specify the switch static IP address on the static configuration.
Subnet Mask	Specify the switch subnet mask on the static configuration.

Default Gateway	Specify the default gateway on the static configuration. The default gateway must be in the same subnet with switch IP address configuration.
DNS Server 1	Specify the primary user-defined IPv4 DNS server configuration.
DNS Server 2	Specify the secondary user-defined IPv4 DNS server configuration.
Ibid, IPv6 Address fields	
IPv4 Address	The operational IPv4 address of the switch.
IPv4 Gateway	The operational IPv4 gateway of the switch.
IPv6 Address v6	The operational IPv6 address of the switch.
IPv6 Gateway	The operational IPv6 gateway of the switch.
Link Local Address	The IPv6 link local address for the switch.

2.2.2 Mirror Classification

This page allows the user to set time source, static time, time zone and daylight saving settings. Time zone and daylight saving takes effect both static time or time from SNTP server.

To display System Time page, click Network > System Time.

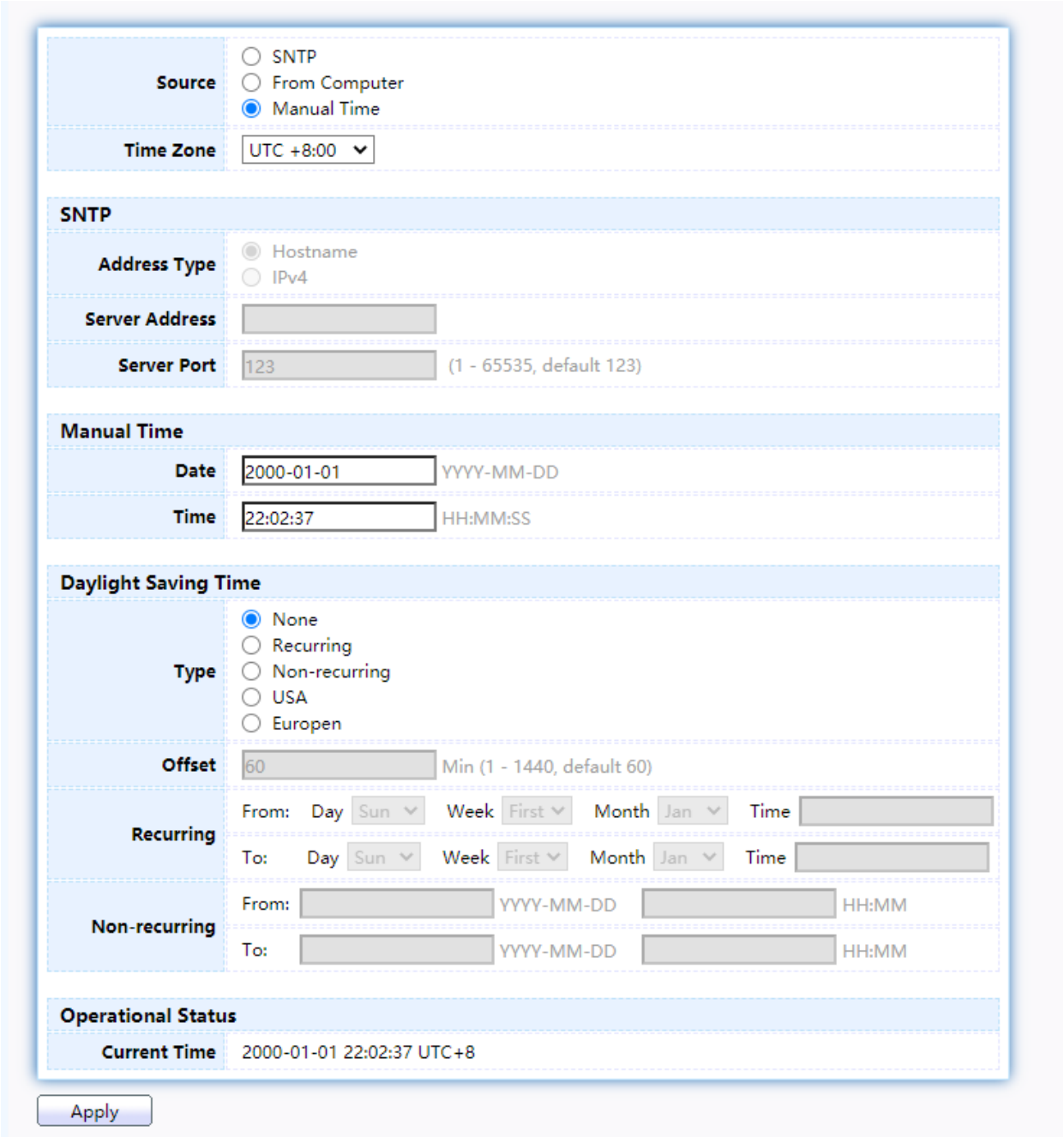


Figure 14. Network > System Time.

Item	Description
Source	Select the time source. • SNTP: Time sync from NTP server. • From Computer: Time set from browser host. • Manual Time: Time set by manually configure.
Time Zone	Select a time zone difference from listing district.

SNTP	
Address Type	Select the address type of NTP server. This is enabled when time source is SNTP.
Server Address	Input IPv4 address or hostname for NTP server. This is enabled when time source is SNTP.
Server Port	Input NTP port for NTP server. Default is 123. This is enabled when time source is SNTP.
Manual Time	
Date	Input manual date. This is enabled when time source is manual.
Time	Input manual time. This is enabled when time source is manual.
Daylight Saving Time	
Type	Select the mode of daylight saving time. • None: Disable daylight saving time. • Recurring: Using recurring mode of daylight saving time. • Non-Recurring: Using non-recurring mode of daylight saving time. • USA: Using daylight saving time in the United States that starts on the second Sunday of March and ends on the first Sunday of November. • European: Using daylight saving time in the Europe that starts on the last Sunday in March and ending on the last Sunday in October.
Offset	Specify the adjust offset of daylight saving time.
Recurring From	Specify the starting time of recurring daylight saving time. This field available when selecting “Recurring” mode.
Recurring To	Specify the ending time of recurring daylight saving time. This field available when selecting “Recurring” mode.
Non-recurring From	Specify the starting time of non-recurring daylight saving time. This field available when selecting “Non-Recurring” mode.
Non-recurring To	Specify the ending time of recurring daylight saving time. This field available when selecting “Non-Recurring” mode.
Operational Status	
Current Time	Current time.

2.3 Port

Use the Port pages to configure settings for switch port related features.

2.3.1 Port Setting

This page shows port current status and allow user to edit port configurations. Select port entry and click “Edit” button to edit port configurations.

To display Port Setting web page, click Port > Port Setting.

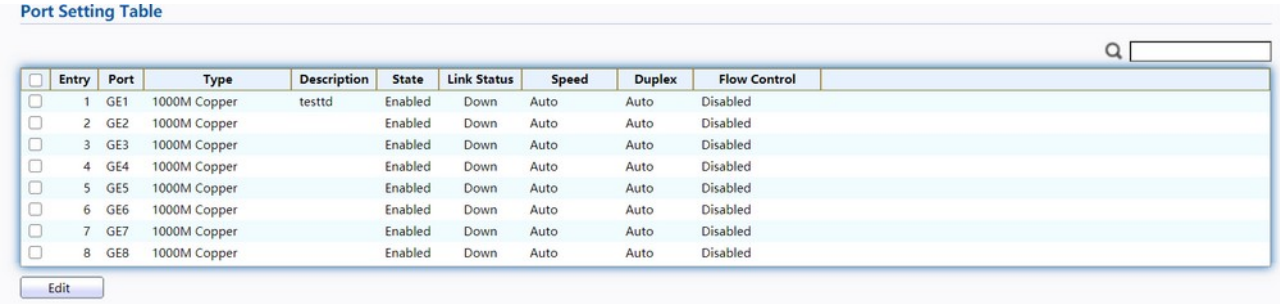


Figure 15. Port > Port Setting.

Item	Description
Port	Port Name.
Type	Port media type.
Description	Port Description.
State	Port admin state. • Enabled: Enable the port. • Disabled: Disable the port.
Link Status	Current port link status • Up: Port is link up. • Down: Port is link down.
Speed	Current port speed configuration and link speed status.
Duplex	Current port duplex configuration and link duplex status.
Flow Control	Current port flow control configuration and link flow control status.

Click “Edit” button to edit Port Setting menu

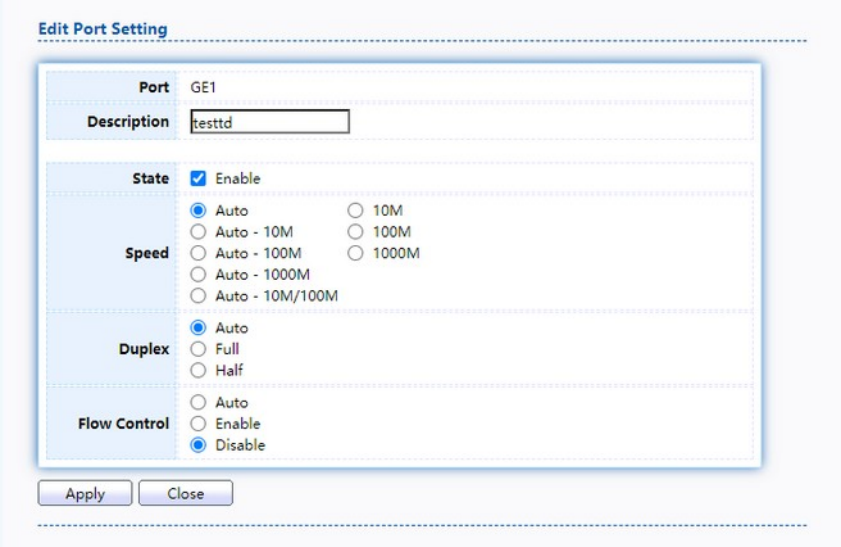


Figure 16. Port > Port Setting > Edit Port Setting.

Item	Description
Port	Selected Port list.
Type	Port media type.
Description	Port Description.
State	Port admin state. • Enabled: Enable the port. • Disabled: Disable the port.
Speed	Port speed capabilities. • Auto: Auto speed with all capabilities. • Auto-10M: Auto speed with 10M ability only. • Auto-100M: Auto speed with 100M ability only. • Auto-1000M: Auto speed with 1000M ability only. • Auto-10M/100M: Auto speed with 10M/100M abilities. • 10M: Force speed with 10M ability. • 100M: Force speed with 100M ability. • 1000M: Force speed with 1000M ability.
Duplex	Port duplex capabilities. • Auto: Auto duplex with all capabilities. • Half: Auto speed with 10M and 100M ability only. • Full: Auto speed with 10M/100M/1000M ability only.
Flow Control	Port flow control. • Auto: Auto flow control by negotiation. • Enabled: Enable flow control ability. • Disabled: Disable flow control ability.

2.3.2 Error Disable

To display Error Disabled web page, click Port > Error Disabled.

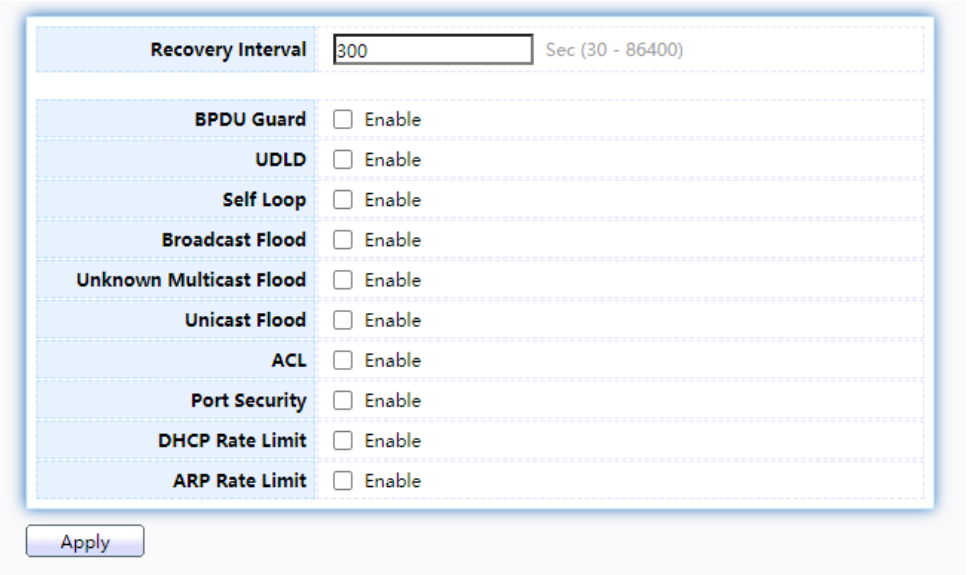


Figure 17. Port > Error disable.

Item	Description
Recover Interval	Auto recovery after this interval for error disabled port.
BPDU Guard	Enabled to auto shutdown port when BPDU Guard reason occur. This reason caused by STP BPDU Guard mechanism.
UDLD	Enabled to auto shutdown port when UDLD violation occur.
Self Loop	Enabled to auto shutdown port when Self Loop reason occur.
Broadcast Flood	Enabled to auto shutdown port when Broadcast Flood reason occur. This reason caused by broadcast rate exceed broadcast storm control rate.
Unknown Multicast Flood	Enabled to auto shutdown port when Unknown Multicast Flood reason occur. This reason caused by unknown multicast rate exceed unknown multicast storm control rate.
Unicast Flood	Enabled to auto shutdown port when Unicast Flood reason occur. This reason caused by unicast rate exceed unicast storm control rate.
ACL	Enabled to auto shutdown port when ACL shutdown port reason occur. This reason caused packet match the ACL shutdown port action.
Port Security	Enabled to auto shutdown port when Port Security Violation reason occur. This reason caused by violation port security rules.
DHCP rate limit	Enabled to auto shutdown port when DHCP rate limit reason occur. This reason caused by DHCP packet rate exceed DHCP rate limit.
ARP rate limit	Enabled to auto shutdown port when ARP rate limit reason occur. This reason caused by DHCP packet rate exceed ARP rate limit.

2.3.3 Link Aggregation

2.3.3.1 Group

This page allows the user to configure link aggregation group load balance algorithm and group member.

To view the Group menu, navigate to Port > Link Aggregation > Group.

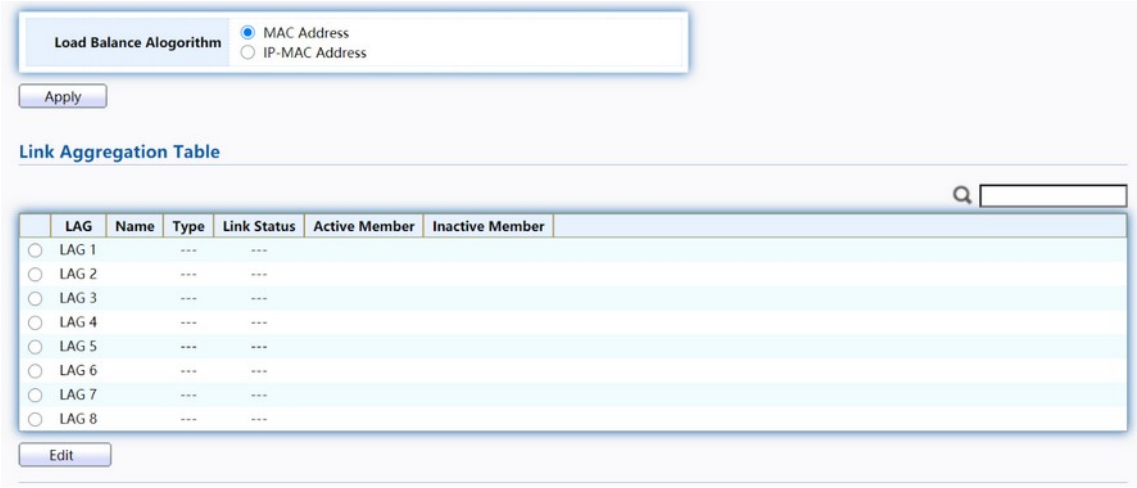


Figure 18. Port > Link Aggregation > Group.

Item	Description
Load Balance Algorithm	LAG load balance distribution algorithm. • src-dst-mac: Based on MAC address. • src-dst-mac-ip: Based on MAC address and IP address.
LAG	LAG Name.
Name	LAG port description.
Type	The type of the LAG • Static: The group of ports assigned to a static LAG are always active members. • LACP: The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active member ports.
Link Status	LAG port link status.
Active Member	Active member ports of the LAG.
Inactive Member	Inactive member ports of the LAG.

Click “Edit” to edit Link Aggregation Group menu.

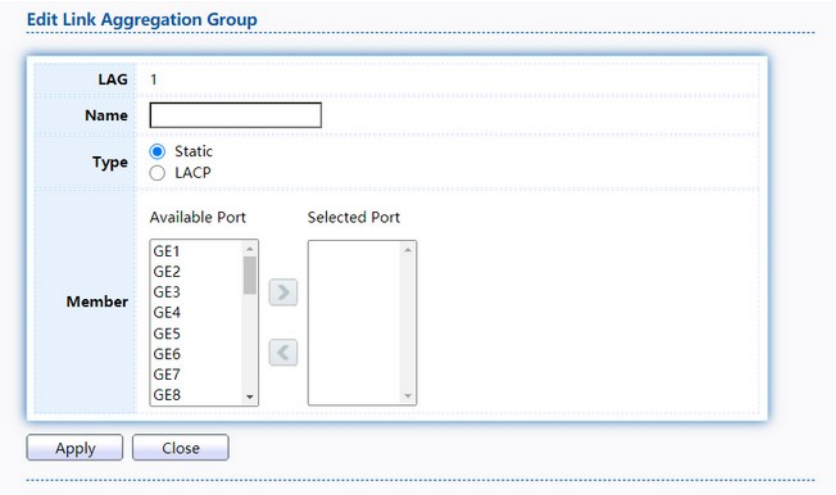


Figure 19. Port > Link Aggregation > Group > Edit Link Aggregation Group.

Item	Description
LAG	Selected LAG group ID.
Name	LAG port description.
Type	The type of the LAG. • Static: The group of ports assigned to a static LAG are always active members. • LACP: The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active member ports.
Member	Select available port to be LAG group member port.

2.3.3.2 Port Setting

This page shows LAG port current status and allow user to edit LAG port configurations. Select LAG entry and click “Edit” button to edit LAG port configurations.

To display LAG Port Setting web page, click Port > Link Aggregation > Port Setting.

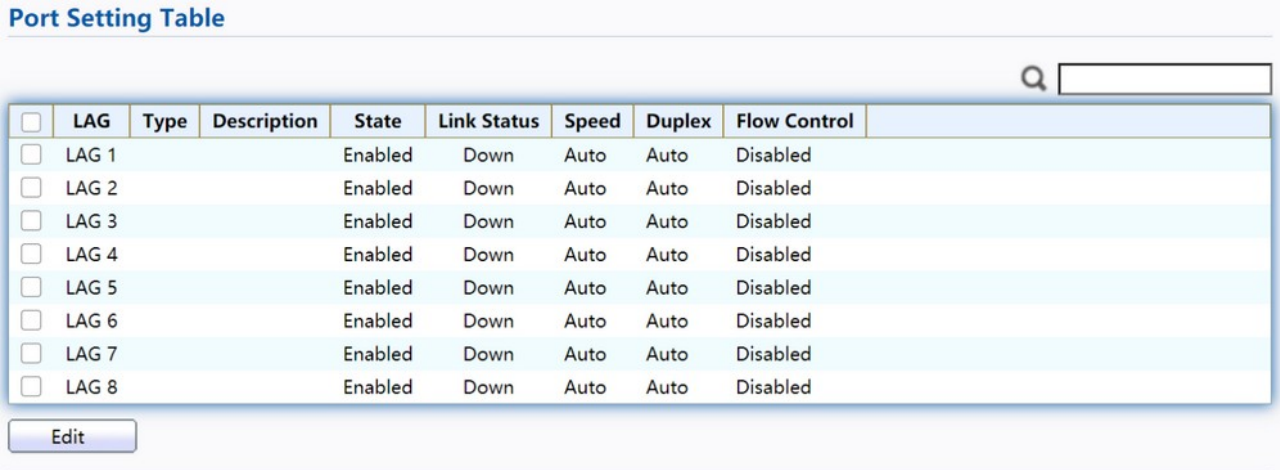


Figure 20. Port > Link Aggregation > Port Setting.

Item	Description
LAG	LAG Port Name.
Type	LAG Port media type.
Description	LAG Port description.
State	LAG Port admin state. • Enabled: Enable the port. • Disabled: Disable the port.
Link Status	Current LAG port link status. • Up: Port is link up. • Down: Port is link down.
Speed	Current LAG port speed configuration and link speed status.
Duplex	Current LAG port duplex configuration and link duplex status.
Flow Control	Current LAG port flow control configuration and link flow control status.

Click “Edit” to view Edit Port Setting menu.

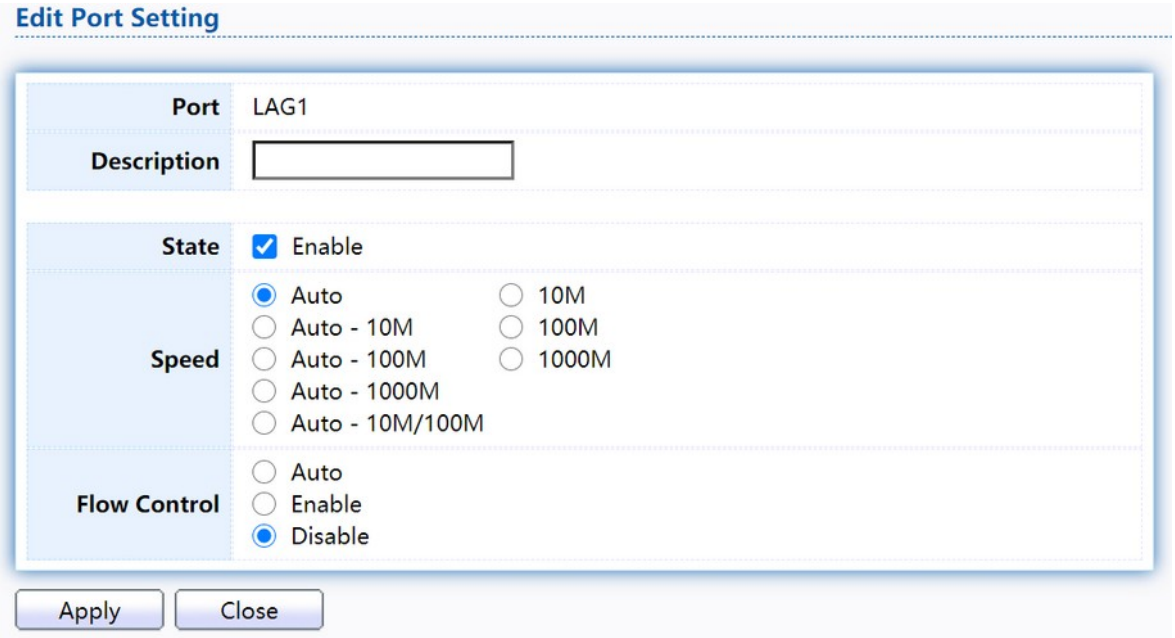


Figure 21. Port > Link Aggregation > Port Setting > Edit Port Setting.

Item	Description
Port	Selected Port list.
Description	Port description.
State	Port admin state. • Enabled: Enable the port.

	• Disabled: Disable the port.
Speed	Port speed capabilities. • Auto: Auto speed with all capabilities. • Auto-10M: Auto speed with 10M ability only. • Auto-100M: Auto speed with 100M ability only. • Auto-1000M: Auto speed with 1000M ability only. • Auto-10M/100M: Auto speed with 10M/100M abilities. • 10M: Force speed with 10M ability. • 100M: Force speed with 100M ability. • 1000M: Force speed with 1000M ability.
Flow Control	Port flow control. • Auto: Auto flow control by negotiation. • Enabled: Enable flow control ability. • Disabled: Disable flow control ability.

2.3.3.3 LACP

This page allows the user to configure LACP global and port configurations. Select ports and click “Edit” button to edit port configuration.

To display the LACP Setting web page , click Port > Link Aggregation > LACP.

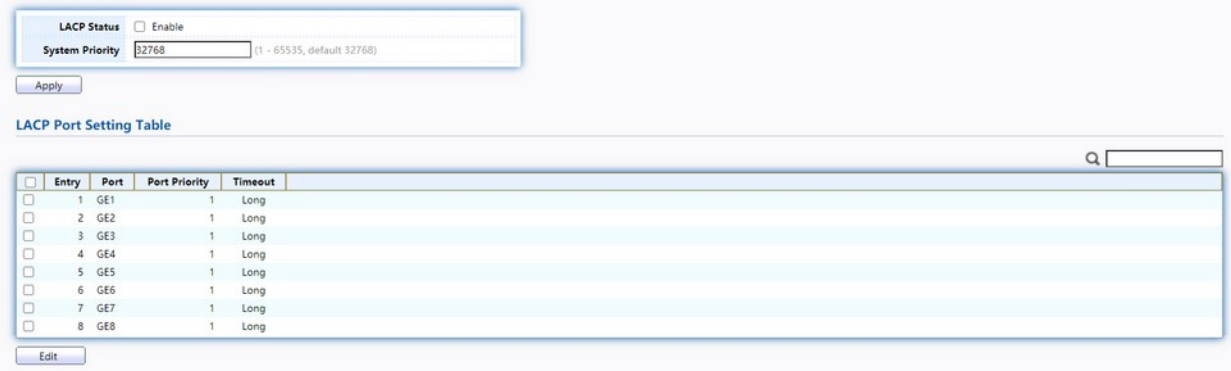


Figure 22. Port > Link Aggregation > LACP.

Item	Description
System Priority	Configure the system priority of LACP. This decides the system priority field in LACP PDU.
Port	Port Name.
Port Priority	LACP priority value of the port.
Timeout	The periodic transmissions type of LACP PDUs. • Long: Transmit LACP PDU with slow periodic (30s). • Short: Transmit LACP PDU with fast periodic (1s).

Click "Edit" button to view Edit LACP Port Setting menu.

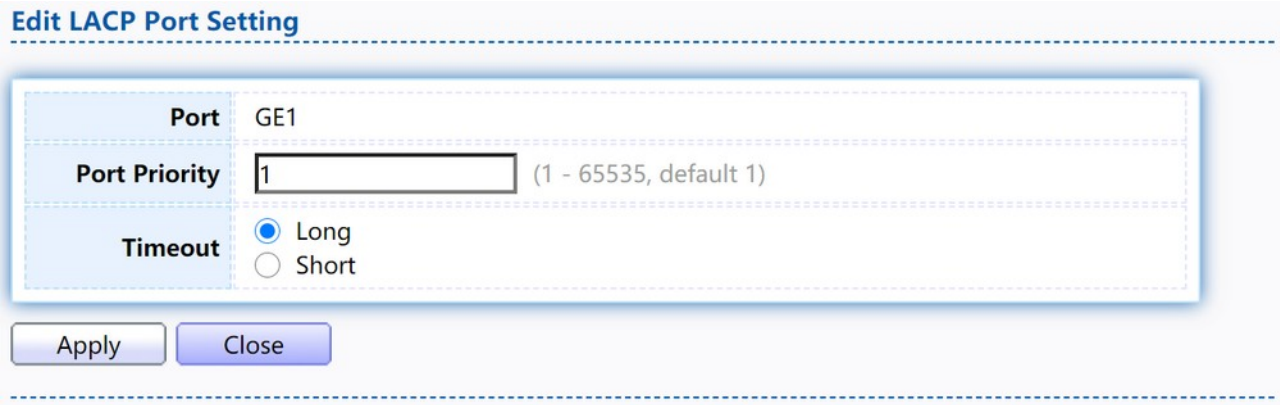


Figure 23. Port > Link Aggregation > LACP > Edit LACP Port Setting.

Item	Description
Port	Selected port list.
Port Priority	LACP priority value of the port.
Timeout	The periodic transmissions type of LACP PDUs. • Long: Transmit LACP PDU with slow periodic (30s). • Short: Transmit LACP PDU with fast periodic (1s).

2.3.4 EEE

This page allows the user to configure Energy Efficient Ethernet settings. To display the EEE web page, click Port > EEE.

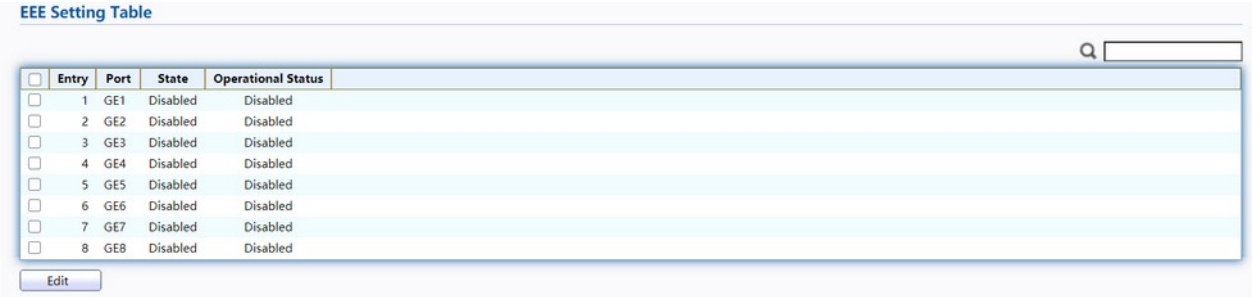


Figure 24. Port > EEE.

Item	Description
Port	Port name.
State	Port EEE admin state • Enabled: EEE is enabled. • Disabled: EEE is disabled.
Operational Status	Port EEE operational status • Enabled: EEE is operating.

	• Disabled: EEE is no operating.

Click “Edit” to edit the EEE menu.

Figure 25. Port > EEE > Edit EEE Setting.

Item	Description
State	Port EEE admin state • Enabled: EEE is enabled. • Disabled: EEE is disabled.

2.3.5 Jumbo Frame

This page allows the user to configure switch jumbo frame size.

To display Jumbo Frame web page, click Port > Jumbo Frame.

Figure 26. Port > Jumbo Frame.

Item	Description
Jumbo Frame	Enable or disable jumbo frame. When jumbo frame is enabled, switch max frame size is allowed to configure. When jumbo frame is disabled, default frame size 1522 will be used.

2.3.5 Jumbo Frame

This page allows the user to configure switch jumbo frame size.

To display Jumbo Frame web page, click Port > Jumbo Frame.

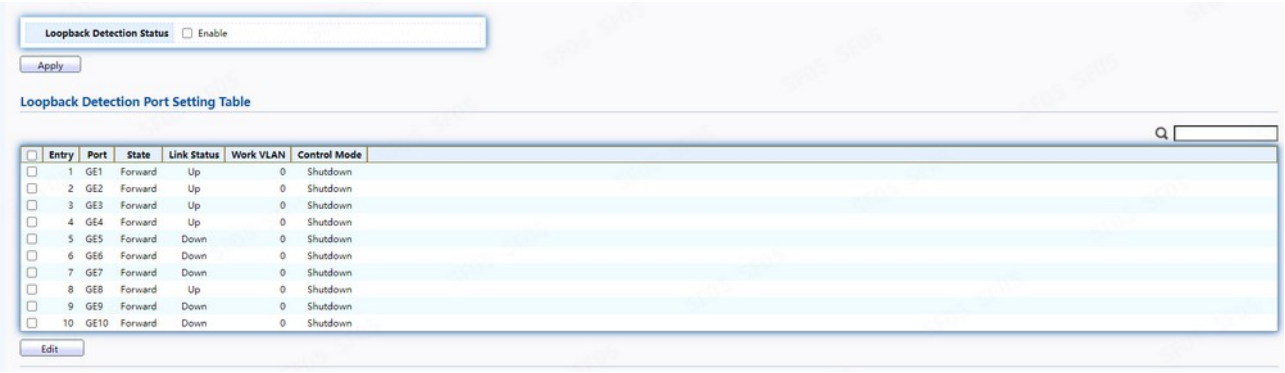
Figure 26. Port > Jumbo Frame.

Item	Description
Jumbo Frame	Enable or disable jumbo frame. When jumbo frame is enabled, switch max frame size is allowed to configure. When jumbo frame is disabled, default frame size 1522 will be used.

2.3.6 Loopback Detection

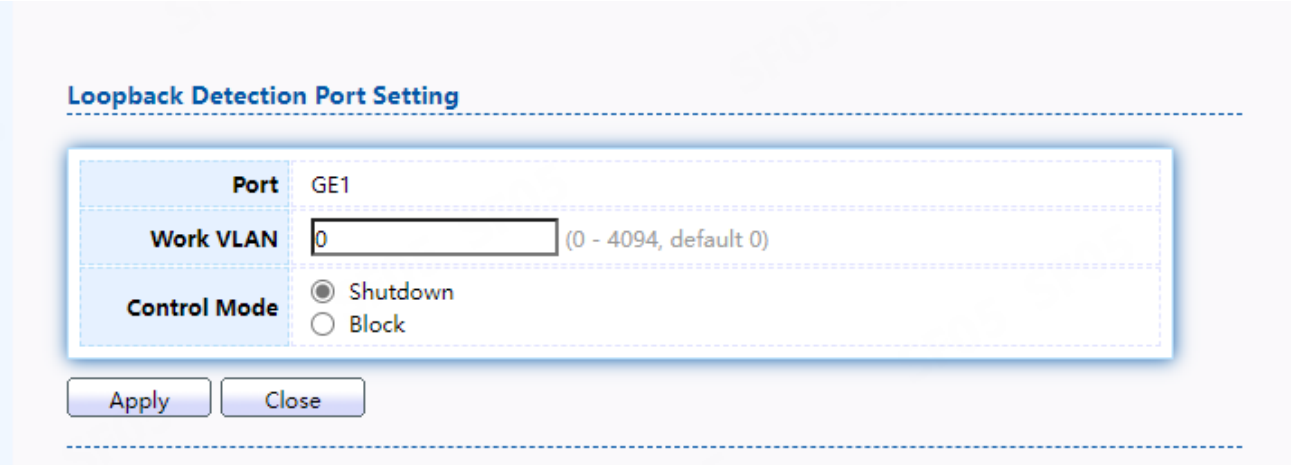
This page allows the user to configure switch loopback detection.

To display loopback detection web page, click Port > Loopback Detection.



Item	Description
Port	Port name.
State	Port loopack detection state. • Forward: port is in forwarding status. • Shutdown: port is in Shutdown status. • Block: port is in Block status.
Link Status	Current port link status. • Up: Port is link up. • Down: Port is link down.
Work VLAN	Current port work vlan configuration.
Control Mode	Current port control mode configuration.

Click “Edit” to edit the loopback detection menu.



Item	Description
Work VLAN	Set Work VLAN.
Control Mode	Port Control Mode state • Shutdown: The port takes shutdown action. • Block: The port takes block action.

2.4 VLAN

A virtual local area network, virtual LAN or VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the same broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical local area network (LAN), but it allows for end stations to be grouped together even if they are not located on the same network switch. VLAN membership can be configured through software instead of physically relocating devices or connections.

2.4.1 VLAN Setting

Use the VLAN pages to configure settings of VLAN.

2.4.1.1 Create VLAN

This page allows the user to add or delete VLAN ID entries and browser all VLAN entries that add statically or dynamic learned by GVRP. Each VLAN entry has a unique name, user can edit VLAN name in edit page.

To display Create VLAN page, click VLAN > VLAN > Create VLAN.

Figure 27. VLAN > VLAN > Create VLAN.

Item	Description
Available VLAN	VLAN has not created yet. Select available VLANs from left box then move to right box to add.
Created VLAN	VLAN had been created. Select created VLANs from right box then move to left box to delete.
VLAN	The VLAN ID.
Name	The VLAN Name.
Type	The VLAN Type. Static: Port base VLAN.

Click “Edit” button to view Edit VLAN Name menu.

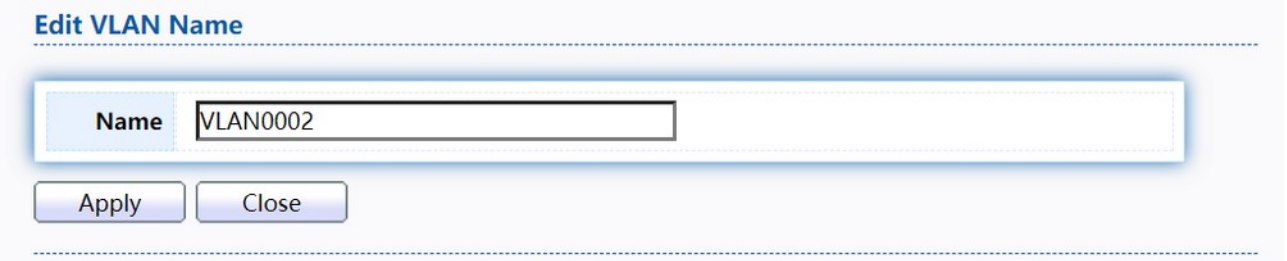


Figure 28. VLAN > VLAN > Create VLAN > Edit VLAN Name.

Item	Description
Name	Input VLAN name.

2.4.1.2 VLAN Configuration

This page allows the user to configure the membership for each port of selected VLAN. To display VLAN Configuration page, click VLAN > VLAN > VLAN Configuration.

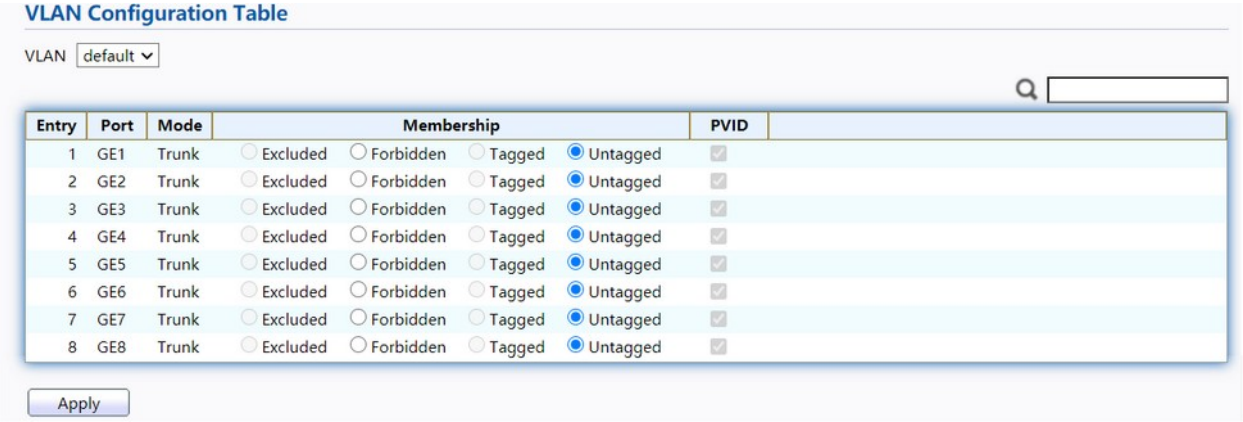


Figure 29. VLAN > VLAN > VLAN Configuration.

Item	Description
VLAN	Select specified VLAN ID to configure VLAN configuration.
Port	Display the interface of the port entry.
Mode	Display the interface VLAN mode of the port.
Membership	Select the membership for this port of the specified VLAN ID. • Forbidden: Specify the port is forbidden in the VLAN. • Excluded: Specify the port is excluded in the VLAN. • Tagged: Specify the port is tagged member in the VLAN. • Untagged: Specify the port is untagged member in the VLAN.
PVID	Display if it is PVID of interface.

2.4.1.3 Membership

This page allows the user to view membership information for each port and edit membership for specified interface.

To display Membership page, click VLAN > VLAN > Membership.

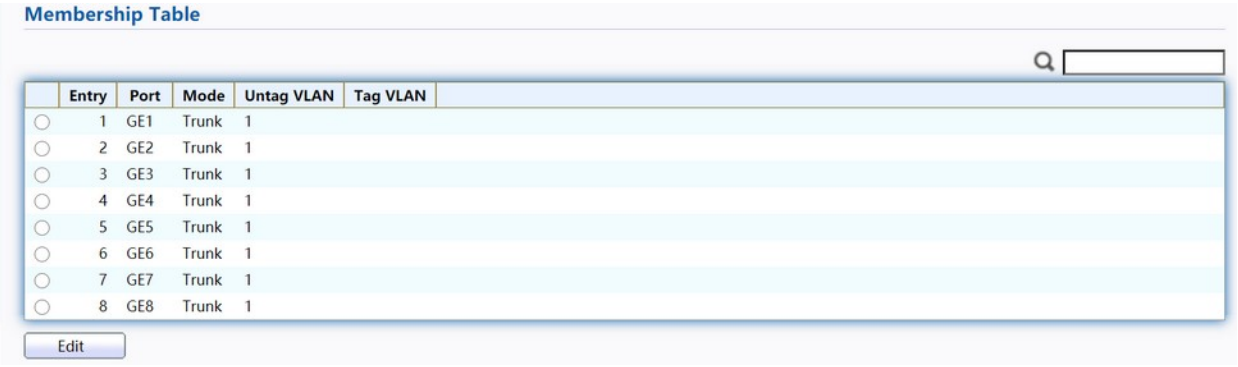


Figure 30. VLAN > VLAN > Membership.

Item	Description
Port	Display the interface of the port entry.
Mode	Display the interface VLAN mode of the port.
Untag VLAN	Display the untag VLAN list of this port.
Tag VLAN	Display the tag VLAN list of this port.

Click "Edit" button to view the Edit Port Setting menu.

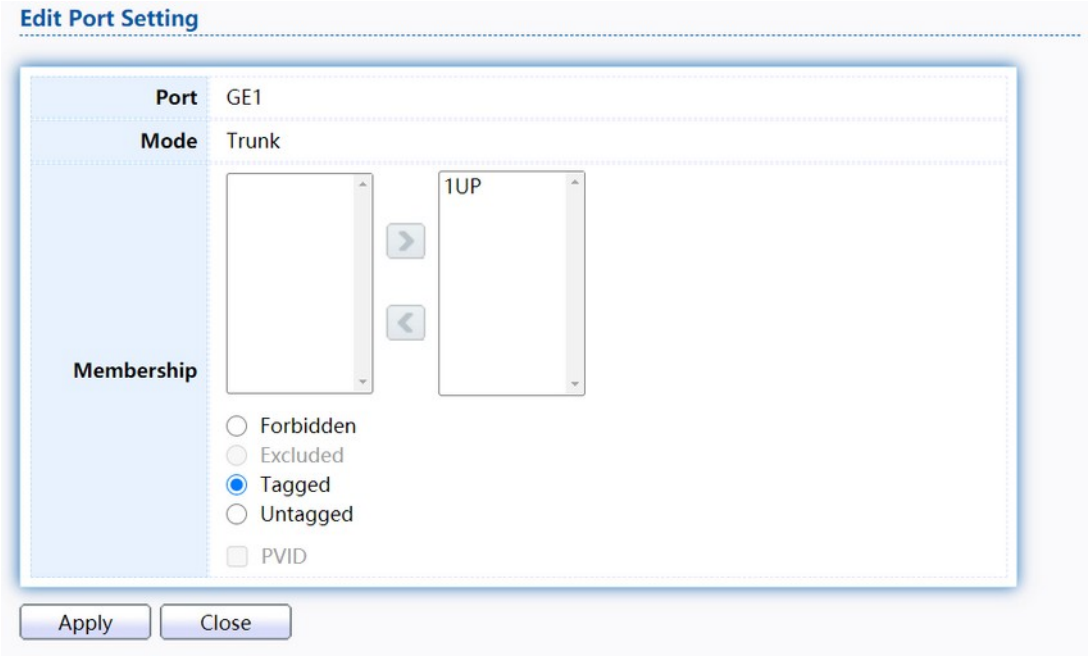


Figure 31. VLAN > VLAN > Membership > Edit Port Setting.

Item	Description
Port	Display the interface.
Mode	Display the interface VLAN mode.
Untag VLAN	Select VLANs of left box and select one of following membership then move to right box to add membership. Select VLANs of right box then move to left box to remove membership. Tagging membership may not choose in differ VLAN port mode. Select the time source. • Forbidden: Set VLAN as forbidden VLAN. • Excluded: This option is always disabled. • Tagged: Set VLAN as tagged VLAN. • Untagged: Set VLAN as untagged VLAN. • PVID: Check this checkbox to select the VLAN ID to be the port-based VLAN ID for this port. PVID may auto select or can’t select in differ settings.

2.4.1.4 Port Setting

This page allows the user to configure ports VLAN settings such as VLAN port mode, PVID etc...The attributes depend on different VLAN port mode.

To display Port Setting page, click VLAN > VLAN > Port Setting.

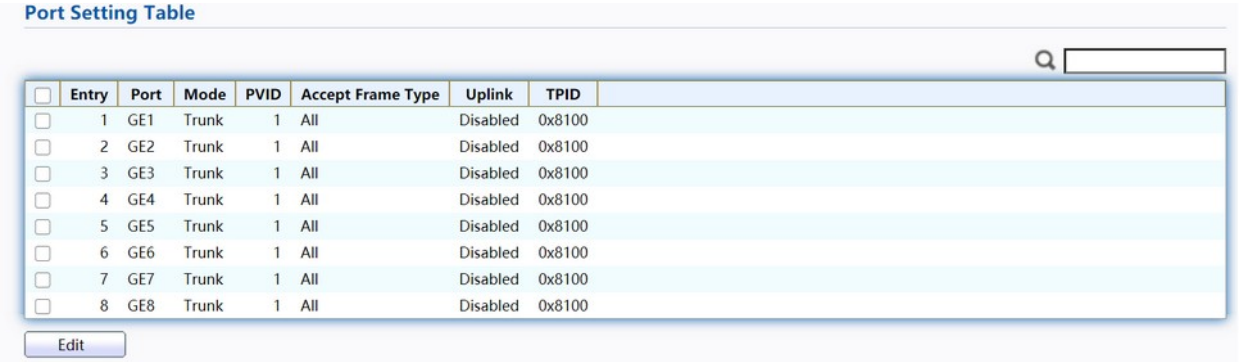


Figure 32. VLAN > VLAN > Port Setting.

Item	Description
Port	Display the interface.
Mode	Display the interface VLAN mode of the port.
PVID	Display the Port-based VLAN ID of port.
Accept Frame Type	Display accept frame type of port.
Uplink	Display uplink status.
TPID	Display TPID used of interface.

Click “Edit” button to Edit Port Setting menu.

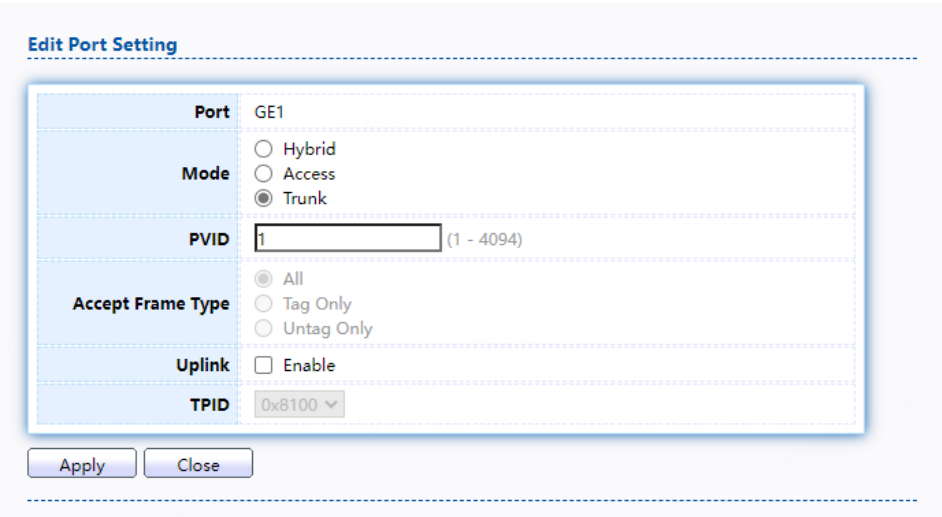


Figure 33. VLAN > VLAN > Port Setting > Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
Mode	Select the VLAN mode of the interface. • Forbidden: Set VLAN as forbidden VLAN. • Hybrid: Support all functions as defined in IEEE 802.1Q specification. • Access: Accepts only untagged frames and join an untagged VLAN. • Trunk: An untagged member of one VLAN at most, and is a tagged member of zero or more VLANs.
PVID	Specify the port-based VLAN ID (1-4094). It's only available with Hybrid and Trunk mode.
Accepted Type	Specify the acceptable-frame-type of the specified interfaces. It's only available with Hybrid mode.
Ingress Filtering	Set checkbox to enable/disable ingress filtering. It is only available with Hybrid mode.
Uplink	Set checkbox to enable/disable uplink mode. It's only available with trunk mode.
TPID	Select TPID used of interface. It's only available with trunk mode.

2.4.2 Voice VLAN

Use the Voice VLAN pages to configure settings of Voice VLAN.

2.4.2.1 Property

This page allows the user to configure global and per interface settings of voice VLAN. To display Property Web page, click VLAN> Voice VLAN> Property.

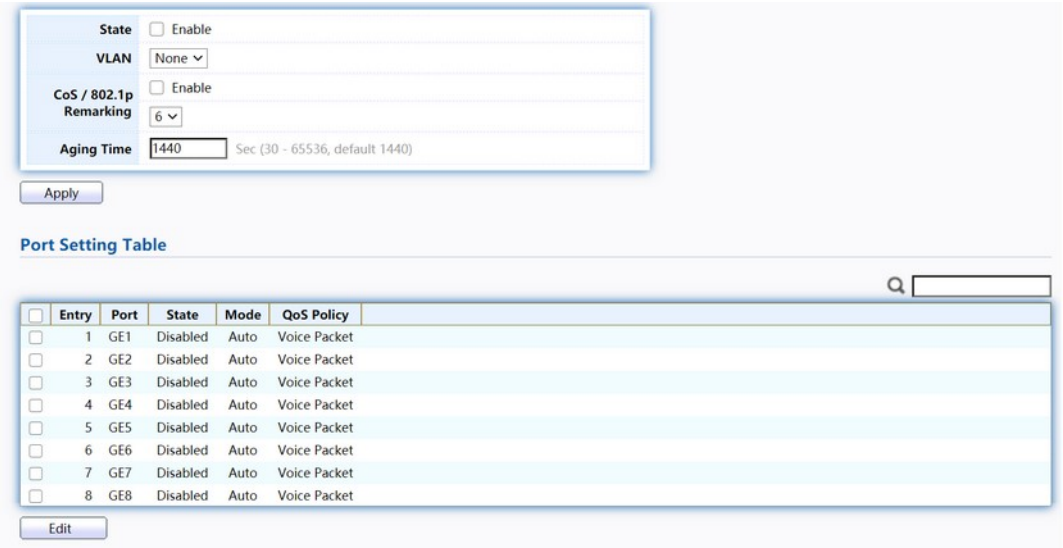


Figure 34. VLAN > Voice VLAN > Property.

Item	Description
State	Set checkbox to enable or disable voice VLAN function.
VLAN	Select Voice VLAN ID. Voice VLAN ID cannot be default VLAN.
Cos/802.1p	Select a value of VPT. Qualified packets will use this VPT value as inner priority.
Remarking	Set checkbox to enable or disable 1p remarking. If enabled, qualified packets will be remark by this value.
Aging Time	Input value of aging time. Default is 1440 minutes. A voice VLAN entry will be age out after this time if without any packet pass through.
Port Setting Table	
Port	Display port entry.
State	Display enable/disabled status of interface.
Mode	Display voice VLAN mode.
QoS Policy	Display voice VLAN remark will effect which kind of packet.

Click “Edit” button to view Edit Port Setting menu.

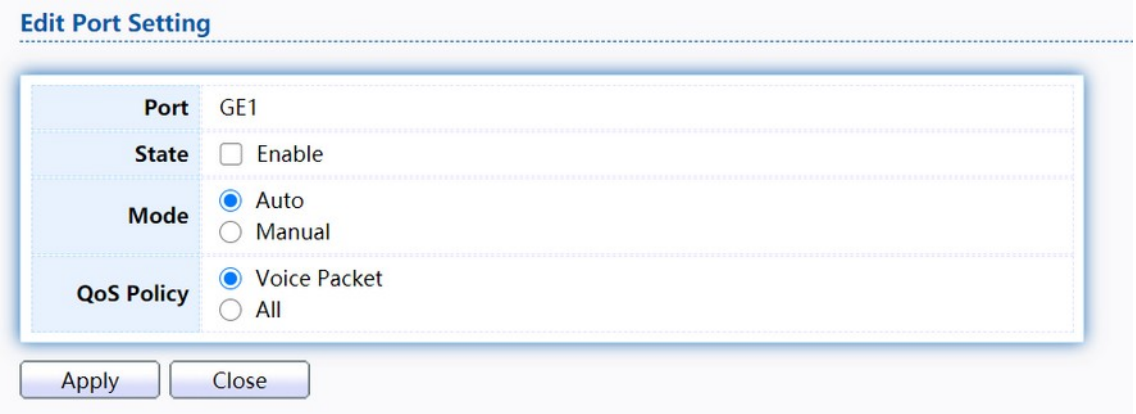


Figure 35. VLAN > Voice VLAN > Property > Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
State	Set checkbox to enable/disabled voice VLAN function of interface.
Mode	Select port voice VLAN mode. • Auto: Voice VLAN auto detect packets that match OUI table and add received port into voice VLAN ID tagged member. • Manual: User need add interface to VLAN ID tagged member manually.
QoS Policy	Select port QoS Policy mode. • Voice Packet: QoS attributes are applied to packets with OUIs in the

	source MAC address. • All: QoS attributes are applied to packets that are classified to the Voice VLAN.

2.4.2.2 Voice OUI

This page allows the user to add, edit or delete OUI MAC addresses. Default has 8 pre-defined OUI MAC.

To display the Voice OUI Web page, click VLAN > Voice VLAN > Voice OUI.

Figure 36 - VLAN > Voice VLAN > Voice OUI.

Item	Description
OUI	Display OUI MAC address.
Description	Display description of OUI entry.

Click “Add” or “Edit” button to Add/Edit Voice OUI menu.

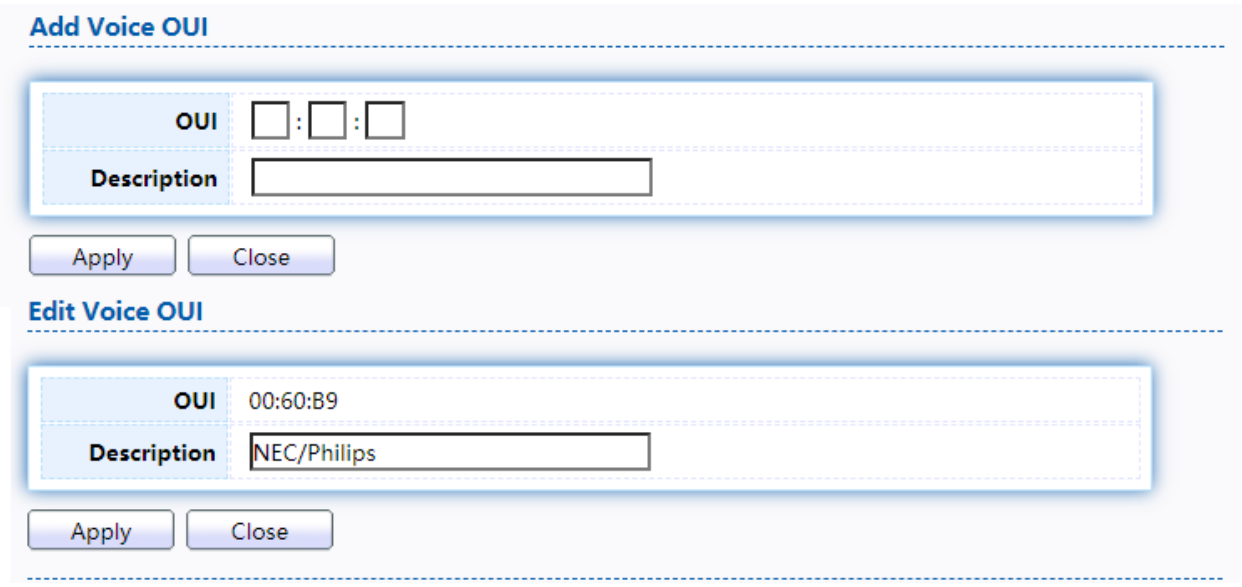


Figure 37. VLAN > Voice VLAN > Voice OUI > Add/Edit Voice OUI.

Item	Description
OUI	Input OUI MAC address. Can't be edited in edit dialog.
Description	Input description of the specified MAC address to the voice VLAN OUI table.

2.4.3 Protocol VLAN

Use the Protocol VLAN pages to configure settings of Protocol VLAN.

2.4.3.1 Protocol Group

This page allows the user to add or edit groups settings of protocol VLAN.

To display Protocol Group page, click VLAN > Protocol VLAN > Protocol Group.

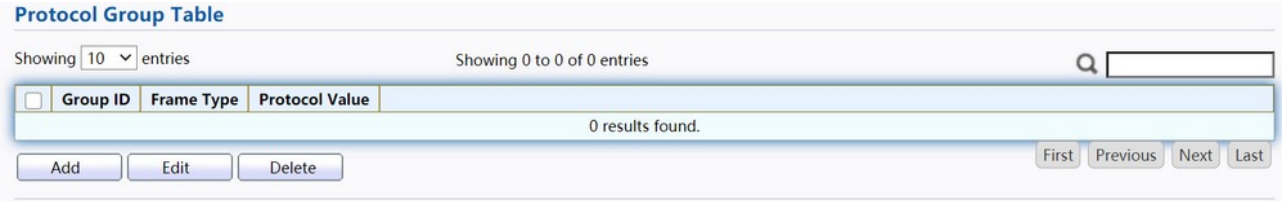
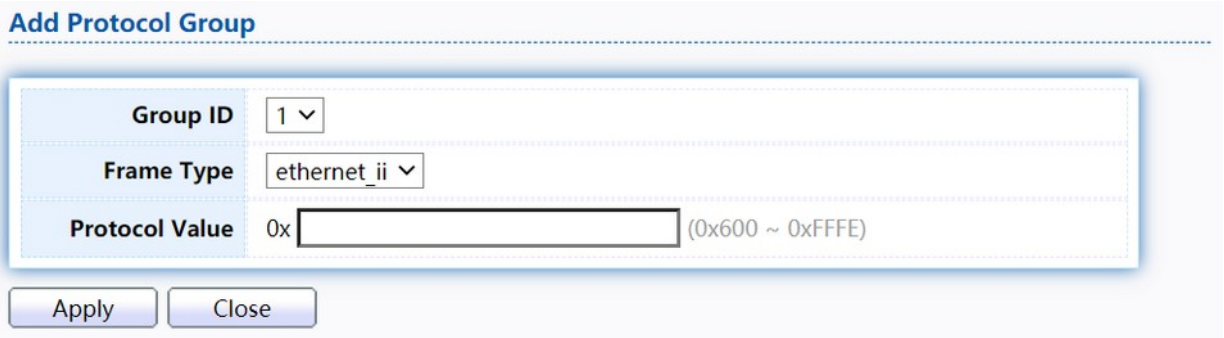


Figure 38 - VLAN > Protocol VLAN > Protocol Group.

Item	Description
Group ID	Display group ID of the entry.
Frame Type	Display frame type of the entry.
Protocol Value	Display protocol value of the entry.

Click "Add" or "Edit" button to Add / Edit Protocol Group menu.



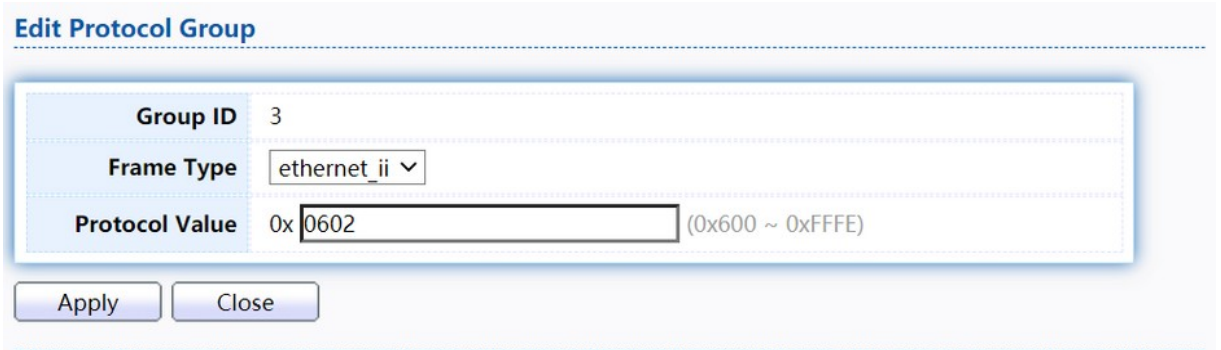


Figure 39. VLAN > Protocol VLAN > Add/Edit Protocol Group.

Item	Description
Group ID	Select group ID of list. The range from 1 to 8.
Frame Type	Select frame type of list that maps packets to protocol-defined VLANs by examining the type octet within the packet header to discover the type of protocol associated with it. □ Ethernet_II: packet type is Ethernet version 2. □ IEEE802.3_LLC_Other: packet type is 802.3 packet with LLC other header. □ RFC_1042: packet type is rfc 1042 packet.
Protocol Value	Input protocol value of the target protocol. Packets match this protocol value classified to specified VLAN ID.

2.4.3.2 Group Binding

This page allows the user to bind protocol VLAN group to each port with VLAN ID.

To display Group Binding page, click VLAN> Protocol VLAN > Group Binding.

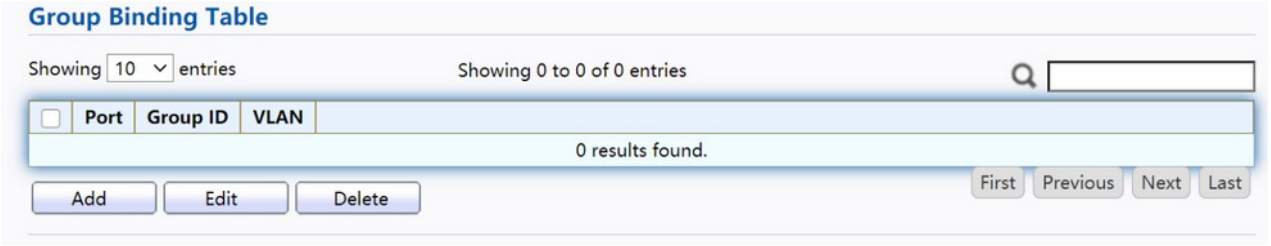


Figure 40. VLAN > Protocol VLAN > Group Binding.

Item	Description
Port	Display port ID that binding with protocol group entry.
Group ID	Display group ID that port binding with.
VLAN	Display VLAN ID that assign to packets which match protocol group.

Click “Add” or “Edit” button to Add/Edit Group Binding menu.

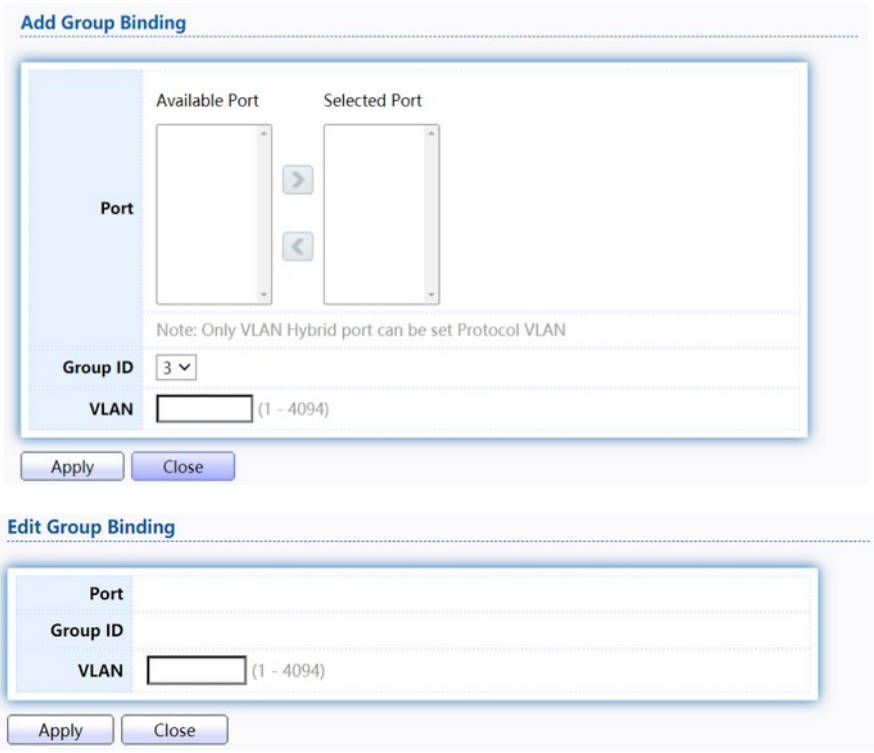


Figure 41. VLAN > Protocol VLAN > Add/Edit Group Binding.

Item	Description
Port	Select ports in left box then move to right to binding with protocol group. Or select ports in right box then move to left to unbind with protocol group. Only interface has hybrid VLAN mode can be selected and bound with protocol group. Only available on Add dialog.
Group ID	Select a Group ID to associate with port. Only available on Add dialog.
VLAN	Input VLAN ID that will assign to packets which match protocol group.

2.4.4 MAC VLAN

Use the MAC VLAN pages to configure settings of MAC VLAN.

2.4.4.1 MAC Group

This page allows the user to add or edit groups settings of MAC VLAN.

To display the MAC page , click VLAN > MAC VLAN > MAC Group.

Figure 42 . VLAN > MAC VLAN > MAC Group.

Item	Description
Group ID	Display group ID of the entry.
MAC Address	Display mac address of the entry.
Mask	Display mask of mac address for the classified packet.

Click “Add” or “Edit” button to Add / Edit MAC menu.

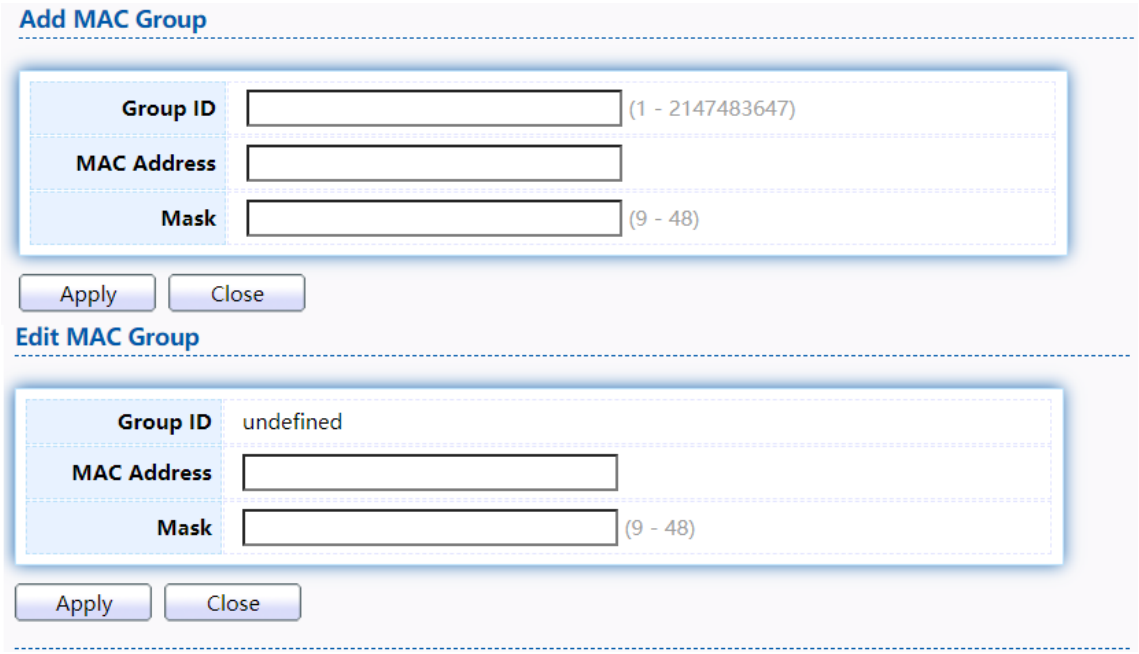


Figure 43. VLAN > MAC VLAN > MAC Group > Add/Edit MAC.

Item	Description
Group ID	Input group ID that is a unique ID of mac group entry. The range from 1 to 2147483647. Only available on Add Dialog.
MAC Address	Input mac address for classifying packets.
Mask	Input mask of mac address.

2.4.4.2 Group Binding

This page allows the user to bind MAC VLAN group to each port with VLAN ID.

To display Group Binding page, click VLAN> MAC VLAN > Group Binding.

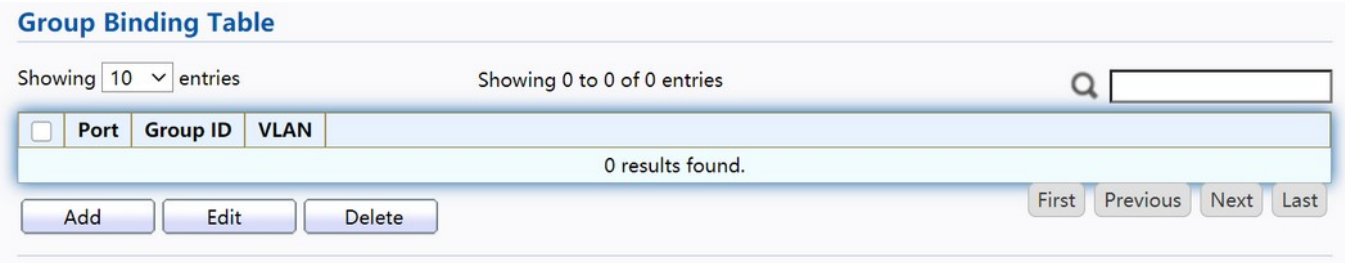


Figure 44. VLAN > MAC VLAN > Group Binding.

Item	Description
Port	Display port ID that binding with MAC group entry.
Group ID	Display group ID that port binding with.
VLAN	Display VLAN ID that assign to packets which match MAC group.

Click “Add” or “Edit” button to display the Add Group Binding menu.

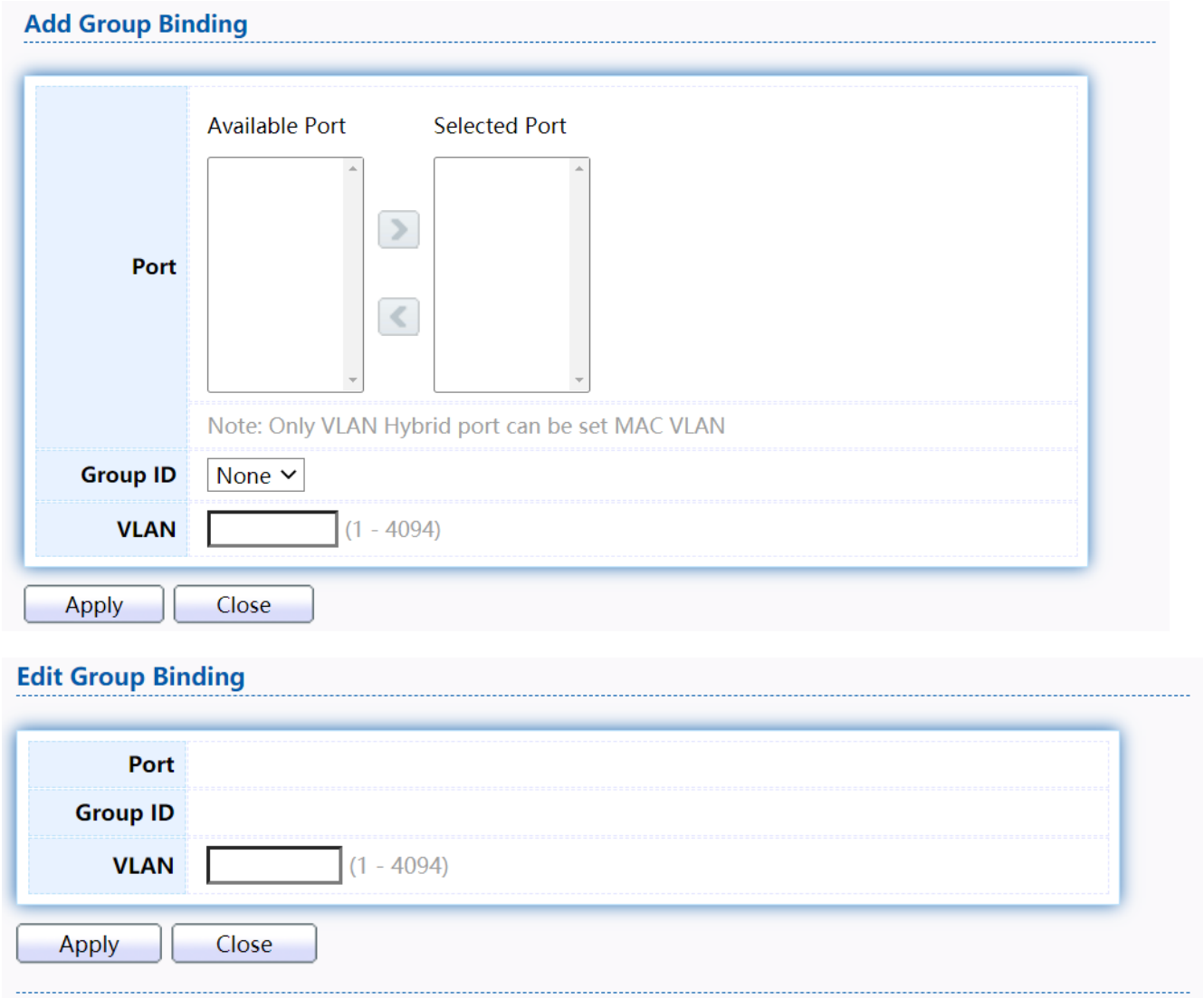


Figure 45. VLAN > MAC VLAN > Group Binding.

Item	Description
Port	Select ports in left box then move to right to binding with MAC group. Or select ports in right box then move to left to unbind with MAC group. Only interface has hybrid VLAN mode can be selected and bound with MAC group. Only available on Add dialog.
Group ID	Select a Group ID to associate with port. Only available on Add dialog.

VLAN	Input VLAN ID that will assign to packets which match MAC group.

2.4.5 Surveillance VLAN

Use the MAC VLAN pages to configure settings of Surveillance VLAN.

2.4.5.1 Property

To display Property page, click VLAN> Surveillance VLAN> Property.

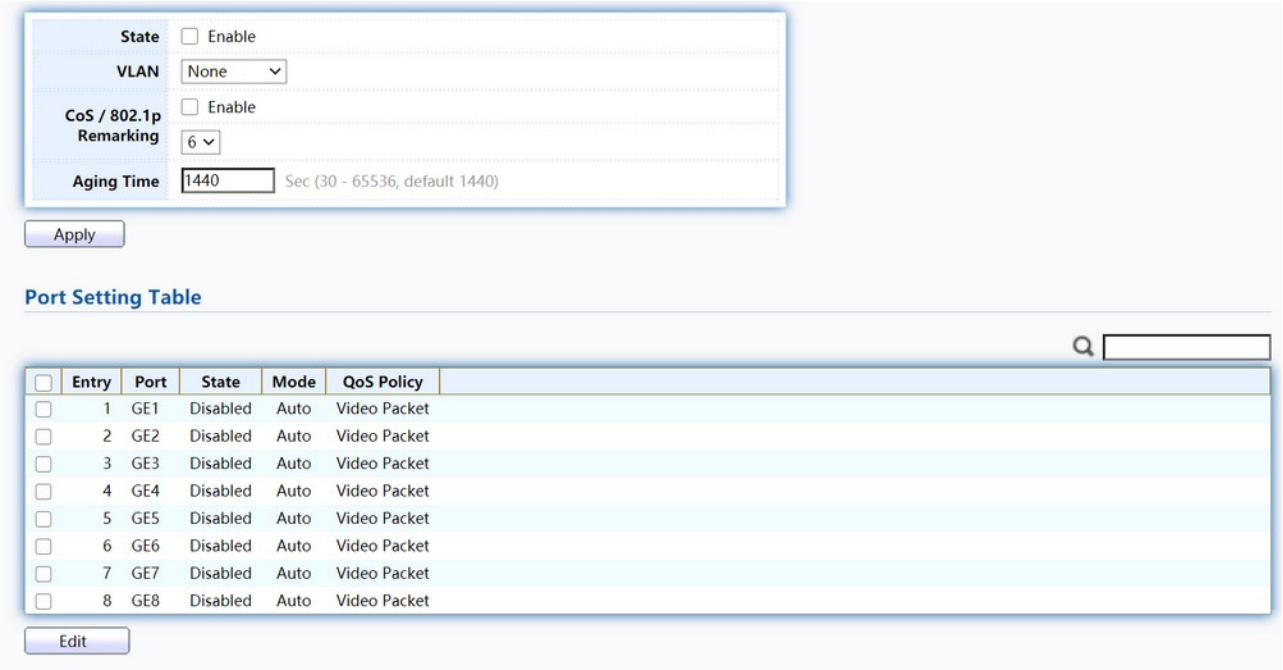


Figure 46. VLAN > Surveillance VLAN > Property.

Item	Description
State	Set checkbox to enable or disable Surveillance VLAN function.
VLAN	Select Surveillance VLAN ID. Surveillance VLAN ID cannot be default VLAN.
COS/802.1P	Select a value of VPT. Qualified packets will use this VPT value as inner priority.
Remarking	Set checkbox to enable or disable 1p remarking. If enabled, qualified packets will be remark by this value.
Aging Time	Input value of aging time. Default is 1440 minutes. A video VLAN entry will be age out after this time if without any packet pass through.
Port Setting Table	
Port	Display port entry.
State	Display enable/disabled status of interface.
Mode	Display voice VLAN mode.

Qos Policy	Display Surveillance VLAN remark will effect which kind of packet.

Click “Add” or “Edit” button to view the Add Group Binding menu.

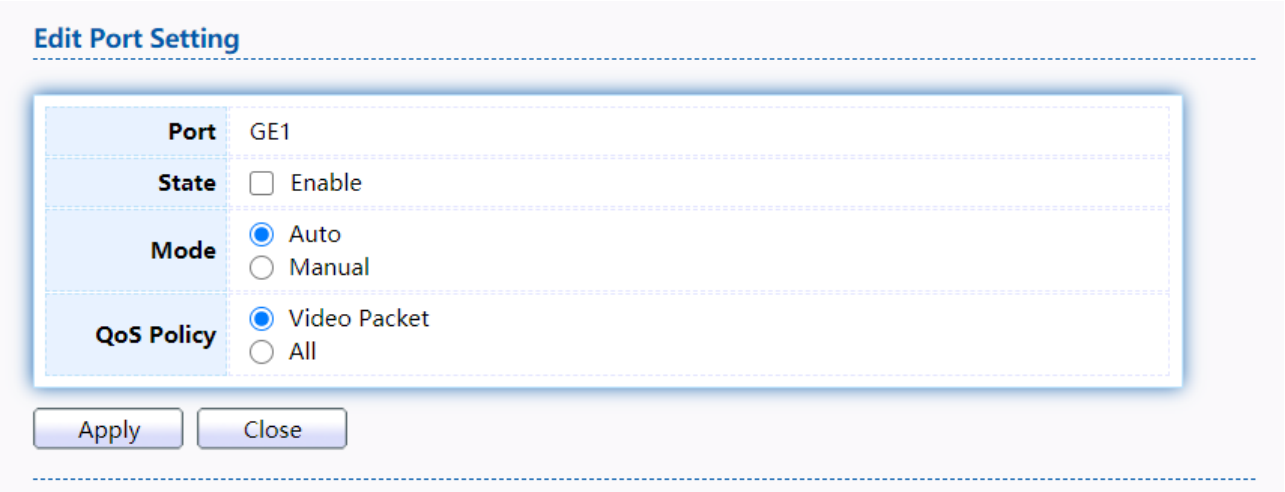


Figure 47. VLAN > Surveillance VLAN > Property.

Item	Description
Port	Display selected port to be edited.
State	Set checkbox to enable/disabled voice VLAN function of interface.
Mode	Select port voice VLAN mode. • Auto: Voice VLAN auto detect packets that match OUI table and add received port into voice VLAN ID tagged member. • Manual: User need add interface to VLAN ID tagged member manually.
QoS Policy	Select port QoS Policy mode. • Voice Packet: QoS attributes are applied to packets with OUIs in the source MAC address. • All: QoS attributes are applied to packets that are classified to the Voice VLAN.

2.4.5.2 Surveillance OUI

This page allows the user to add, edit or delete OUI MAC addresses.

To display Surveillance OUI web page, click VLAN> Surveillance VLAN> Surveillance OUI.

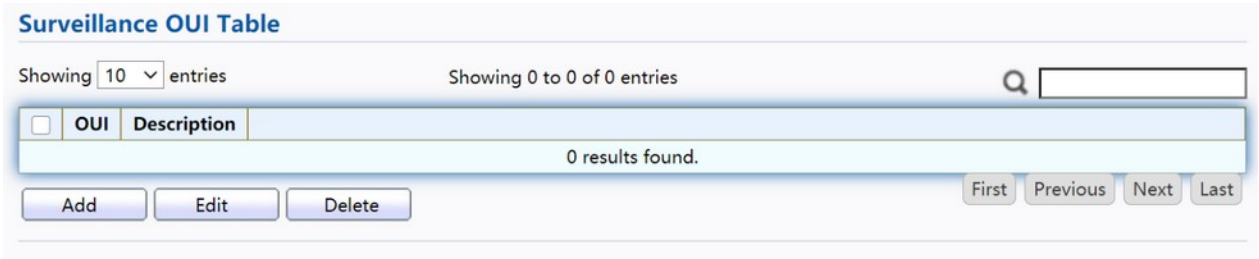


Figure 48. VLAN > Surveillance VLAN > Surveillance OUI.

Item	Description
OUI	Display OUI MAC address.
Descripiton	Display description of OUI entry.

Click “Add” or “Edit” button to display the Add / Edit Surveillance OUI menu.

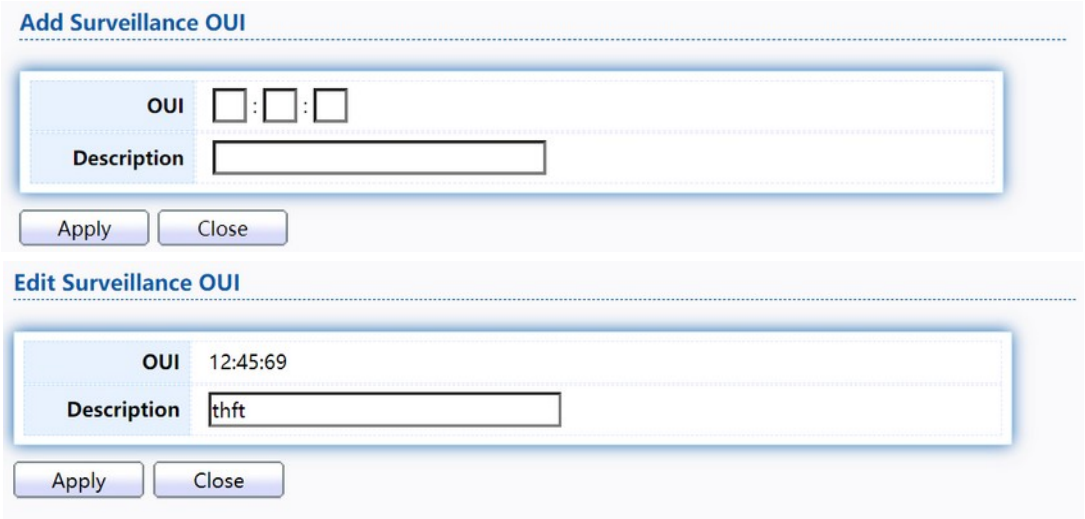


Figure 49. VLAN >Surveillance VLAN >Surveillance OUI.

Item	Description
OUI	Input OUI MAC address. Can’t be edited in edit dialog.
Descripiton	Input description of the specified MAC address to the Surveillance VLAN OUI table.

2.4.6 GVRP

This page allows the user to enable or disable GVRP function and GVRP port setting.

2.4.6.1 Property

To display GVRP Global and Port Setting web page, click VLAN> GVRP> Property.

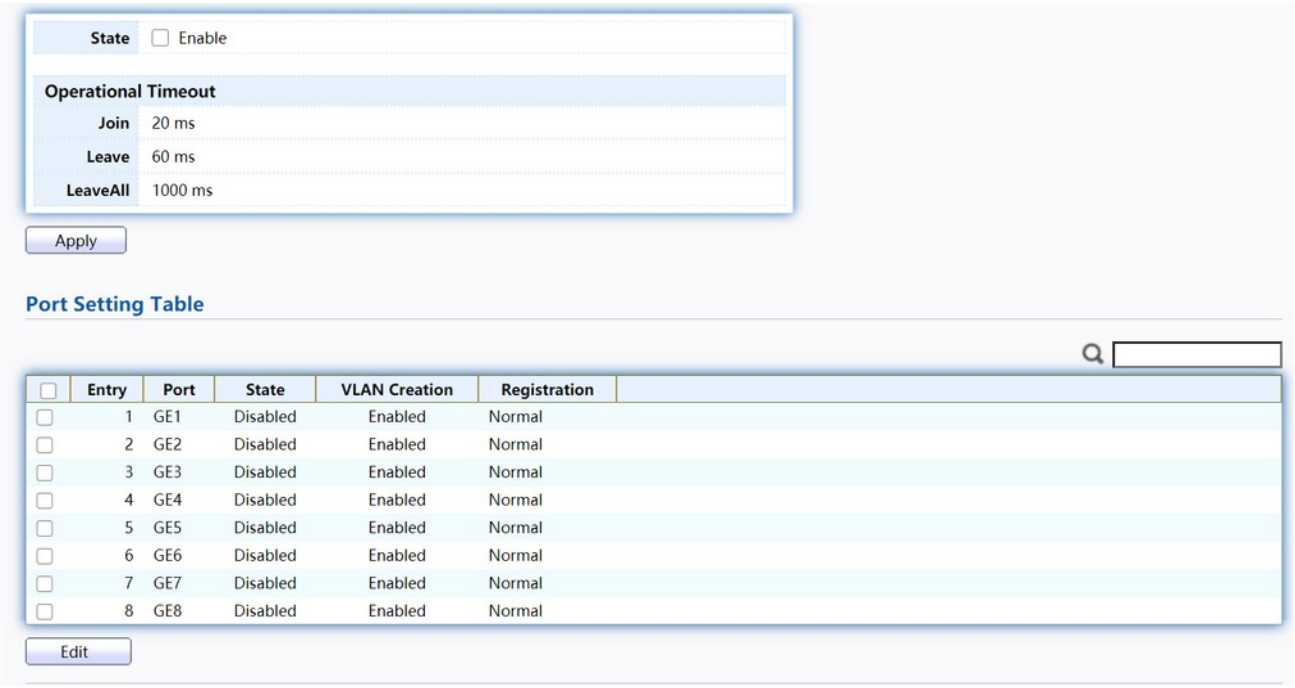


Figure 50. VLAN > GVRP > Property.

Item	Description
State	Set the enabling status of GVRP functionality.
Operational Timeout	
Join	GVRP Join time out.
Leave	GVRP leave time out.
Leave All	GVRP leave all time out.
Port Setting Table	
Entry	Number of the entry.
Port	Port Name.
State	Display port GVRP state.
Registration	Display port GVRP registration mode.

Click “Edit” button to view the Edit Port Setting menu.

Figure 51. VLAN > GVRP > Property> Edit Port Setting.

Item	Description
Port	Port Display the selected port list.
State	Set the enabling status of GVRP port. • Enable: Enable/Disable port of GVRP state.
Vlan Creation	Set the enabling status of GVRP port create VLAN. • Enable: Enable/Disable port create dynamic VLAN.
Register Mode	Set the register mode of GVRP port • Normal: Normal mode. • Fixed: The port will not learn any dynamic VLAN. Only send static VLAN information to neighbor and allow static VLAN packet pass. • Forbidden: The port will not learn any dynamic VLAN and only allow default VLAN packet pass.

2.4.6.2 Membership

This page allows user to browser all VLAN member settings that learned by GVRP protocol or configure by user.

To display GVRP VLAN database web page, click VLAN> GVRP> Membership.

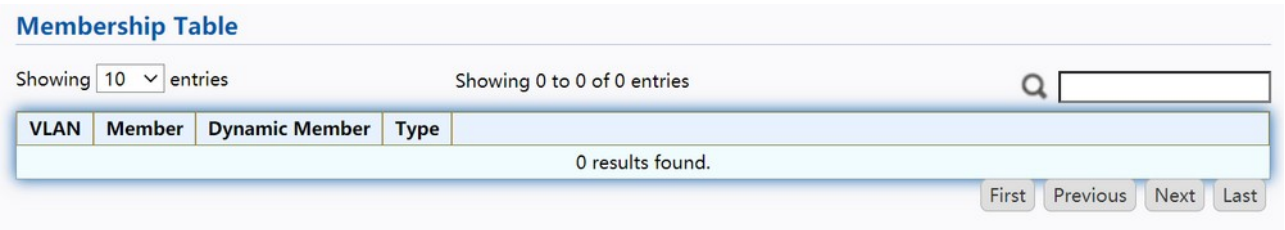


Figure 52. VLAN > GVRP > Membership.

Item	Description
VLAN	VLAN ID.
Member	VLAN port members include static and dynamic member.

Dynamic Member	GVRP learned dynamic ports.
Type	The type of VLAN is static or dynamic.

2.4.6.3 Statistics

This page allows user to display GVRP port statics by type and clear GVRP port statistics by port.

To display GVRP port statistics web page, click VLAN> GVRP> Statistics.

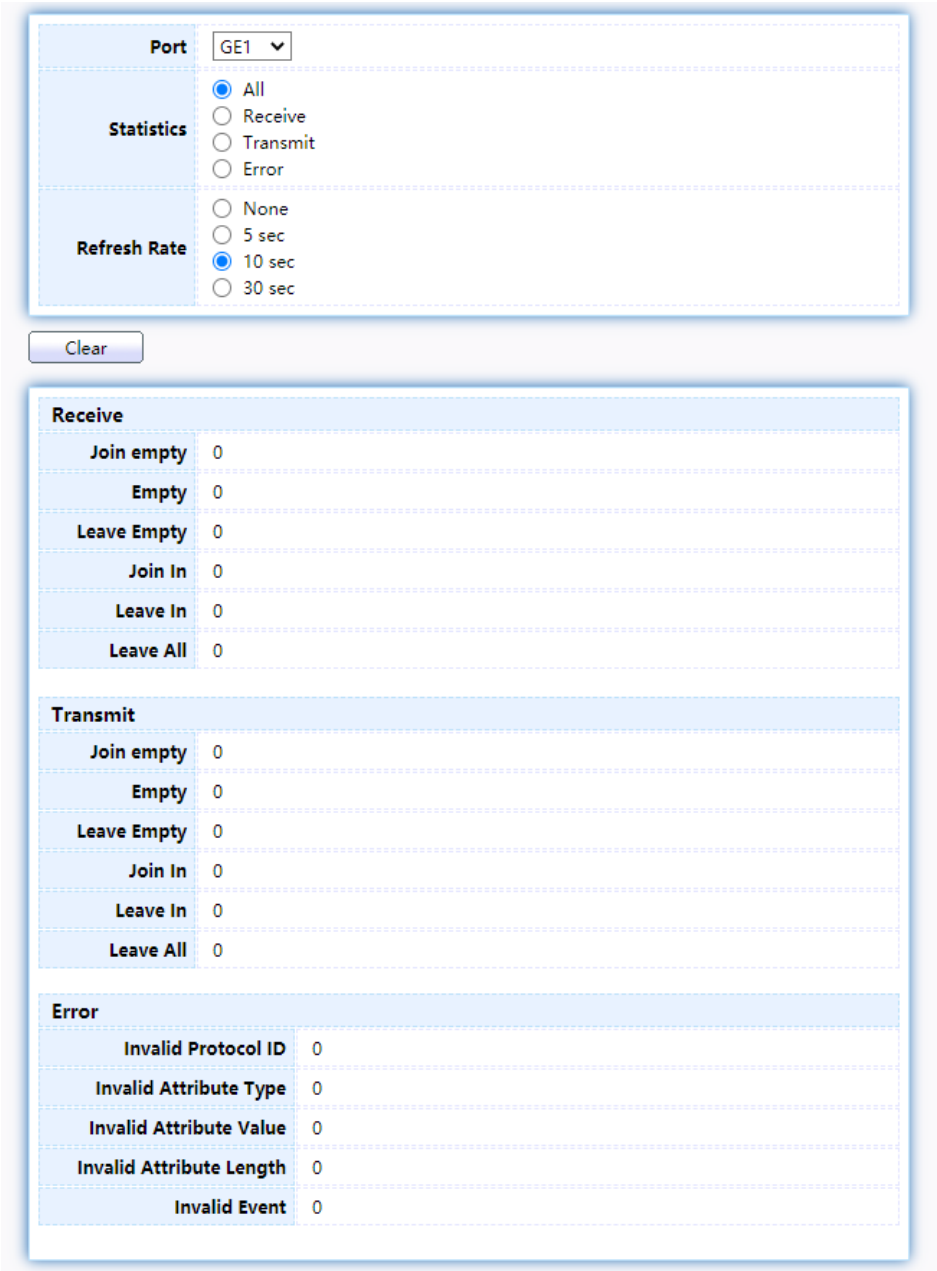


Figure 53. VLAN > GVRP > Statistics

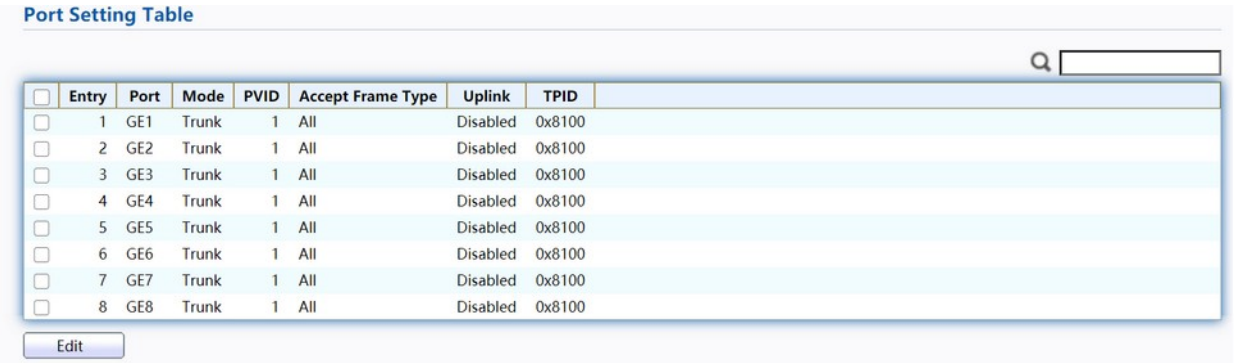
Item	Description
Port	Port ID.

Statistics	Type of statistics: □ All: Display Receiver, Transmit and Error port statistics. □ Receive: Display Receive port statistics. □ Transmit: Display Transmit port statistics. □ Error: Display Error port statistics.
Refresh Rate	Web refresh rate: □ None: Not auto refresh display port statistics. □ 5 sec: Refresh display port statistics per 5 seconds. □ 10 sec: Refresh display port statistics per 10 seconds. □ 30 sec: Refresh display port statistics per 30 seconds.
Receive and Transmit	
Join empty	The number of Receive or Transmit Join empty attribute value.
Empty	The number of Receive or Transmit Empty attribute value.
Leave Empty	The number of Receive or Transmit Leave Empty attribute value.
Join in	The number of Receive or Transmit Join In attribute value.
Leave in	The number of Receive or Transmit Leave In empty attribute value.
Leave All	The number of Receive or Transmit Leave All attribute value.
Error	
Invalid Protocol ID	The number of Receive Invalid Protocol ID.
Invalid Attribute Type	The number of Receive Invalid Attribute Type.
Invalid Attribute value	The number of Receive Invalid Attribute value.
Invalid Attribute length	The number of Receive Invalid Attribute Length.
Invalid Event	The number of Receive Invalid Event.

2.4.7 QinQ

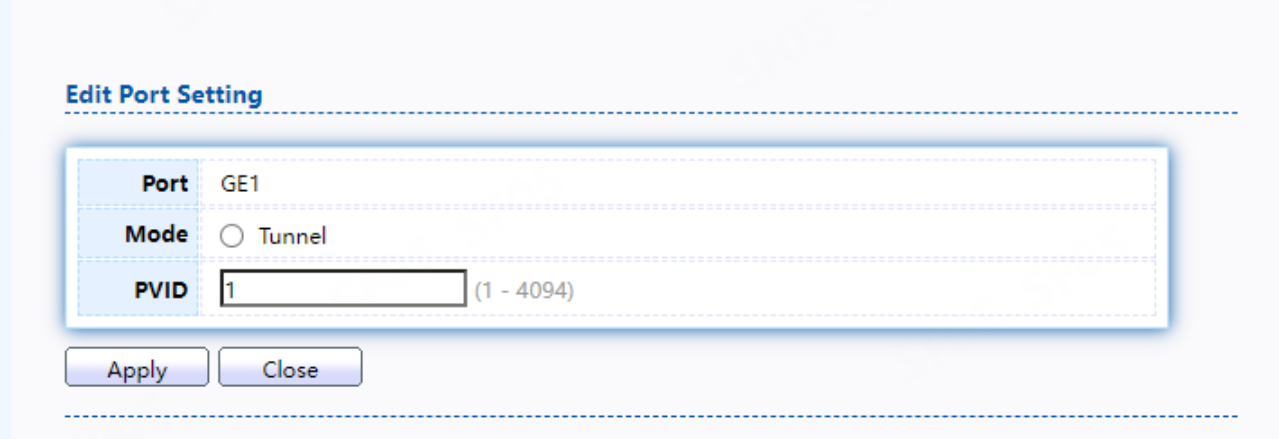
This page allows the user to configure ports VLAN Tunnel settings.

To display Port Setting page, click VLAN > QinQ.



Item	Description
Port	Display the interface.
Mode	Display the VLAN mode of the interface.
PVID	Display the Port-based VLAN ID of the port.
Accept Frame Type	Display accept frame type of the port.
Uplink	Display uplink status.
TPID	Display TPID used of the interface.

Click “Edit” button to Edit QinQ menu.



Item	Description
Port	Display selected port to be edited.
Mode	Select the VLAN mode of the interface. • Tunnel: Port-based Q-in-Q mode.
PVID	Specify the port-based VLAN ID (1-4094).

2.5 MAC Address Table

Use the MAC Address Table pages to show dynamic MAC table and configure settings for static MAC entries.

2.5.1 Dynamic Address

To display the Dynamic Address web page, click MAC Address Table > Dynamic Address.

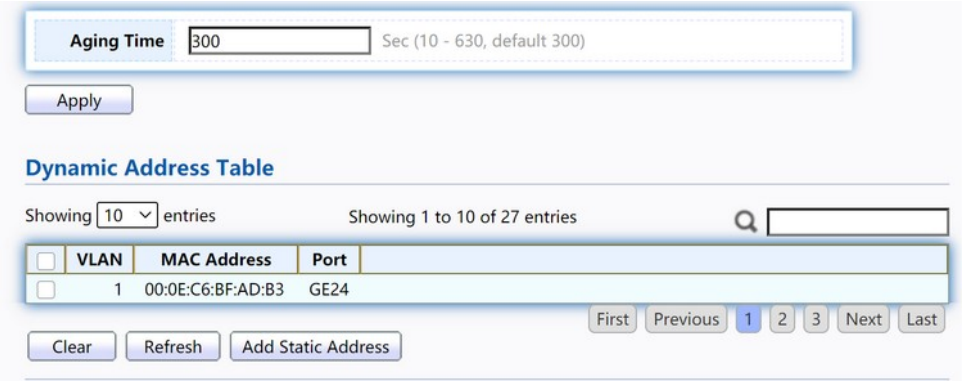


Figure 54. MAC Address Table > Dynamic Address.

Item	Description
Aging Time	The time in seconds that an entry remains in the MAC address table. Its valid range is from 10 to 630 seconds, and the default value is 300 seconds.
Dynamic Address Table	
VLAN	Specify the VLAN to show or clear MAC entries.
MAC Address	The MAC address to which packets will be statically forwarded.
Port	Interface or port number.

2.5.2 Dynamic Address

To display the Static Address web page, click MAC Address Table > Static Address.

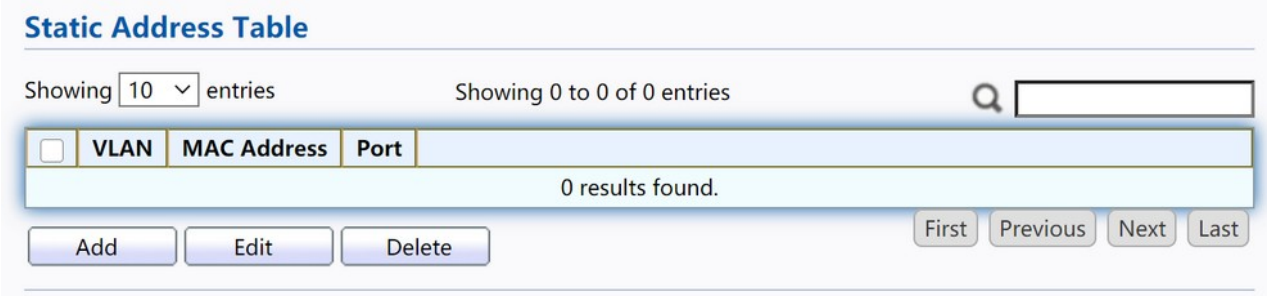


Figure 55. MAC Address Table > Static Address.

Item	Description
VLAN	Specify the VLAN to show or clear MAC entries.
MAC Address	The MAC address to which packets will be statically forwarded.
Port	Interface or port number.

Click “Add” or “Edit” button to view the Add / Edit Static Address menu.

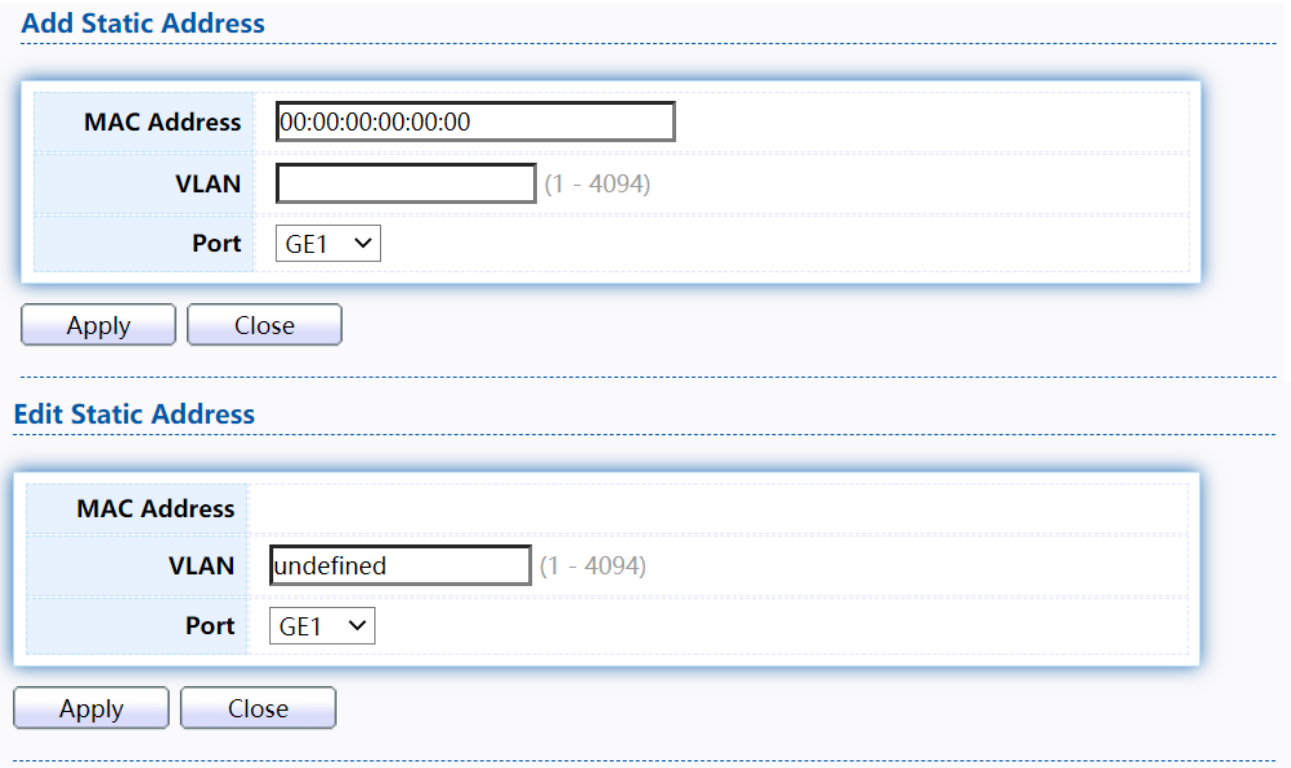


Figure 56. MAC Address Table > Static Address > Add/Edit Static Address.

Item	Description
MAC Address	The MAC address to which packets will be statically forwarded.
VLAN	Specify the VLAN to edit MAC entries.
Port	Interface or port number.

2.5.3 Filtering Address

To display the Static Address web page, MAC Address Table > Filtering Address.

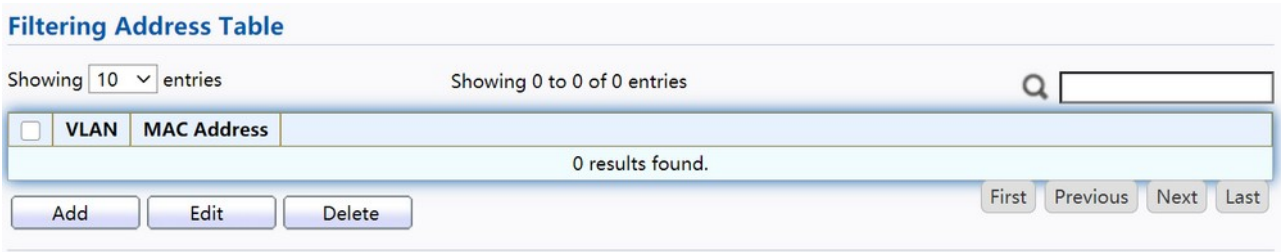


Figure 57. MAC Address Table > Filtering Address.

Item	Description
VLAN	Specify the VLAN to show or clear MAC entries.
MAC Address	Specify unicast MAC address in the packets to be dropped.

Click “Add” or “Edit” button to view the Add / Edit Filtering Address menu.

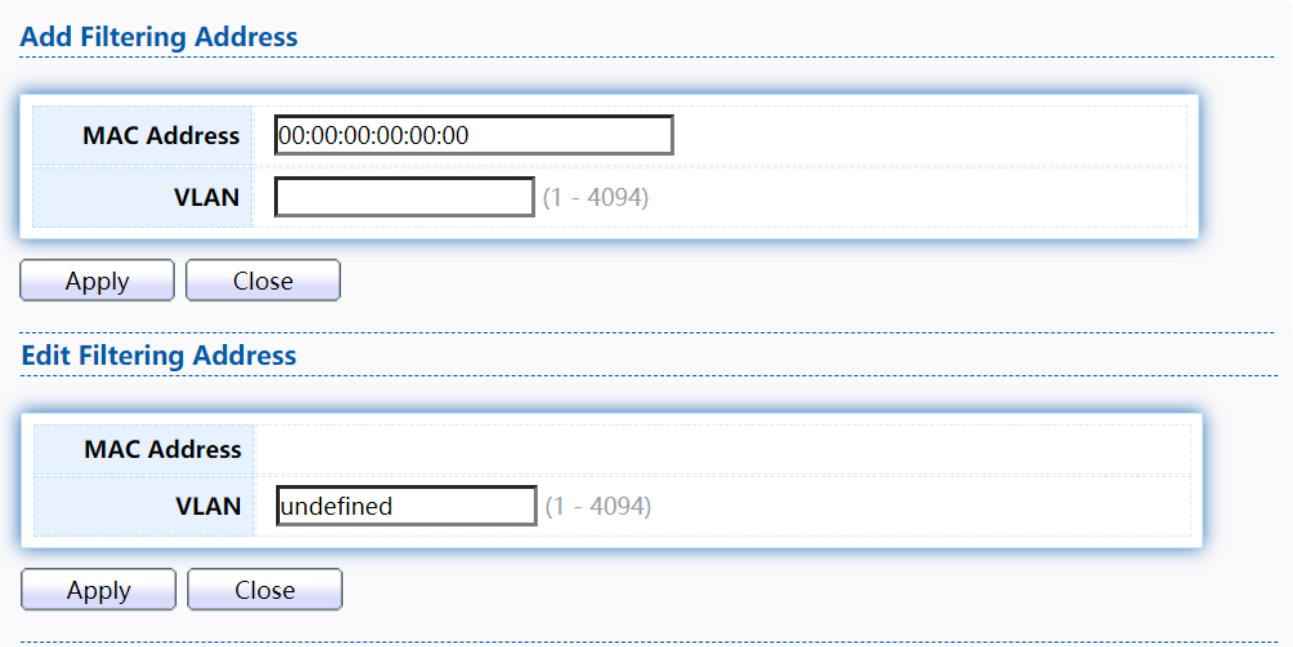


Figure 58. MAC Address Table > Filtering Address > Add / Edit Filtering Address.

Item	Description
MAC Address	The MAC address to which packets will be statically forwarded.
VLAN	Specify the VLAN to edit MAC entries.
Port	Interface or port number.

2.6 Spanning Tree

The Spanning Tree Protocol (STP) is a network protocol that ensures a loop-free topology for any bridged Ethernet local area network.

2.6.1 Property

To display the Property web page, click Spanning Tree > Property.

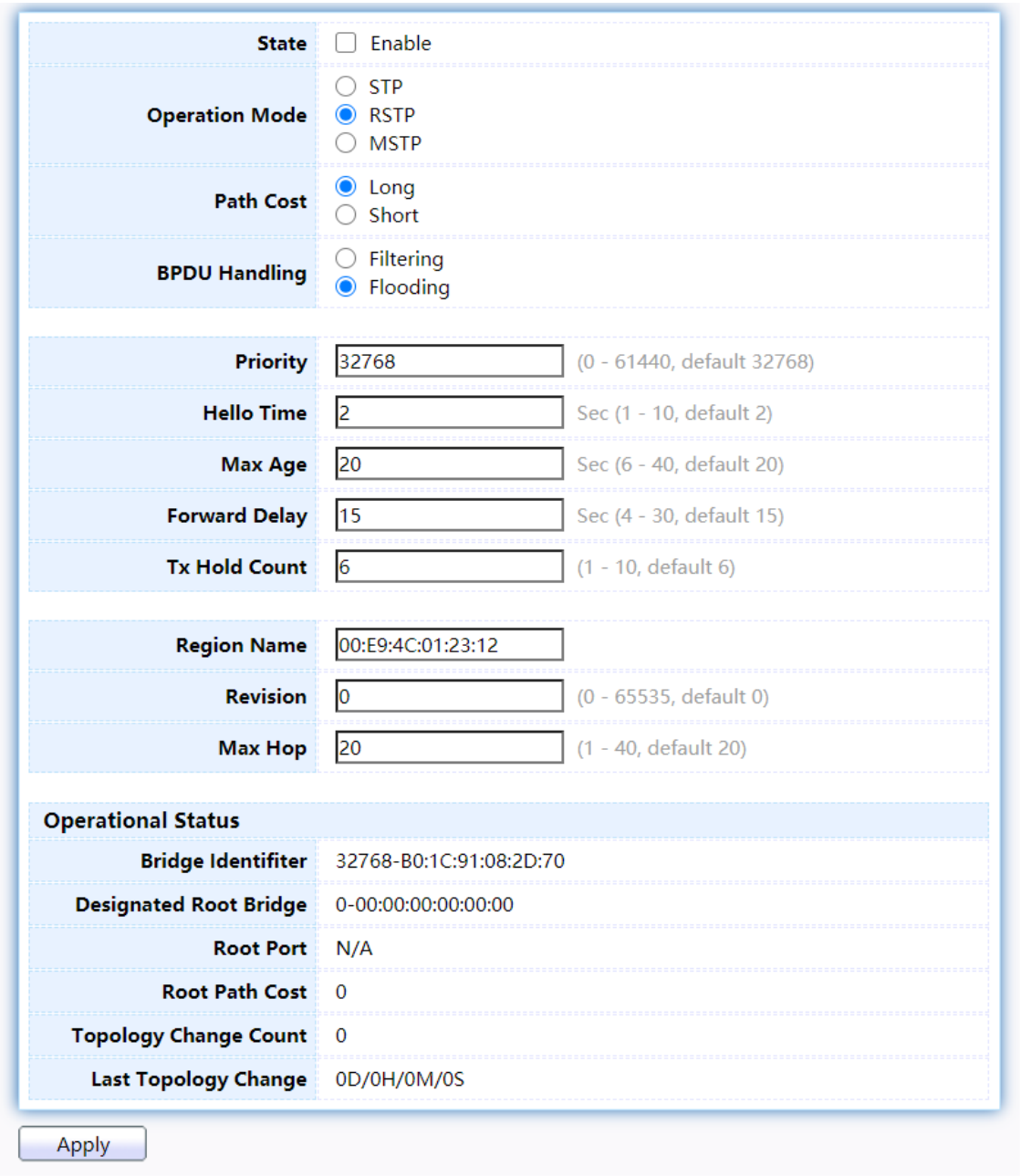


Figure 59. Spanning Tree > Property.

Item	Description
State	Enable/disable the STP on the switch.
Operation Mode	Specify the STP operation mode. • STP: Enable the Spanning Tree (STP) operation. • RSTP: Enable the Rapid Spanning Tree (RSTP) operation. • MSTP: Enable the Multiple Spanning Tree (MSTP) operation.
Path Cost	Specify the path cost method. • Long: Specifies that the default port path costs are within the range:1-200,000,000.

	• Short: Specifies that the default port path costs are within the range:1-65,535.
BPDU Handling	Specify the BPDU forward method when the STP is disabled. • Filtering: Filter the BPDU when STP is disabled. • Flooding: Flood the BPDU when STP is disabled.
Priority	Specify the bridge priority. The valid range is from 0 to 61440, and the value should be the multiple of 4096. It ensures the probability that the switch is selected as the root bridge, and the lower value has the higher priority for the switch to be selected as the root bridge of the topology.
Hello Time	Specify the STP hello time in second to broadcast its hello message to other bridges by Designated Ports. Its valid range is from 1 to 10 seconds.
Max Age	Specify the time interval in seconds for a switch to wait the configuration messages, without attempting to redefine its own configuration.
Forward Delay	Specify the STP forward delay time, which is the amount of time that a port remains in the Listening and Learning states before it enters the Forwarding state. Its valid range is from 4 to 10 seconds.
TX Hold Count	Specify the tx-hold-count used to limit the maximum numbers of packets transmission per second. The valid range is from 1 to 10.
Region Name	The MSTP instance name. Its maximum length is 32 characters. The default value is the MAC address of the switch.
Revision	The MSTP revision number. Its valid rage is from 0 to 65535.
Max Hop	Specify the number of hops in an MSTP region before the BPDU is discarded. The valid range is 1 to 40.
Operational Status	
Bridge Identifier	Bridge identifier of the switch.
Designated Root Identifier	Bridge identifier of the designated root bridge.
Root Port	Operational root port of the switch.
Root Path Cost	Operational root path cost.
Topology change count	Numbers of the topology changes.
Last Topology change	The last time for the topology change.

2.6.2 Port Setting

To configure and display the STP port settings, click STP > Port Setting.

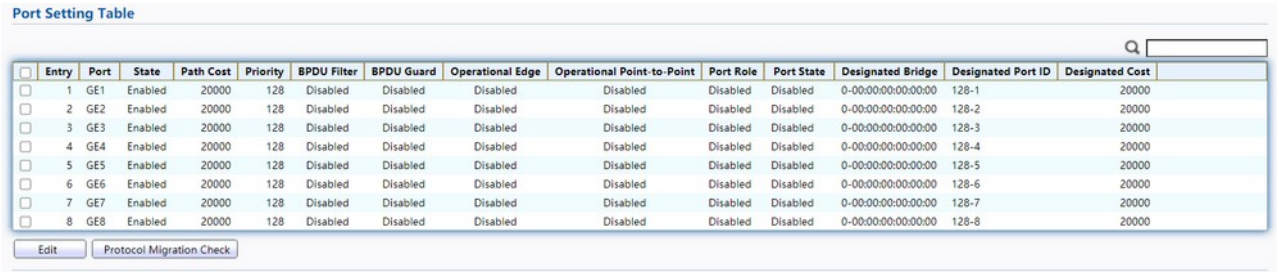


Figure 60. Spanning Tree > Port Setting.

Item	Description
Port	Specify the interface ID or the list of interface IDs.
State	The operational state on the specified port.
Path Cost	STP path cost on the specified port.
Priority	STP priority on the specified port.
BPDU Filter	The states of BPDU filter on the specified port.
BPDU Guard	The states of BPDU guard on the specified port.
Operational Edge	The operational edge port status on the specified port.
Operational Point-to-Point	The operational point-to-point status on the specified port.
Port Role	The current port role on the specified port. The possible values are: “Disabled”, “Master”, “Root”, “Designated”, “Alternative”, and “Backup”.
Port State	The current port state on the specified port. The possible values are: “Disabled”, “Discarding”, “Learning”, and “Forwarding”.
Designated Bridge	The bridge ID of the designated bridge.
Designated Port ID	The designated port ID on the switch.
Designated Cost	The path cost of the designated port on the switch.
Protocol Migration Check	Restart the Spanning Tree Protocol (STP) migration process (re-negotiate with its neighborhood) on the specific interface.

Click "Edit" button to view Edit Port Setting menu.

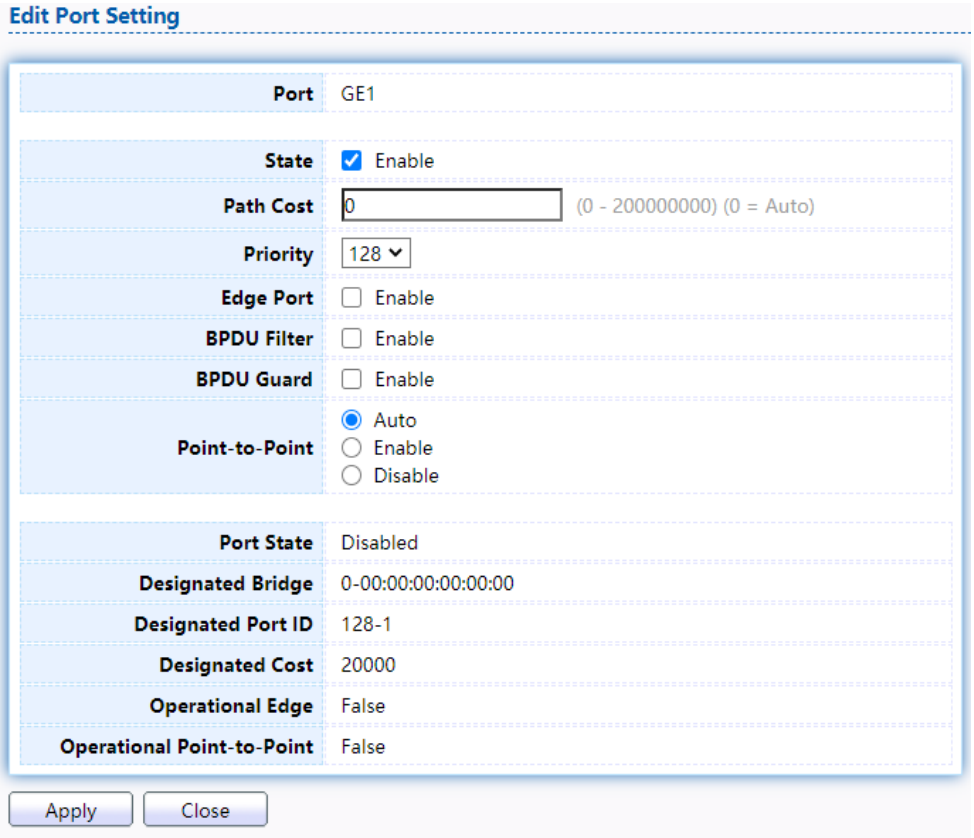


Figure 61. Spanning Tree > Port Setting > Edit Port Setting.

Item	Description
Port	Selected port ID.
State	Enable/Disable the STP on the specified port.
Path Cost	Specify the STP path cost on the specified port.
Priority	Specify the STP path cost on the specified port.
Edge Port	Specify the edge mode. • Enable: Force to true state (as link to a host). • Disable: Force to false state (as link to a bridge). In the edge mode, the interface would be put into the Forwarding state immediately upon link up. If the edge mode is enabled for the interface and there are BPDUs received on the interface, the loop might be occurred in the short time before the STP state change.
BPDU Filter	The BDPU Filter configuration avoids receiving / transmitting BPDU from the specified ports. • Enable: Enable BPDU filter function. • Disable: Disable BPDU filter function.
BPDU Guard	The BPDU Guard configuration to drop the received BPDU directly. • Enable: Enable BPDU guard function.

	• Disable: Disable BPDU guard function.
Point-to-Point	Specify the Point-to-Point port configuration: • Auto: The state is depended on the duplex setting of the port • Enable: Force to true state. • Disable: Force to false state.

2.6.3 MST Instance

To configure MST instance setting, click STP > MST Instance.

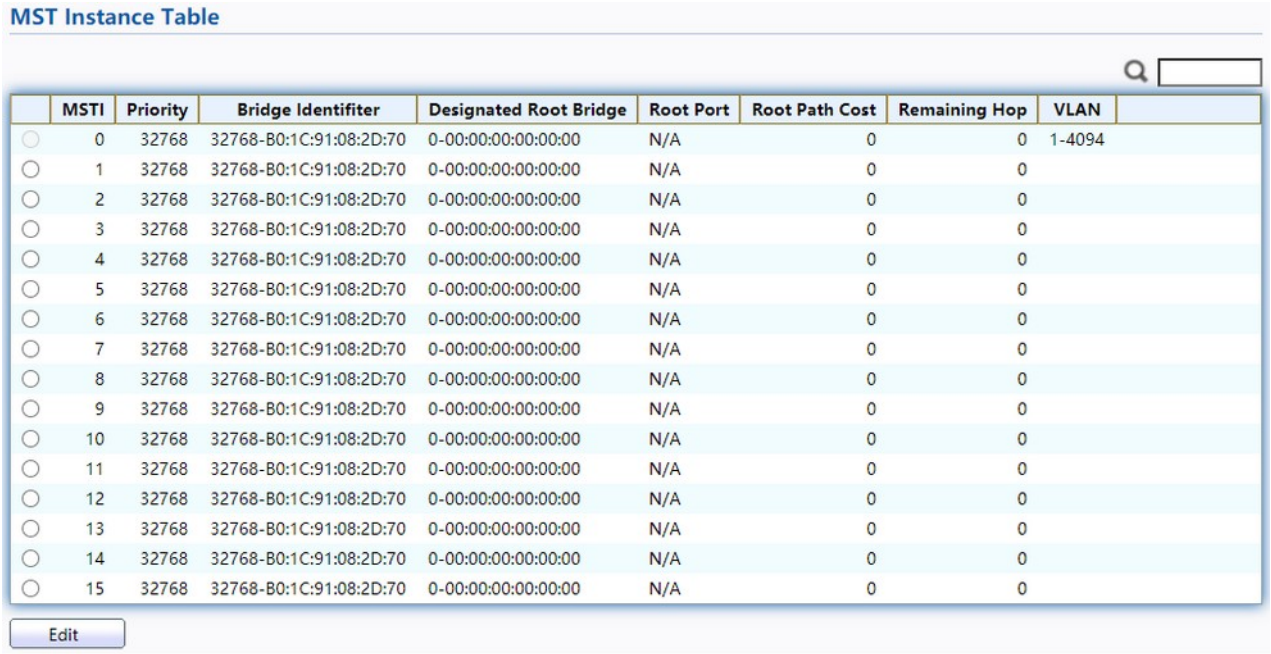


Figure 62. Spanning Tree > MST Instance.

Item	Description
MSTI	Designated port number.
Priority	The bridge priority on the specified MSTI.
Bridge Identifier	The bridge identifier on the specified MSTI.
Designated Root Bridge	The designated root bridge identifier on the specified MSTI.
Root Port	The designated root port on the specified MSTI.
Root Path Cost	The designated root path cost on the specified MSTI.
Remaining Hop	The configuration of remaining hop on the specified MSTI.
VLAN	The VLAN configuration on the specified MSTI.

Click "Edit" button to view Edit MST Instance menu.

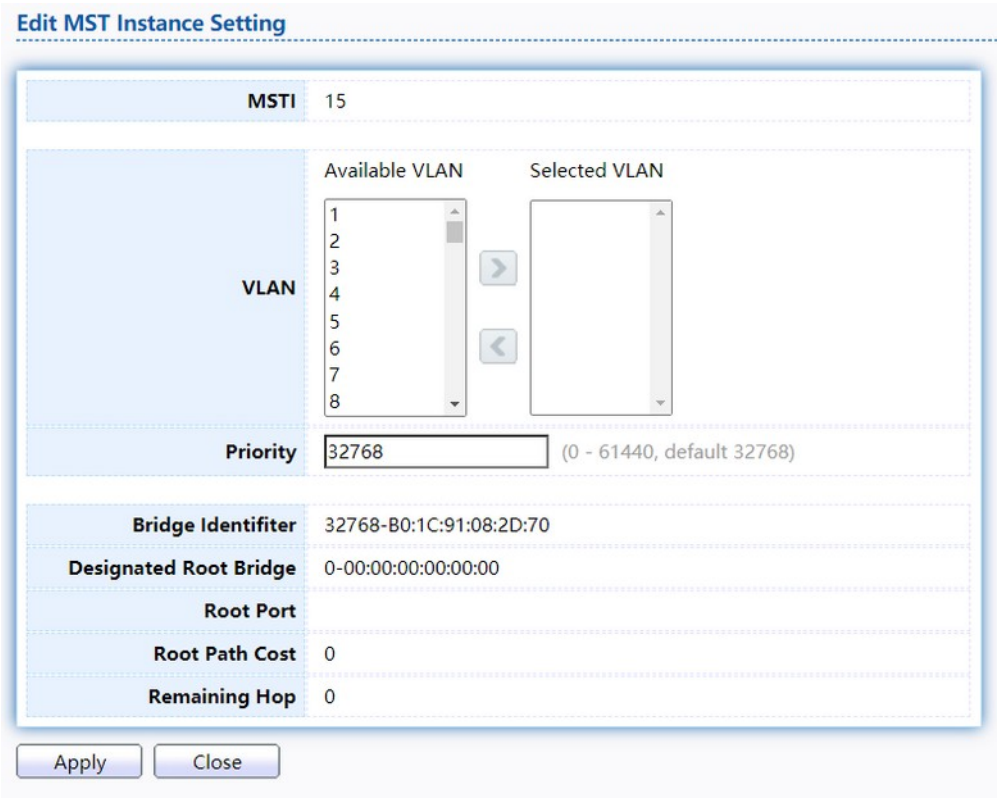


Figure 63. Spanning Tree > MST Instance > Edit MST Instance Setting.

Item	Description
VLAN	Select the VLAN list for the specified MSTI.
Priority	Specify the bridge priority on the specified MSTI. The valid range is from 0 to 61440, and the value must be the multiple of 4096. It ensures the probability that the switch is selected as the root bridge, and the lower values has the higher priority for the switch to be selected as the root bridge of the STP topology.

2.6.4 MST Port Setting

To configure and display MST port setting, click STP > MST Port Setting.

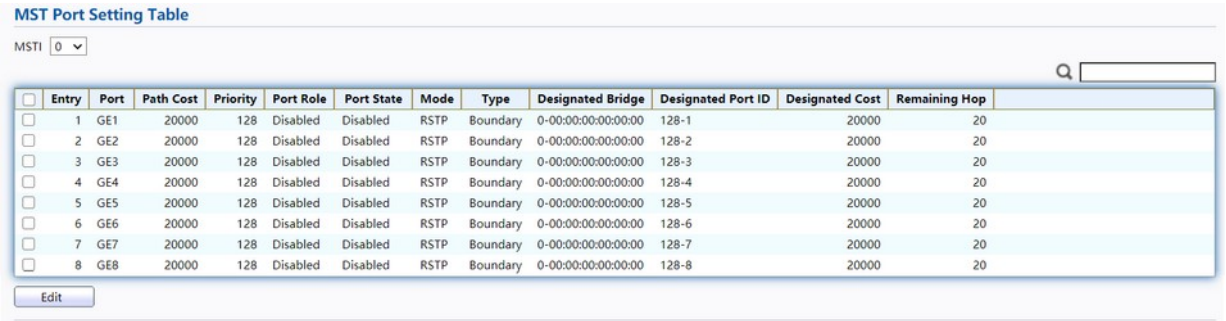


Figure 64. Spanning Tree > MST Port Setting.

Item	Description
MSTI	Specify the port setting on the specified MSTI.
Port	Specify the interface ID or the list of interface IDs.
Path Cost	The port path cost on the specified MSTI.
Priority	The bridge priority on the specified MSTI.
Port Role	The current port role on the specified port. The possible values are: “Disabled”, “Master”, “Root”, “Designated”, “Alternative”, and “Backup”.
Port State	The current port state on the specified port. The possible values are: “Disabled”, “Discarding”, “Learning”, and “Forwarding”.
Mode	The operational STP mode on the specified port.
Type	The possible value for the port type are: • Boundary: The port attaching an MST Bridge to a LAN that is not in the same region. • Internal: The port attaching an MST Bridge to a LAN that is not in the same region.
Designated Bridge	The bridge ID of the designated bridge.
Designated Port ID	The designated port ID on the switch.
Designated Cost	The path cost of the designated port on the switch.
Remaining Hop	The remaining hops count on the specified port.

Click "Edit" button to view Edit MST Port Setting menu.

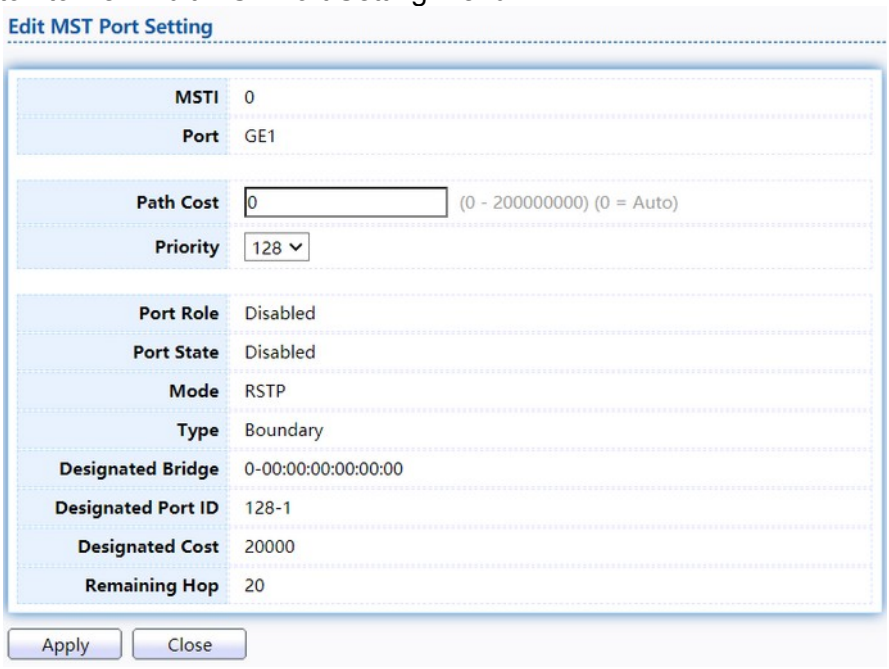


Figure 65. Spanning Tree > MST Port Setting > Edit MST Port Setting.

Item	Description
Path Cost	Specify the STP port path cost on the specified MSTI.
Priority	Specify the STP port priority on the specified MSTI.

2.6.5 Statistics

To display the STP statistics, click STP > Statistics.

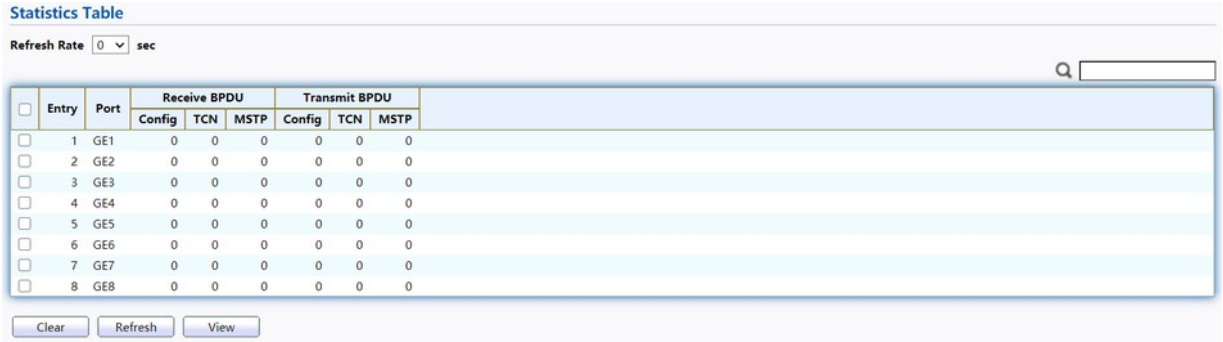


Figure 66. Spanning Tree > Statistics.

Item	Description
Refresh Rate	The option to refresh the statistics automatically.
Receive BPDU (Config)	The counts of the received CONFIG BPDU.
Receive BPDU (TCN)	The counts of the received TCN BPDU.
Receive BPDU (MSTP)	The counts of the received MSTP BPDU.
Transmit BPDU (Config)	The counts of the transmitted CONFIG BPDU.
Transmit BPDU (TCN)	The counts of the transmitted TCN BPDU.
Transmit BPDU (MSTP)	The counts of the transmitted MSTP BPDU.
Clear	Clear the statistics for the selected interfaces
View	View the statistics for the interface.

Click "View" button to view the STP Port Statistic menu.

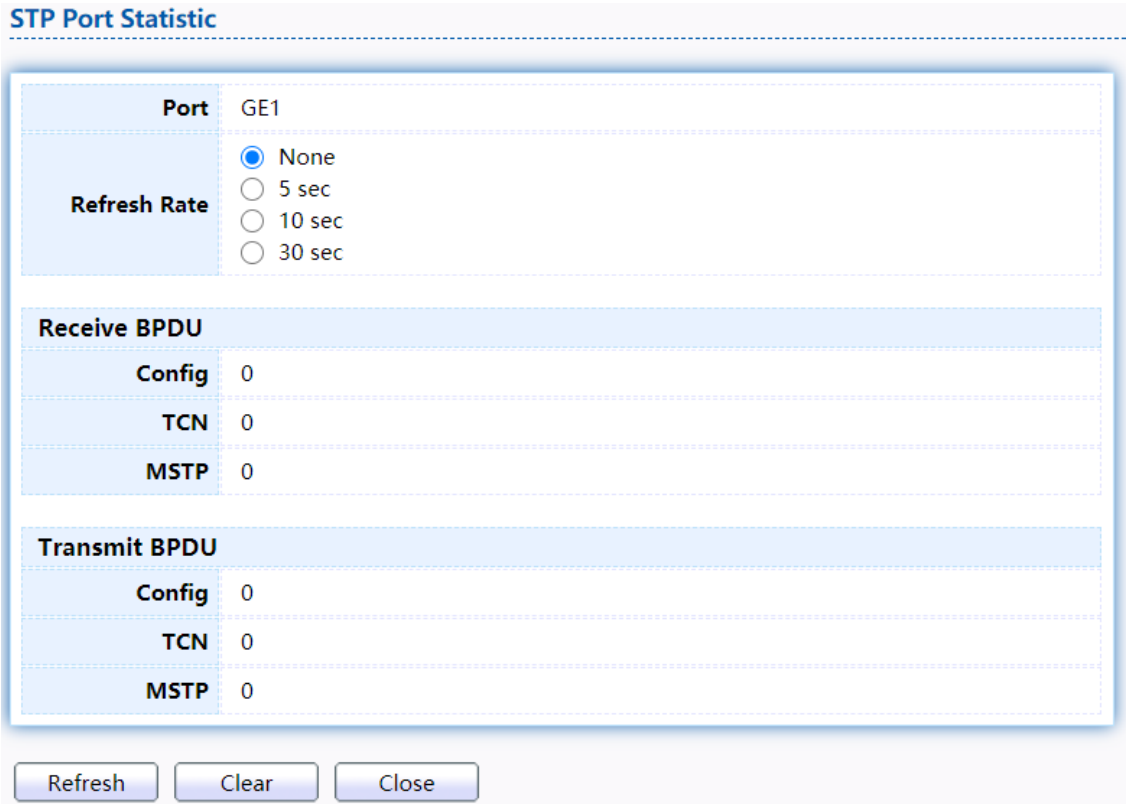


Figure 67. Spanning Tree > Statistics > STP Port Statistic.

Item	Description
Refresh Rate	The option to refresh the statistics automatically.
Clear	Clear the statistics for the selected interfaces.

2.7 ERPS

Use this section to configure ERPS.

2.7.1 ERPS Information

To display ERPS Information Setting web page, click ERPS > ERPS Information.

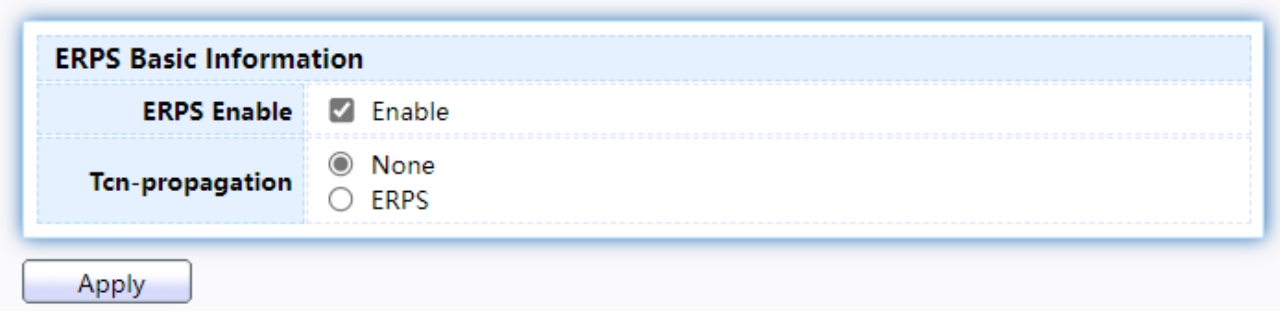


Figure 68. ERPS > ERPS Information.

Item	Description
ERPS Enable	Enable/ Disable ERPS on this switch.

Tcn-propagation	Configure the topology changing transmission notification method supported by this device as the appointed method. The ERPS ring instance detects the changing, it will send the notification packets. If configured erps method, it will send the R-APS event packets to other ERPS rings; Filtering: Deletes the packet. • None: ERPS ring topology changing only takes effect in this ring but does not send the notification packets. • ERPS: Topology changing sends the R-APS event packets to notify the connection ring of this device.

2.7.2 ERPS Create Ring

To display ERPS Create Ring web page, click ERPS > ERPS Create Ring.

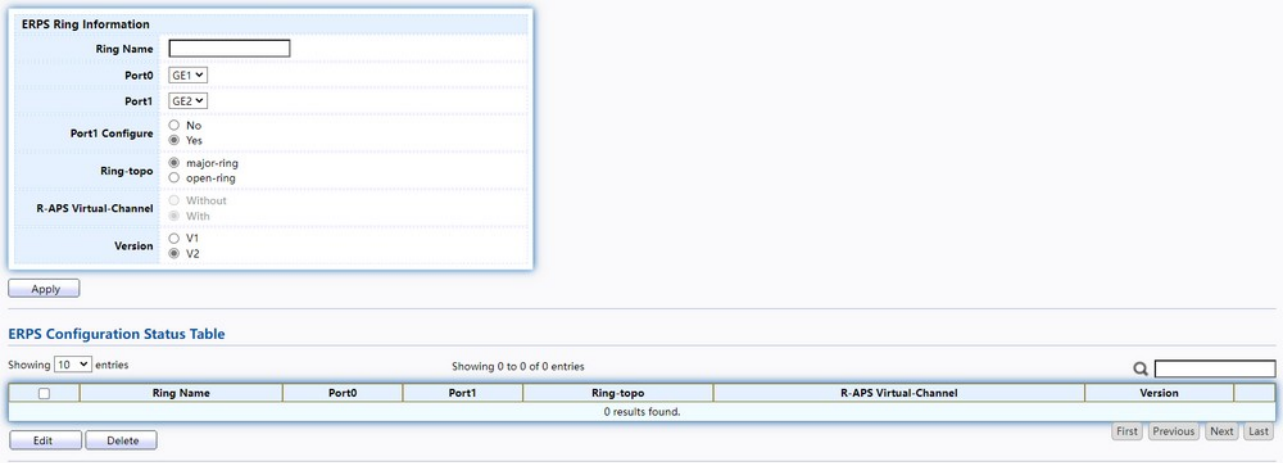


Figure 69. ERPS > ERPS Creat Ring.

Item	Description
Ring Name	The ERPS ring name created. The maximum character number is 64 and it is made up with letters, numbers and the underlines. The first and last character cannot be the underline.
Port0	Select port as Port 0 for ERPS.
Port1	Select port as Port 1 for ERPS.
Port1 Configure	• No: Port1 is not allowed to be configured. • Yes: Port1 is allowed to be configured.
Ring-topo	• major-ring: Configure the ERPS ring as the major ring. • open-ring: Configure the ERPS ring as the open ring.
R-APS Virtual-Channel	Configure if there is the R-APS virtual channel in ERPS ring according to the configuration. Inputting: Success or error. If there is not R-APS virtual channel on the ERPS ring, the R-APS channel of all the instances of ERPS ring will be unblocked forever and it only

	blocks the data channel; otherwise, the R-APS channel and the data channel will be blocked at the same time. • Without: The R-APS virtual channel is not existed in this ERPS ring. • With: The R-APS virtual channel is existed in this ERPS ring.
Version	If configured ERPS ring to support v1, this ring will not support multi-instance. ERPS ring instance does not support the management commands of MS, FS. If configured ERPS ring to support v2, the instance of this ring will deal with the ERPS packets according to the v1 format. Package the R-APS packets and resolve the fields according to v1 format. The fields defined by v2 will not be dealt. • V1: Means to support v1 which is released in 2008-06 and the amendment (2009-04) • V2: Means to support v2 which is released in 2010-03 and the amendment (2010-06)

Click "Edit" button to view Edit ERPS ring status menu.

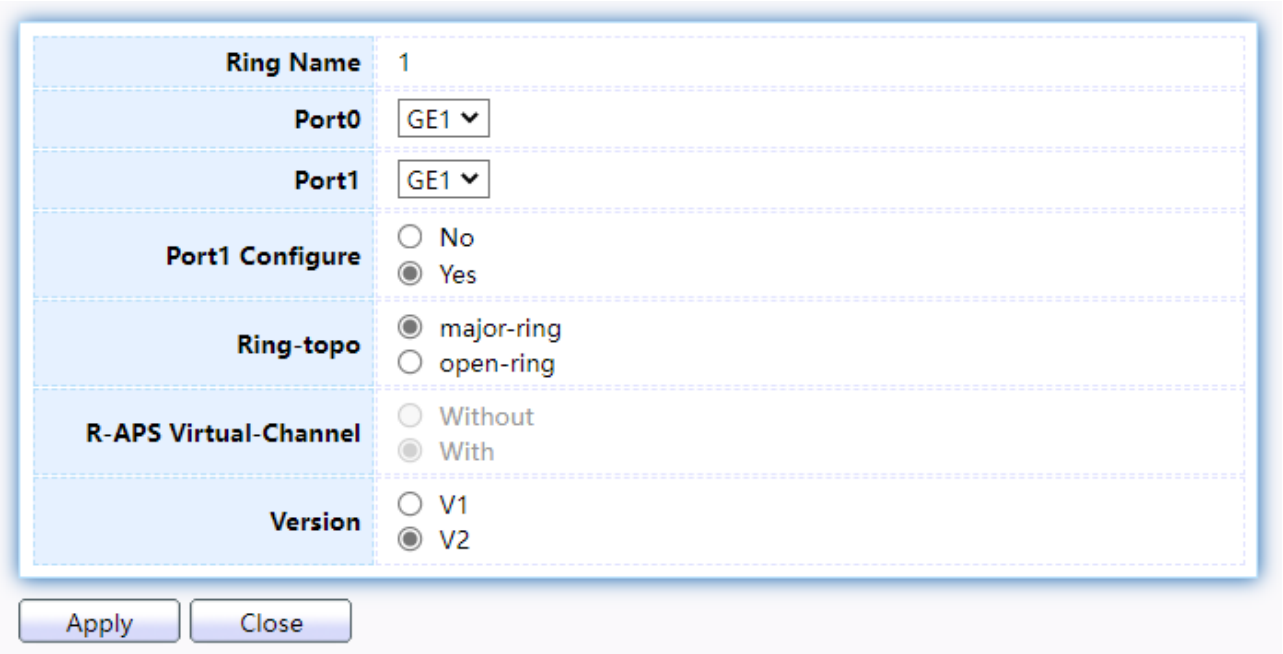


Figure 70. ERPS > ERPS Creat Ring > Edit ERPS Ring.

Item	Description
Ring Name	The ERPS ring name created. The maximum character number is 64 and it is made up with letters, numbers and the underlines. The first and last character cannot be the underline.
Port0	Select port as Port 0 for ERPS.
Port1	Select port as Port 1 for ERPS.

Port1 Configure	• No: Port1 is not allowed to be configured. • Yes: Port1 is allowed to be configured.
Ring-topo	• major-ring: Configure the ERPS ring as the major ring. • open-ring: Configure the ERPS ring as the open ring.
R-APS Virtual-Channel	Configure if there is the R-APS virtual channel in ERPS ring according to the configuration. Inputting: Success or error. If there is not R-APS virtual channel on the ERPS ring, the R-APS channel of all the instances of ERPS ring will be unblocked forever and it only blocks the data channel; otherwise, the R-APS channel and the data channel will be blocked at the same time. • Without: The R-APS virtual channel is not existed in this ERPS ring. • With: The R-APS virtual channel is existed in this ERPS ring.
Version	If configured ERPS ring to support v1, this ring will not support multi-instance. ERPS ring instance does not support the management commands of MS, FS. If configured ERPS ring to support v2, the instance of this ring will deal with the ERPS packets according to the v1 format. Package the R-APS packets and resolve the fields according to v1 format. The fields defined by v2 will not be dealt. • V1: Means to support v1 which is released in 2008-06 and the amendment (2009-04) • V2: Means to support v2 which is released in 2010-03 and the amendment (2010-06)

2.7.3 ERPS Instance

To display ERPS Instance web page, click ERPS > ERPS Instance.

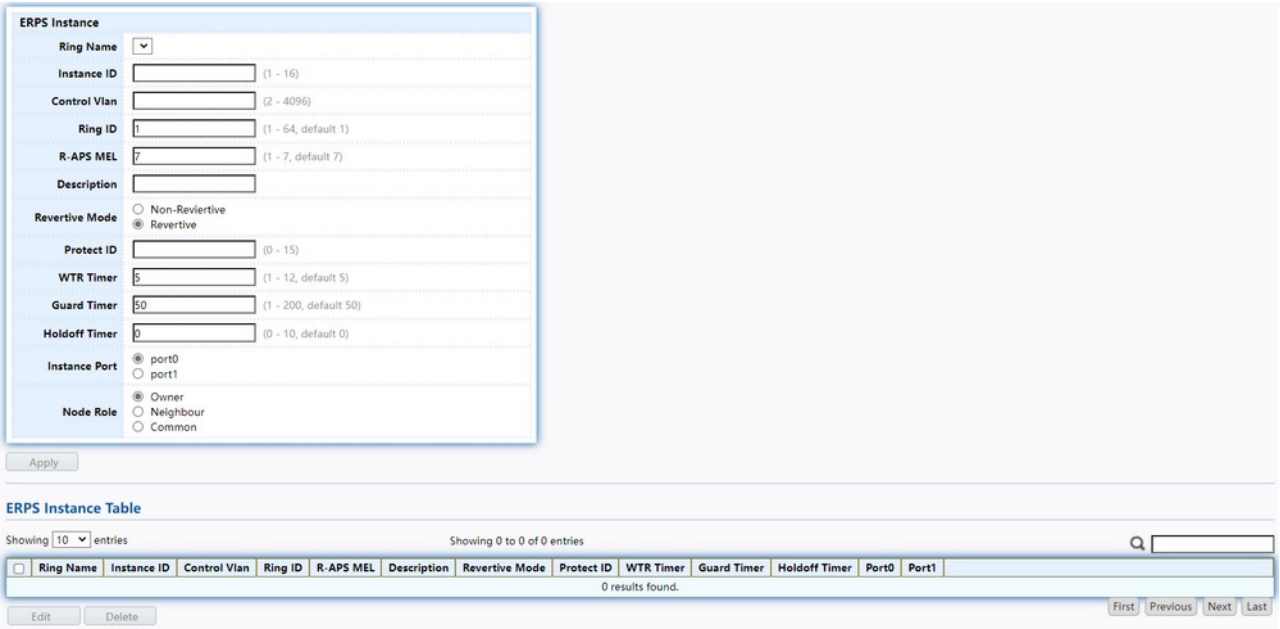


Figure 71. ERPS > ERPS Creat Ring.

Item	Description
Ring Name	Select the ERPS ring you created.
Instance ID	Create the ERPS ring instance ID, id of ERPS ring, the range is 1 to 16.
Control Vlan	Vlan id of R-APS packets, range is from 2 to 4094.
Ring ID	ERPS ring id and the range is 1 to 64.
R-APS MEL	The level value of APS packets, range is from 1 to 7.
Description	ERPS instance name, the maximum string is 64, and it is made up with letters, numbers and underlines; the first and last characters cannot be underlines.
Revertive Mode	Configure the ERPS ring instance as non-revertive. If this ERPS ring supports v1, then cannot be configured. Only configured on the RPL owner node of the sub ring. • Non-Reviertive • Reviertive
Protect ID	The MSTP instance list protected by ERPS ring instance.
WTR Timer	WTR timer is used to avoid the frequent protection switching of RPL owner node because of the periodic (intermittent) default. The interval is 1min and the range is from 1 to 12min, default is 5min.
Guard Timer	The guard timer is used for the Ethernet node to avoid the error handling and the close loop according to the outdated R-APS packets. The interval is 10ms and the range is 10ms to 2s, default is 500ms.
Holdoff Timer	The interval is 1s and the range is 0 to 10s, default is 0s.
Instance Port	Select ERPS ring member ports.
Node Role	Common is default config, it is the ordinary transmission node type: • Owner, • Neighbour, • Common.

Click "Edit" button to view Edit ERPS Instance status menu.

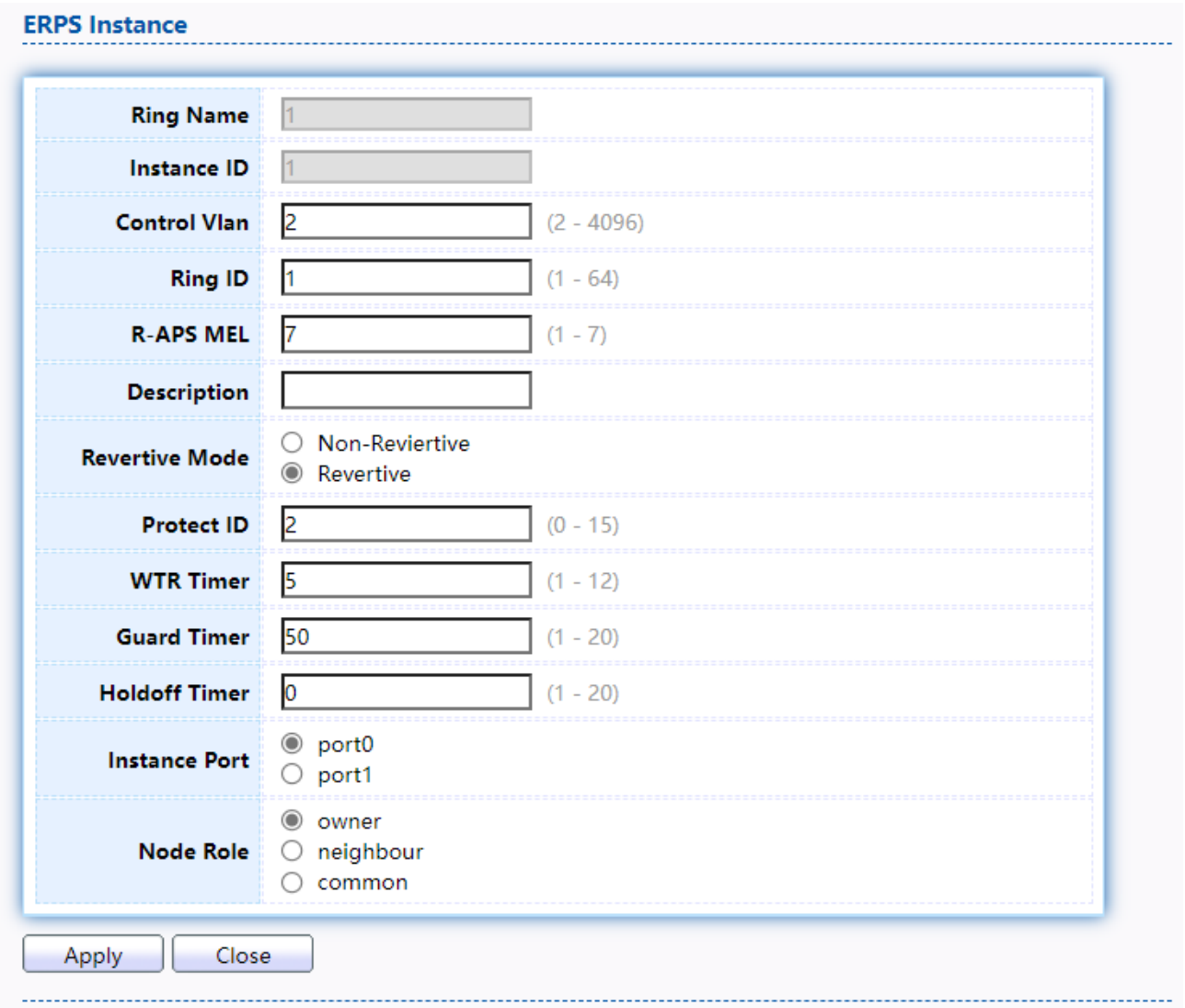


Figure 72. ERPS > ERPS Instance > Edit ERPS Instance.

Item	Description
Ring Name	The ERPS ring when you created.
Instance ID	The ERPS ring instance ID when you created.
Control Vlan	Vlan id of R-APS packets, range is from 2 to 4094.
Ring ID	ERPS ring id and the range is 1 to 64.
R-APS MEL	The level value of APS packets, range is from 1 to 7.
Description	ERPS instance name, the maximum string is 64, and it is made up with letters, numbers and underlines; the first and last characters cannot be underlines.
Revertive Mode	Configure the ERPS ring instance as non-revertive. If this ERPS ring supports v1, then cannot be configured. Only configured on the RPL owner node of the sub ring.

	• Non-Reviertive • Reviertive
Protect ID	The MSTP instance list protected by ERPS ring instance.
WTR Timer	WTR timer is used to avoid the frequent protection switching of RPL owner node because of the periodic (intermittent) default. The interval is 1min and the range is from 1 to 12min, default is 5min.
Guard Timer	The guard timer is used for the Ethernet node to avoid the error handling and the close loop according to the outdated R-APS packets. The interval is 10ms and the range is 10ms to 2s, default is 500ms.
Holdoff Timer	The interval is 1s and the range is 0 to 10s, default is 0s.
Instance Port	Select ERPS ring member ports.
Node Role	Common is default config, it is the ordinary transmission node type: • Owner, • Neighbour, • Common.

2.7.4 ERPS Instance Status

To display ERPS Instance Status web page, click ERPS > ERPS Instance Status.

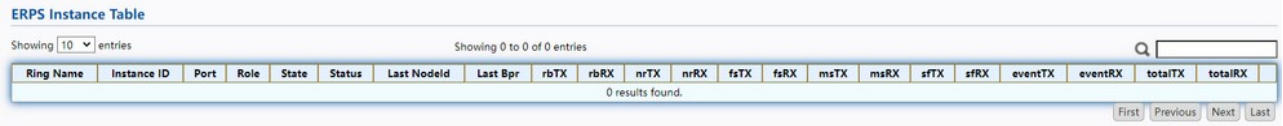


Figure 73. ERPS > ERPS Creat Ring.

Item	Description
Ring Name	The ERPS ring name whe you created.
Instance ID	The ERPS ring instance ID when you create.
Port	The ERPS ring member ports
Role	ERPS ring node roles: RPL Owner, RPL neighbor, Common.
State	Blocked: port is in block status; forwarding: port is in forwarding status.
Status	ERPS ring port fault status: Non-failed: no fault, Failed: fault happened.
Last NodeID	The node ID information is the last bit of the MAC address.
Last Bpr	The block link information carried by the receiving last R-APS saved by ERPS ring port, it is port0 or port1 which was blocked.

rbTX	RB transport statistics.
rbRX	RB receive statistics.
nrTX	NR transport statistics.
nrRX	NR receive statistics.
fsTX	FS transport statistics.
fsRX	FS receive statistics.
msTX	MS transport statistics.
msRX	MS receive statistics.
sfTX	SF transport statistics.
sfRX	SF receive statistics.
eventTX	Event transport statistics.
eventRX	Event receive statistics.
totalTX	Total transport statistics.
totalRX	Total receive statistics.

2.8 Discovery

Use this section to configure ERPS.

2.8.1 LLDP

LLDP is a one-way protocol; there are no request/response sequences. Information is advertised by stations implementing the transmit function, and is received and processed by stations implementing the receive function. The LLDP category contains LLDP and LLDP-MED pages.

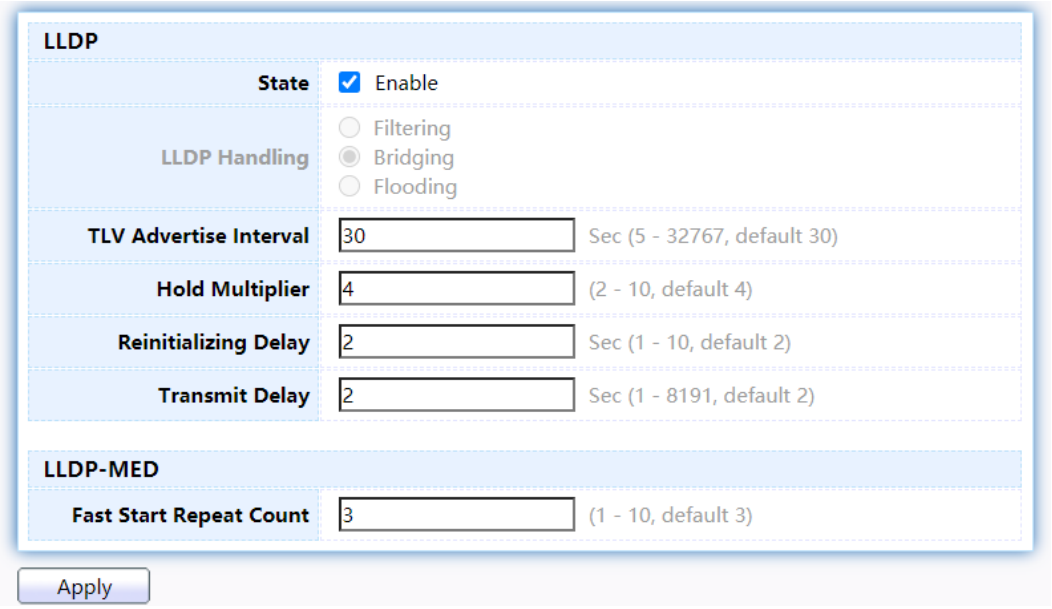


Figure 74. Discovery > LLDP > Property.

Item	Description
State	Enable/ Disable LLDP protocol on this switch.
LLDP Handling	Select LLDP PDU handling action to be filtered, bridging or flooded when LLDP is globally disabled. • Filtering: Deletes the packet. • Bridging: (VLAN-aware flooding) Forwards the packet to all VLAN members. • Flooding: Forwards the packet to all ports.
TLV Advertise Interval	Select the interval at which frames are transmitted. The default is 30 seconds, and the valid range is 5 – 32767 seconds.
Hold Multiplier	Select the multiplier on the transmit interval to assign to TTL (range 2 – 10, default = 4).
Reinitializing Delay	Select the delay before a re-initialization (range 1 – 10 seconds, default = 2).
Transmit Delay	Select the delay after an LLDP frame is sent (range 1 – 8191 seconds, default = 3).
Fast Start Repeat Count	Select fast start repeat count when port link up (range 1 – 10, default = 3).

2.8.1.2 Port Setting

To display LLDP Port Setting, click Discovery > LLDP > Port Setting.

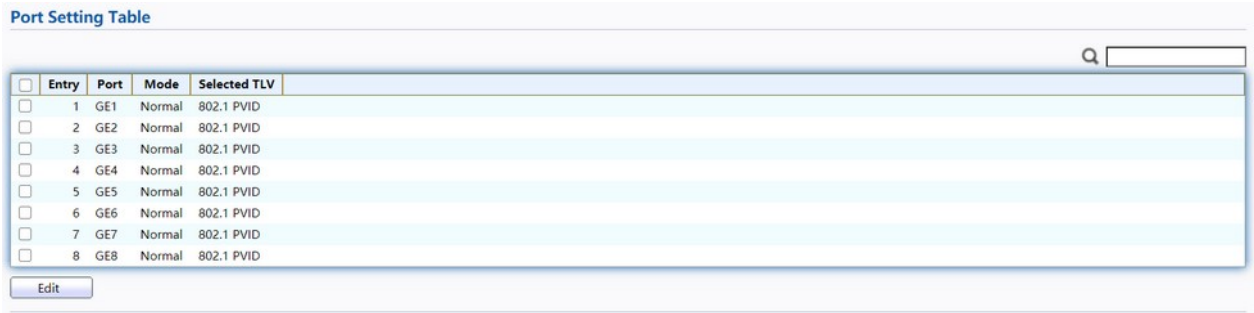


Figure 75. Discovery > LLDP > Port Setting.

Item	Description
Port	Port Name.
Mode	The port LLDP mode.
Selected TLV	The Selected LLDP TLV.

Click "Edit" button to view Edit Port Setting menu.

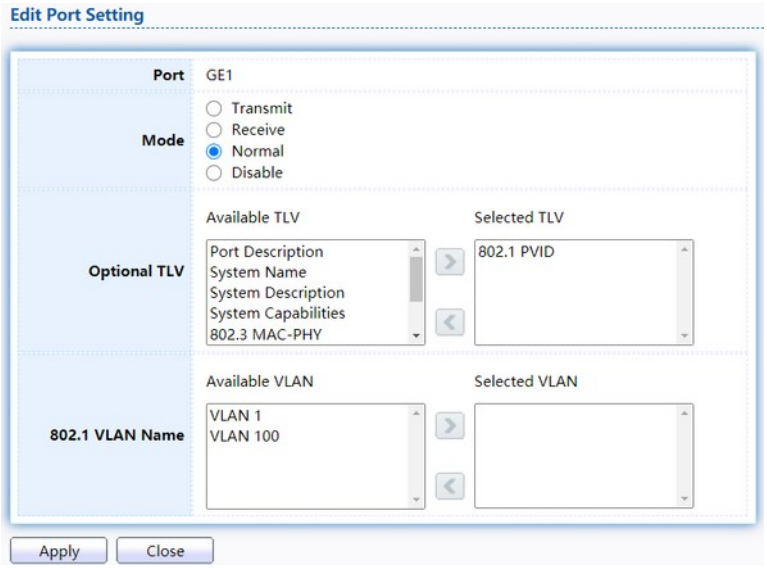


Figure 76. Discovery > LLDP > Port Setting > Edit Port Setting.

Item	Description
Port	Select specified port or all ports to configure LLDP state.
Mode	Select the transmission state of LLDP port interface. • Disable: Disable the transmission of LLDP PDUs. • Receive: RX Only LLDP PDUs only. • Transmit: Transmit and receive LLDP PDUs only. • Normal: Transmit and receive LLDP PDUs both.
Optional TLV	Select the LLDP optional TLVs to be carried (multiple selection is allowed). • System Name • Port Description • System Description • System Capability • 802.3 MAC-PHY • 802.3 Link Aggregation • 802.3 Maximum Frame Size • Management Address • 802.1 PVID.
802.1 VLAN Name	Select the VLAN Name ID to be carried (multiple selection is allowed).

2.8.1.3 MED Network Policy

To display LLDP MED Network Policy Setting, click Discovery > LLDP > MED Network Policy.

Figure 77. Discovery > LLDP > MED Network Policy.

Click "Add" button or “Edit” button to view Edit Add MED Network Policy menu.

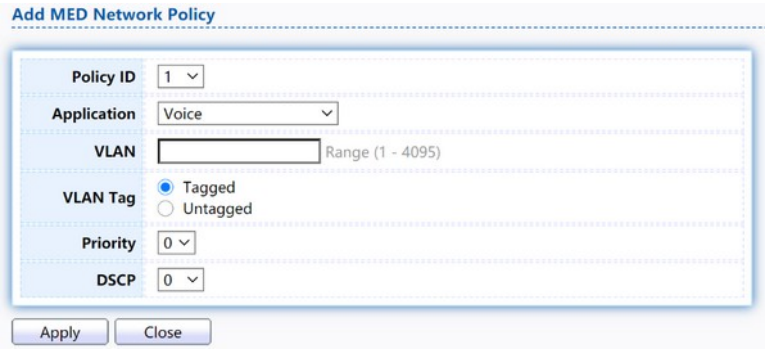


Figure 78. Discovery > LLDP > MED Network Policy.

Item	Description
Policy ID	Select specified network policy ID to configure.
Application	Select the network policy application type: Voice, Voice Signaling, Guest Voice, Guest Voice Signaling, Softphone Voice, Video Conferencing, Streaming Video, Video Signaling.
VLAN	Set the VLAN ID, range from 1 to 4094.
VLAN Tag	Set the VLAN tag status: Tagged: Traffic is tagged. Untagged: Traffic is untagged.
Priority	Set the L2 priority, range from 0 to 7.
DSCP	Set the DSCP value, range from 0 to 63.

2.8.1.4 MED Port Setting

To display LLDP MED Port Setting, click Discovery > LLDP > MED Port Setting.

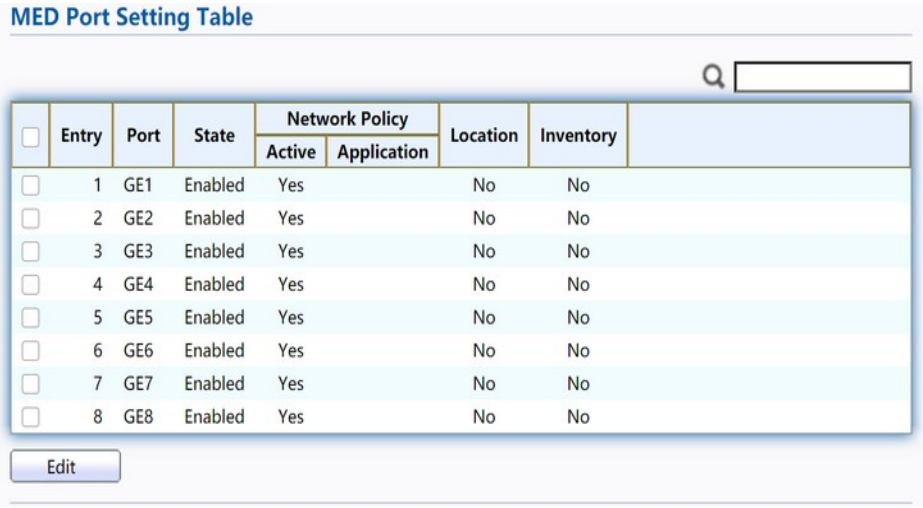


Figure 79. Discovery > LLDP > MED Port Setting.

Click "Edit" button to view Edit Add MED Port Setting menu.

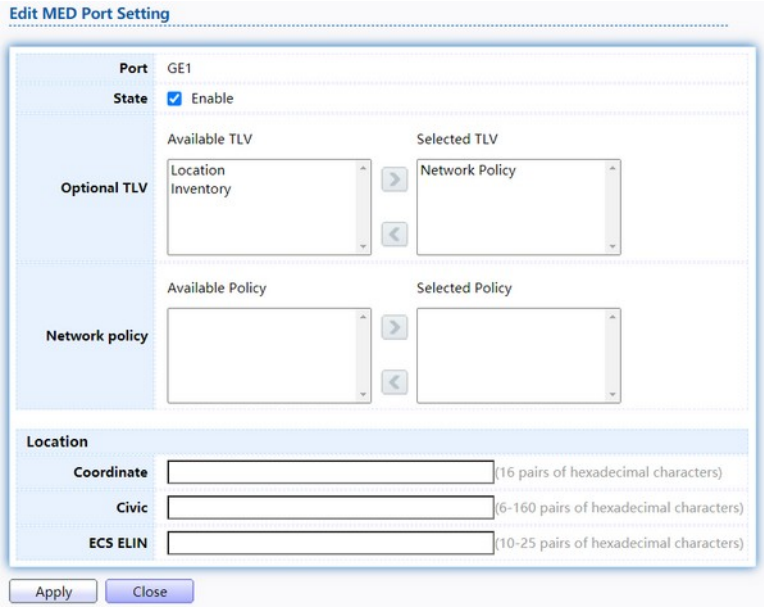


Figure 80. Discovery > LLDP > Add MED Port Setting.

Item	Description
Port	Select specified port or all ports to configure LLDP MED.
State	Select LLDP MED enable status.
Optional TLV	Select LLDP MED optional TLVs (multiple selection is allowed): Network Policy, Location, Inventory.

Network Policy	Select the network policy IDs to be bound to ports. The network policy should be created in MED Network Policy page at first.
Coordinate	Set Coordinate.
Civic	Set Civic.
ECS ELIN	Set ECS.

2.8.1.5 MED Port Setting

To display LLDP Overloading, click Discovery > LLDP > Packet View.

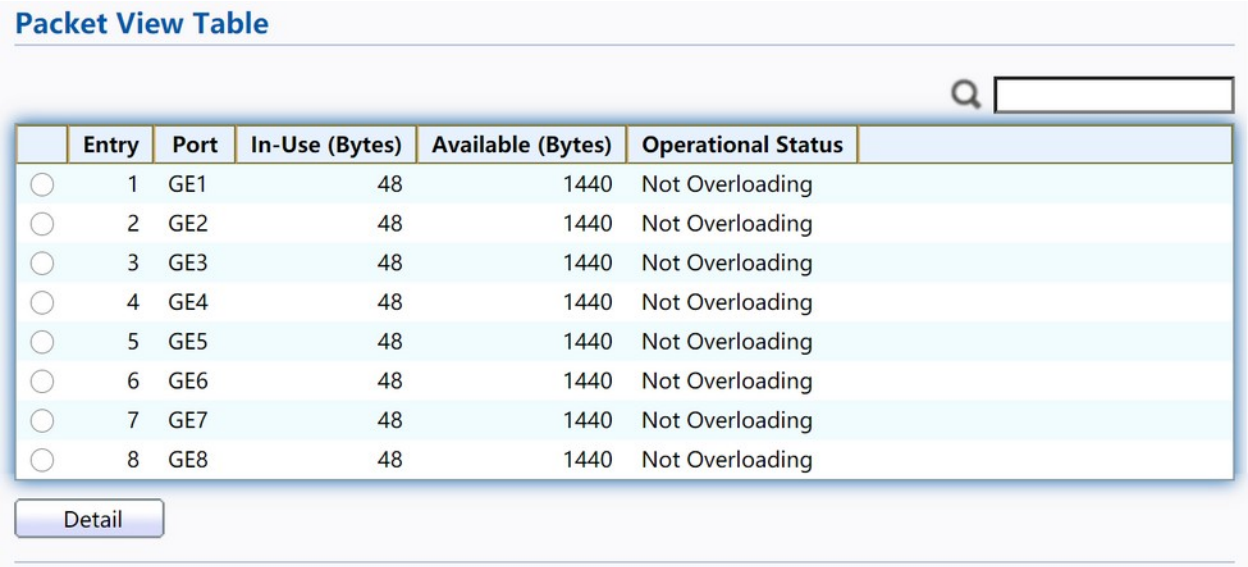


Figure 81. Discovery > LLDP > Packet View.

Item	Description
Port	Port Name.
In-Use (Bytes)	Total number of bytes of LLDP information in each packet.
Available (Bytes)	Total number of available bytes left for additional LLDP information in each packet.
Operational Status	Overloading or not.

Click "Detail" button to view Packet View Detail menu.

Figure 82. Discovery > LLDP > Packet View > Packet View Detail.

Item	Description
Port	Port Name.
Mandatory TLVs	Total mandatory TLV byte size. Status is sent or overloading.
MED Capabilities	Total MED Location byte size. Status is sent or overloading.
MED Network Policy	Total MED Network Policy byte size. Status is sent or overloading.

MED Inventory	Total MED Inventory byte size. Status is sent or overloading.
MED Extended Power via MDI	Total MED Extended Power via MDI byte size. Status is sent or overloading.
802.3 TLVs	Total 802.3 TLVs byte size. Status is sent or overloading.
Optional TLVs	Total Optional TLV byte size. Status is sent or overloading.
802.1 TLVs	Total 802.1 TLVs byte size. Status is sent or overloading.
Total	Total number of bytes of LLDP information in each packet.

2.8.1.6 MED Port Setting

Use the LLDP Local Information to view LLDP local device information.

To display LLDP Local Device, click Discovery > LLDP > Local Information.

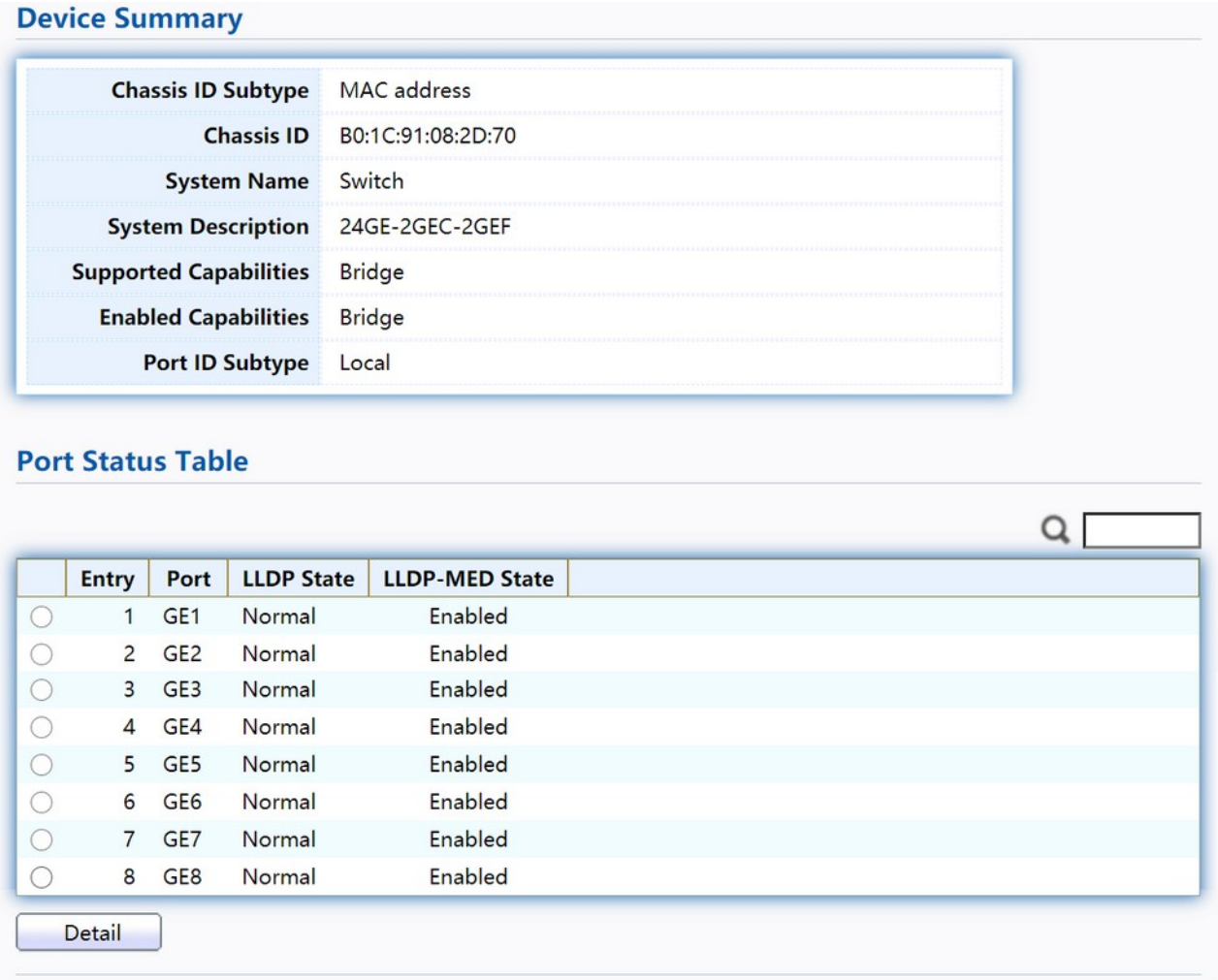
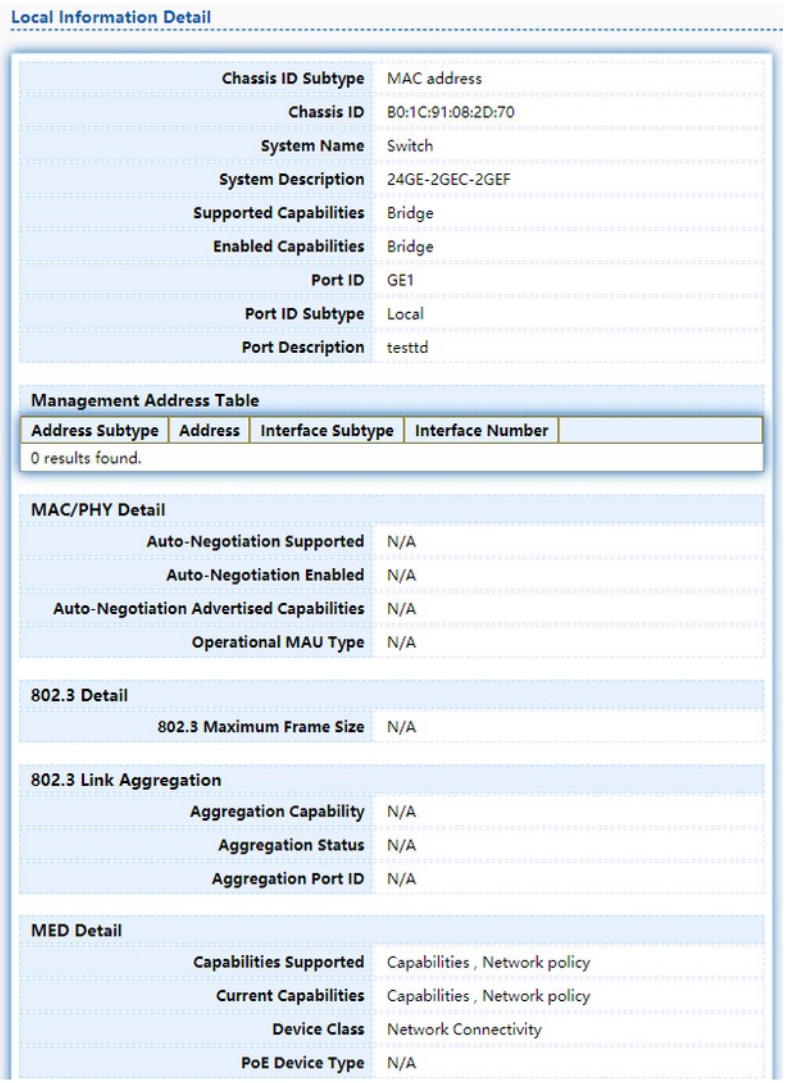


Figure 83. Discovery > LLDP > Local Information.

Item	Description
Chassis ID Subtype	Type of chassis ID, such as the MAC address.

Chassis ID	Identifier of chassis. Where the chassis ID subtype is a MAC address, the MAC address of the switch is displayed.
System Name	Name of the switch.
System Description	Description of the switch.
Capabilities	Primary functions of the device, such as Bridge, WLAN AP, or Router.
Capabilities Enabled	Primary enabled functions of the device.
Port ID Subtype	Type of the port identifier that is shown.
LLDP Status	LLDP Tx and Rx abilities.
LLDP Med Status	LLDP MED enable state.

Click “Detail” button on the page to view detail information of the selected port.



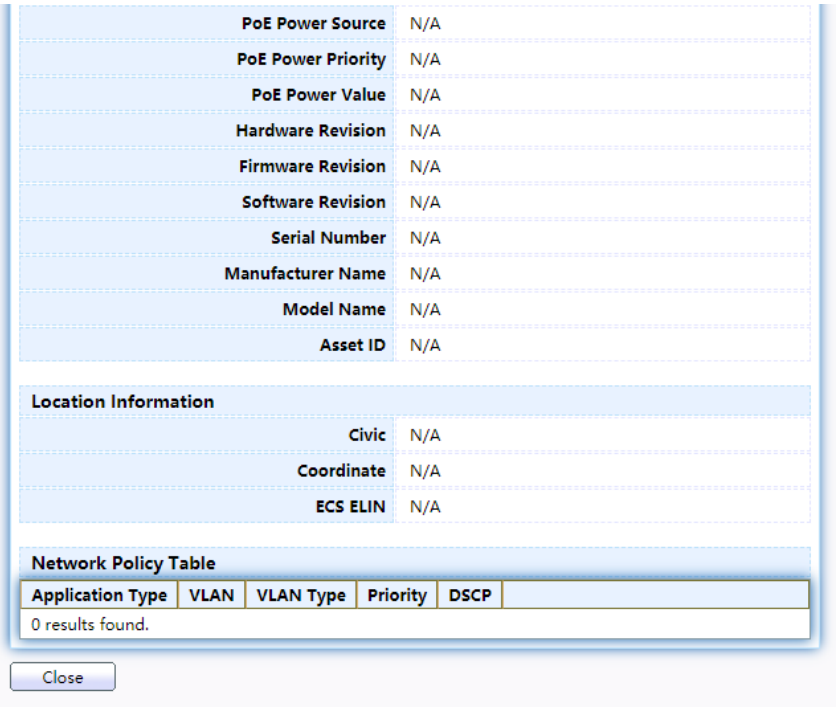


Figure 84. Discovery > LLDP > Local Information > Detail.

2.8.1.7 Neighbor

Use the LLDP Neighbor page to view LLDP neighbors information.

To display LLDP Remote Device, click Discovery > LLDP > Neighbor.

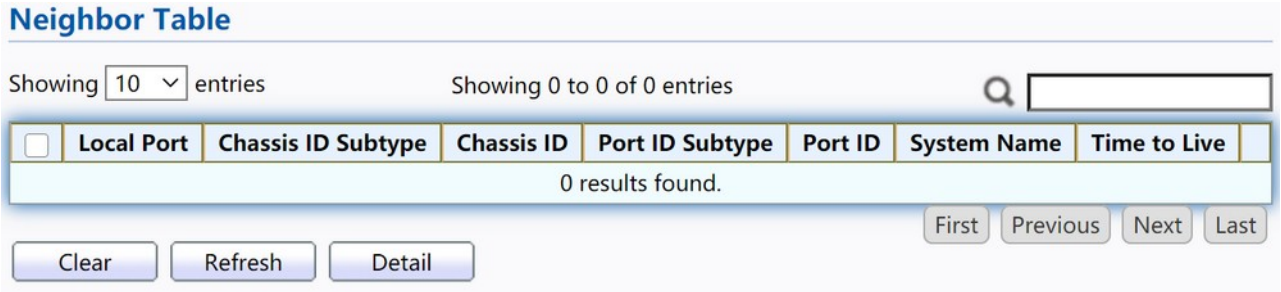
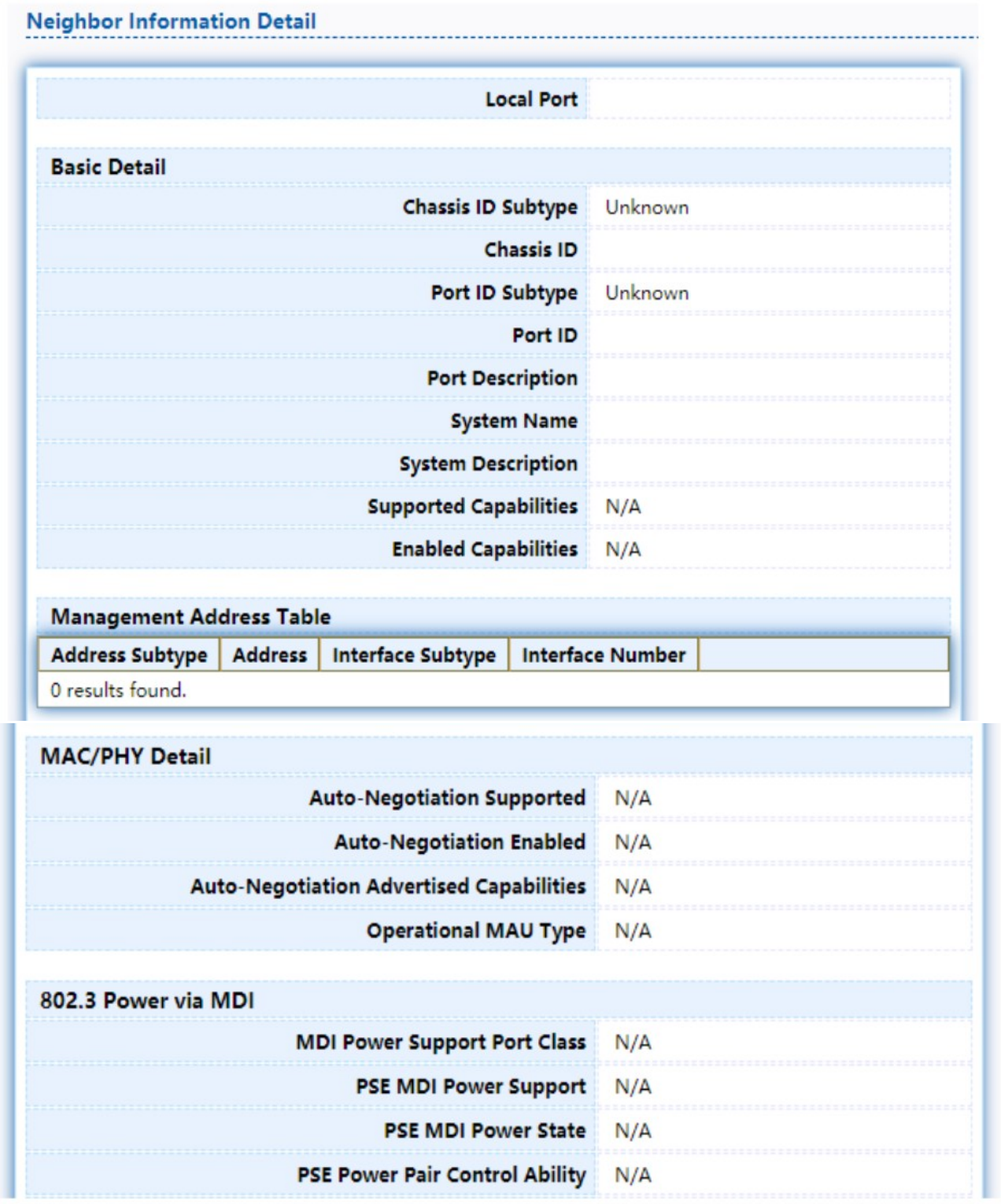


Figure 85. Discovery > LLDP > Neighbor.

Item	Description
Local Port	Number of the local port to which the neighbor is connected.
Chassis ID Subtype	Type of chassis ID (for example, MAC address).
Chassis ID	Chassis ID.
Port ID Subtype	Type of the port identifier that is shown.
Port ID	Identifier of the port.
System Name	Published name of the switch.
Time to Live	Time interval in seconds after which the information for this neighbor is deleted.

Click “Detail” button on the page to view detail information of the selected port.



PSE Power Pair	N/A
PSE Power Class	N/A
Power Type	N/A
Power Source	N/A
Power Priority	N/A
PD Request Power Value	N/A
PSE Allocated Power Value	N/A

802.3 Detail	
802.3 Maximum Frame Size	N/A

802.3 Link Aggregation	
Aggregation Capability	N/A
Aggregation Status	N/A
Aggregation Port ID	N/A

802.1 VLAN and Protocol	
PVID	
VLAN Name	N/A

MED Detail	
Capabilities Supported	N/A
Current Capabilities	N/A
Device Class	N/A
PoE Device Type	N/A
PoE Power Source	N/A
PoE Power Priority	N/A
PoE Power Value	N/A
Hardware Revision	N/A
Firmware Revision	N/A
Software Revision	N/A
Serial Number	N/A
Manufacturer Name	N/A
Model Name	N/A
Asset ID	N/A

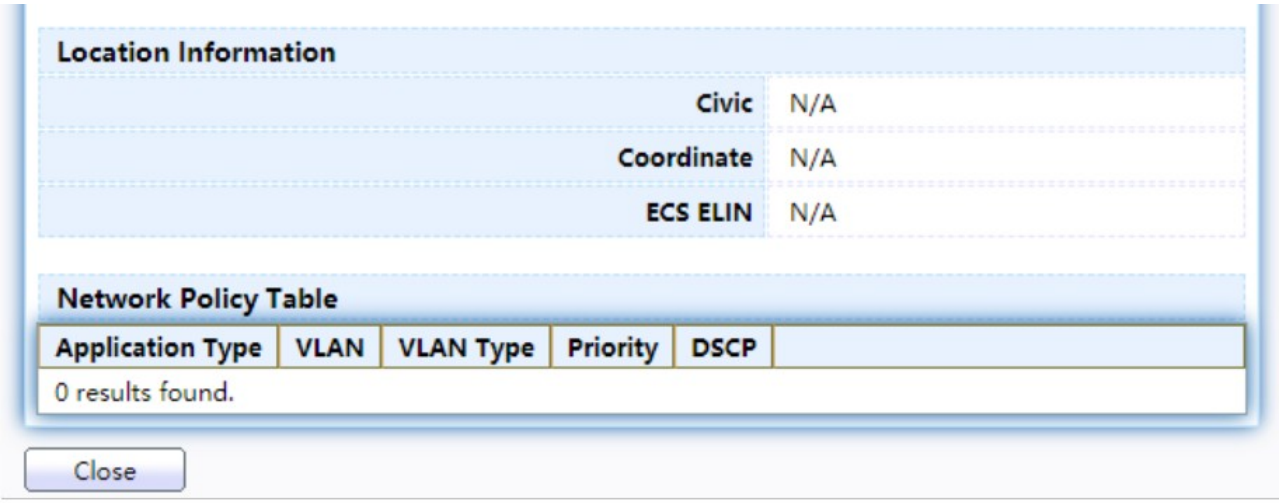


Figure 86. LLDP Neighbor Detail Page.

2.8.1.8 Statistics

The Link Layer Discovery Protocol (LLDP) Statistics page displays summary and per-port information for LLDP frames transmitted and received on the switch.

To display LLDP Statistics status, click Discovery > LLDP > Statistics.

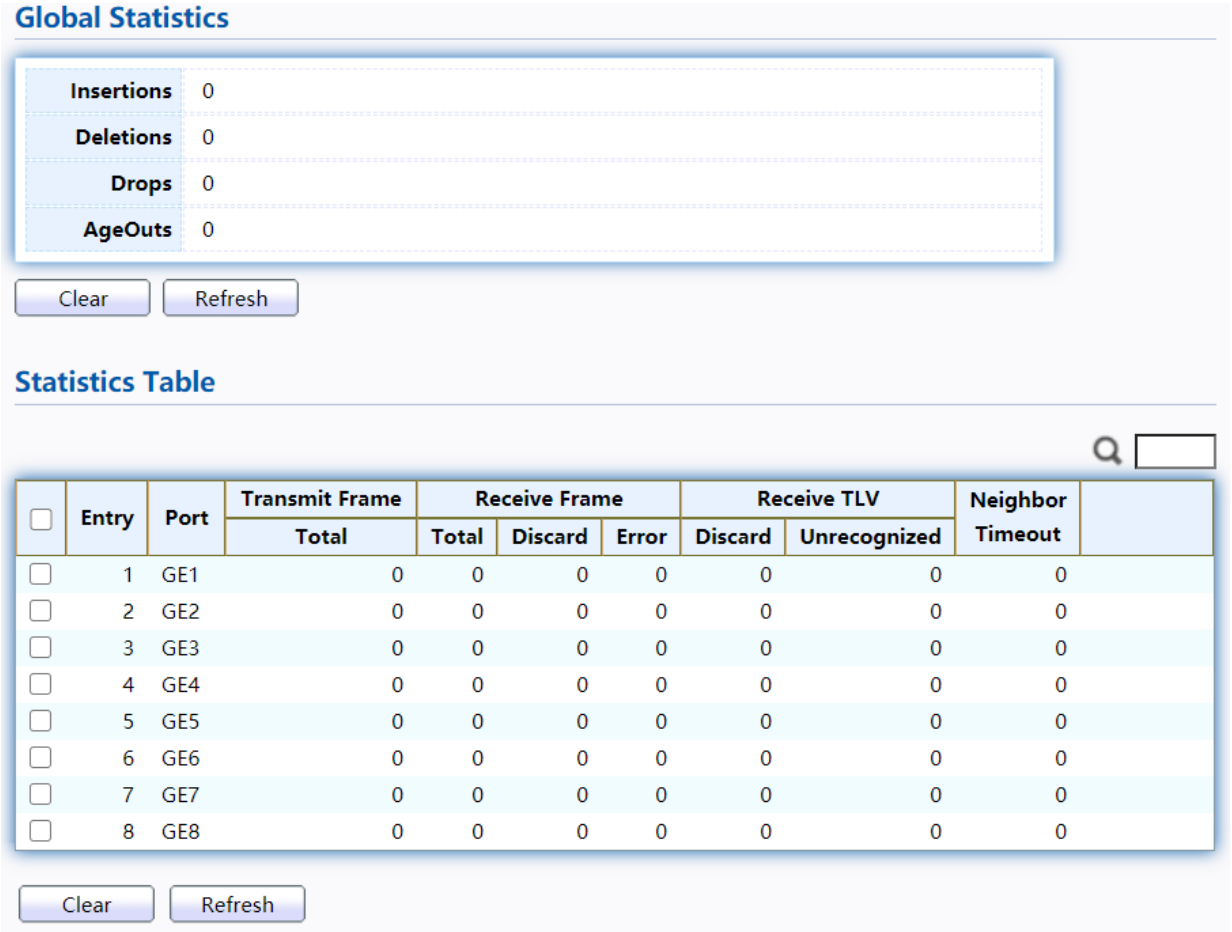


Figure 87. Discovery > LLDP > Statistics.

Item	Description
Insertions	The number of times the complete set of information advertised by a particular MAC Service Access Point (MSAP) has been inserted into tables associated with the remote systems.
Deletions	The number of times the complete set of information advertised by MSAP has been deleted from tables associated with the remote systems.
Drops	The number of times the complete set of information advertised by MSAP could not be entered into tables associated with the remote systems because of insufficient resources.
Age Outs	The number of times the complete set of information advertised by MSAP has been deleted from tables associated with the remote systems because the information timeliness interval has expired.
Statistics Table	
Port	Interface or port number.
Transmit Frame Total	Number of LLDP frames transmitted on the corresponding port.
Receive Frame Total	Number of LLDP frames received by this LLDP agent on the corresponding port, while the LLDP agent is enabled.
Receive Frame Discard	Number of LLDP frames discarded for any reason by the LLDP agent on the corresponding port.
Receive Frame Error	Number of invalid LLDP frames received by the LLDP agent on the corresponding port, while the LLDP agent is enabled.
Receive TLV Discard	Number of TLVs of LLDP frames discarded for any reason by the LLDP agent on the corresponding port.
Receive TLV Unrecognized	Number of TLVs of LLDP frames that are unrecognied while the LLDP agent is enabled.
Neighbor Timeout	Number of age out LLDP frames.

2.9 Multicast

Use this section to configure Multicast.

2.9.1 General

Use the General pages to configure settings of IGMP and MLD common function.

2.9.1.1 Port Setting

To display multicast general property Setting web page, click Multicast> General> Property.

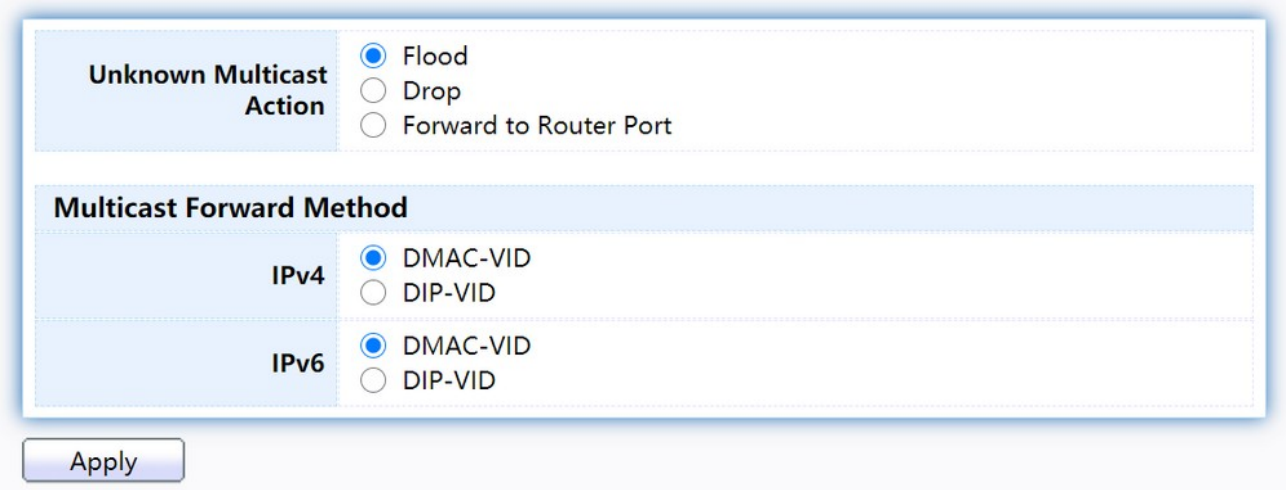


Figure 88. Multicast > General > Property.

Item	Description
Unknown Multicast Action	Set the unknown multicast action: • Flood: flood the unknown multicast data. • Drop: drop the unknown multicast data. • Router port: forward the unknown multicast data to router port.
IPv4	Set the ipv4 multicast forward method. • MAC-VID: forward method dmac+vid. • DIP-VID: forward method dip+vid.
IPv6	Set the ipv6 multicast forward method. • MAC-VID: forward method dmac+vid. • DIP-VID: forward method dip+vid (dip is ipv6 low 32 bit).

2.9.1.2 Group Address

This page allow user to browse all multicast groups that dynamic learned or statically added.

To display Multicast General Group web page, click Multicast> General> Group Address.

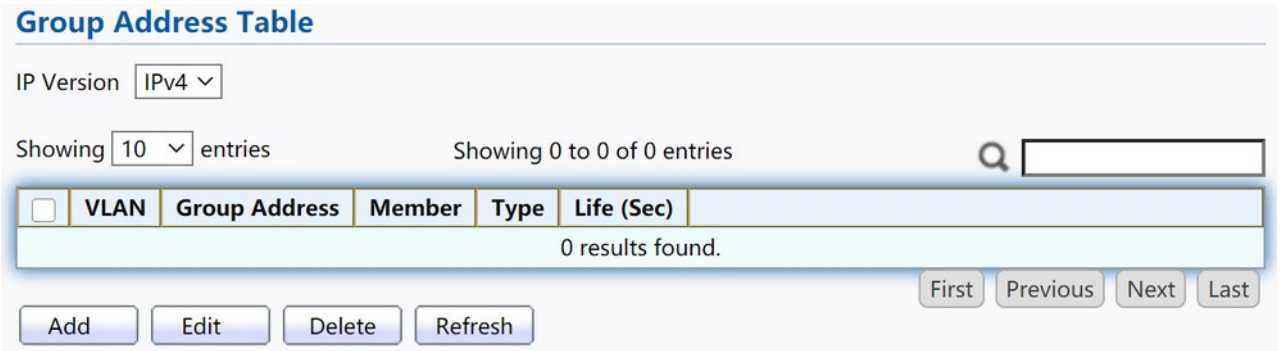


Figure 89. Multicast > General > Group Address.

Item	Description
IP Version	IP Version: • IPv4: ipv4 multicast group, • IPv6: ipv6 multicast group.
VLAN	The VLAN ID of the group.
Group Address	The group IP address.
Member	The member ports of group.
Type	The type of group. Static or Dynamic.
Life(Sec)	The life time of this dynamic group.

Click "Edit" button to view Edit Add MED Port Setting menu.

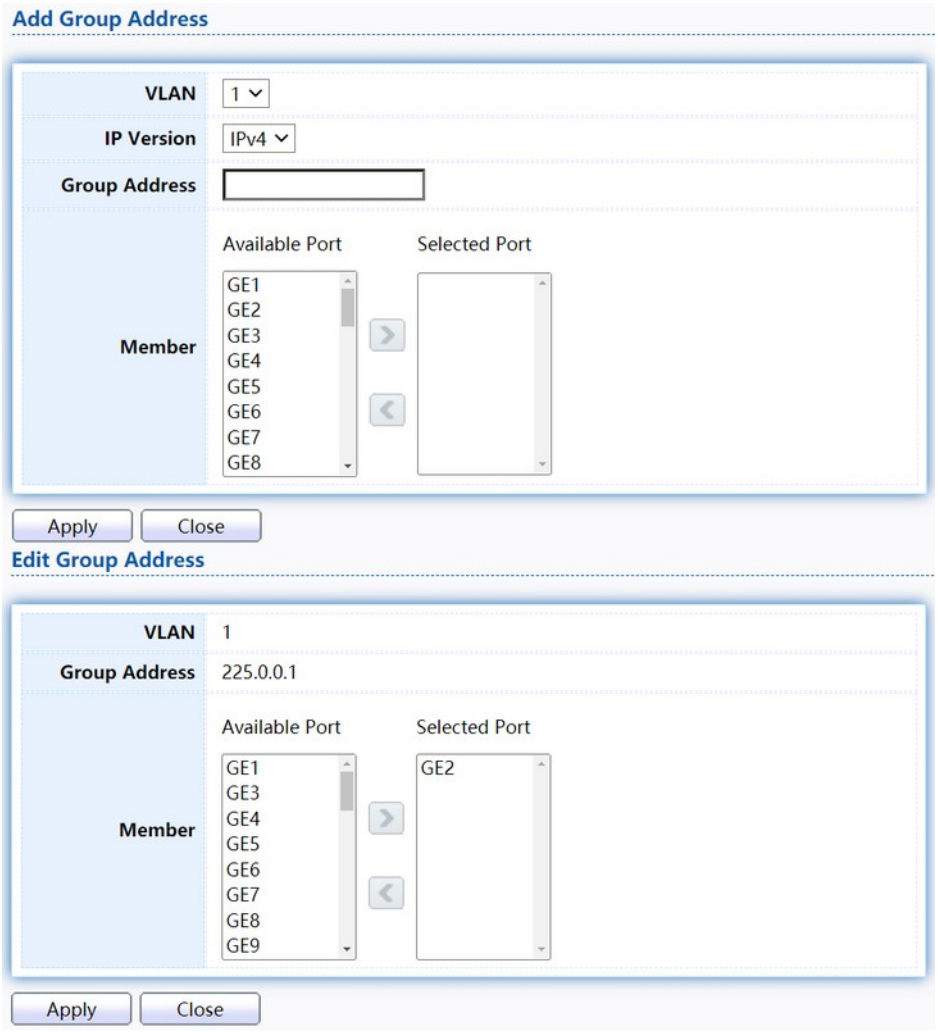


Figure 90. Multicast > General > Group Address > Add/Edit Group Address.

Item	Description
VLAN	The VLAN ID of the group.

IP Version	IP Version: • IPv4: ipv4 multicast group, • IPv6: ipv6 multicast group.
Group Address	The group IP address.
Member	The member ports of group. • Available Port: Optional port member. • Selected Port: Selected port member.

2.9.1.3 Router Port

This page allow user to browse all router port information. The static and forbidden router port can set by user.

To display multicast router port table web page, click Multicast> General> Router Port.

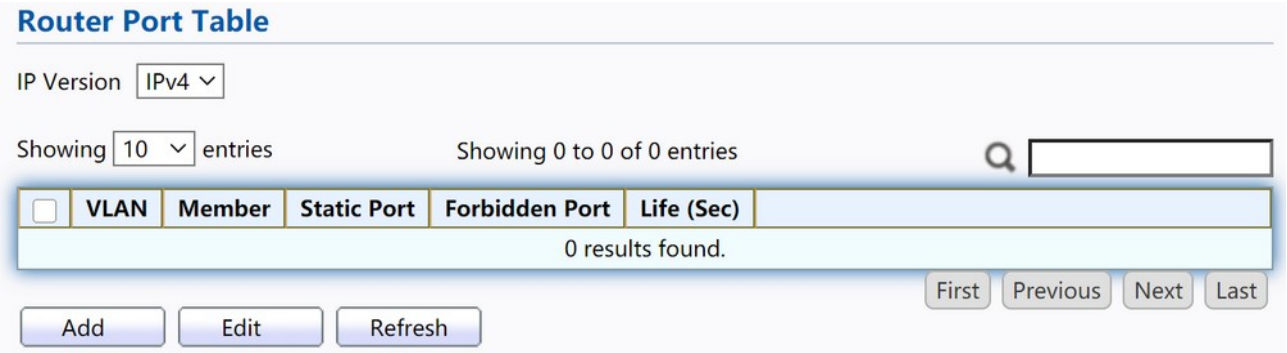


Figure 91. Multicast > General > Router Port.

Item	Description
IP Version	IP Version: • IPv4: ipv4 multicast group, • IPv6: ipv6 multicast group.
VLAN	The VLAN ID of the router entry.
Member	Router Port member (include static and learned port member).
Static Port	Static router port member.
Forbidden Port	Forbidden router port member.
Life (Sec)	The expiry time of the router entry.

Click "Add" or “Edit” button to view Add/Edit Router Port menu.

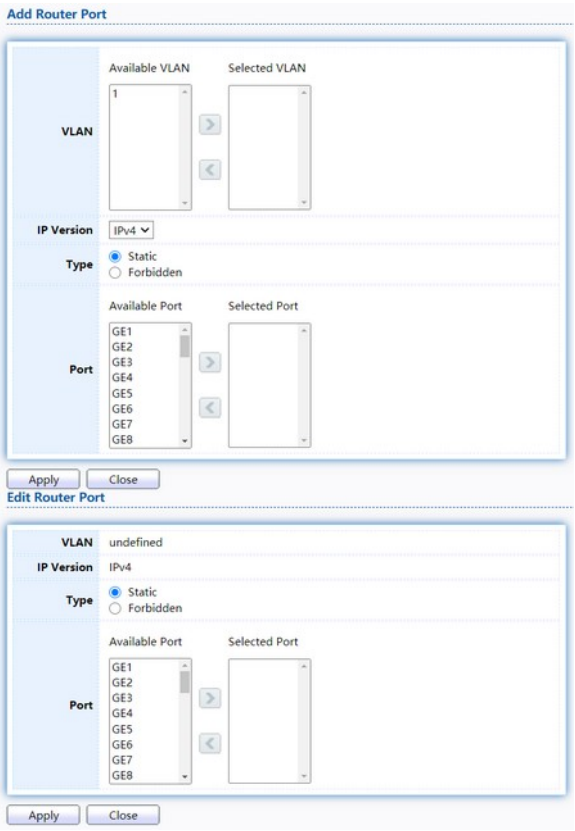


Figure 92. Multicast > General > Router Port > Add/Edit Router Port.

Item	Description
VLAN	The VLAN ID for router entry: • Available VLAN: Optional VLAN member. • Selected VLAN: Selected VLAN member.
IP Version	IP Version: • IPv4: ipv4 multicast group, • IPv6: ipv6 multicast group.
Type	The router port type: • Static: static router port, • Forbidden: forbidden router port, can't learn dynamic router port member.
Port	The member ports of router entry. • Available Port: Optional router port member. • Selected Port: Selected router port member.

2.9.1.4 Forward All

This page allow user to add and edit forward all entry.

To display multicast Forward All web page, click Multicast> General> Forward All.

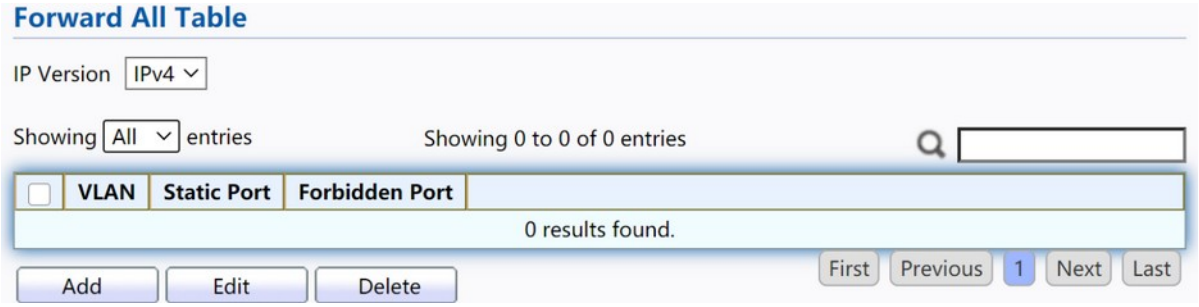
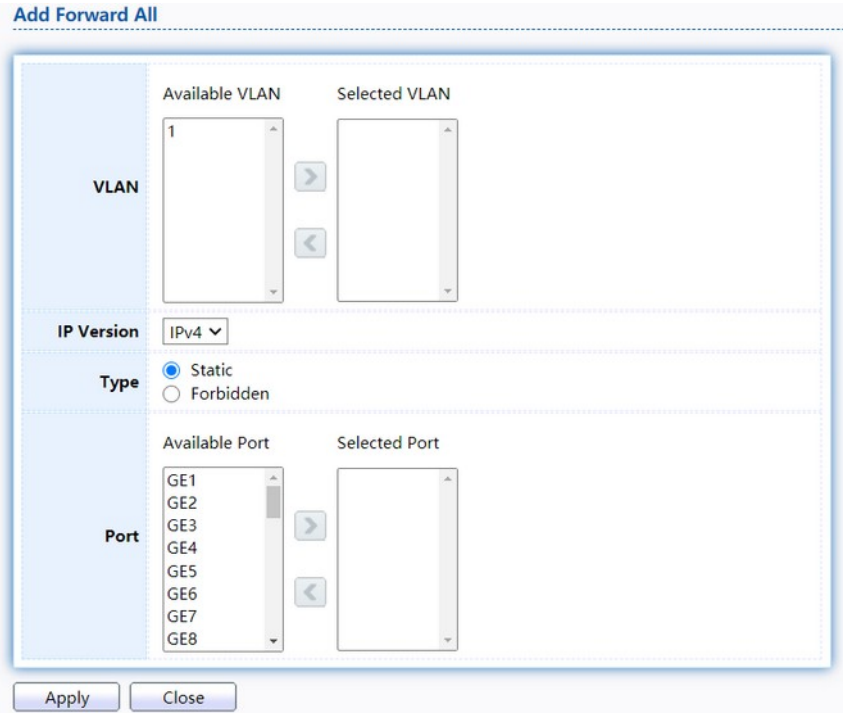


Figure 93. Multicast > General > Forward All.

Item	Description
IP Version	IP Version: • IPv4: ipv4 multicast forward all, • IPv6: ipv6 multicast forward all.
VLAN	VLAN ID of forward all entry
Static Port	Known multicast group always forward port member.
Forbidden Port	Known multicast group always not forward port member.

Click "Add" or “Edit” button to view Add/Edit Forward All menu.



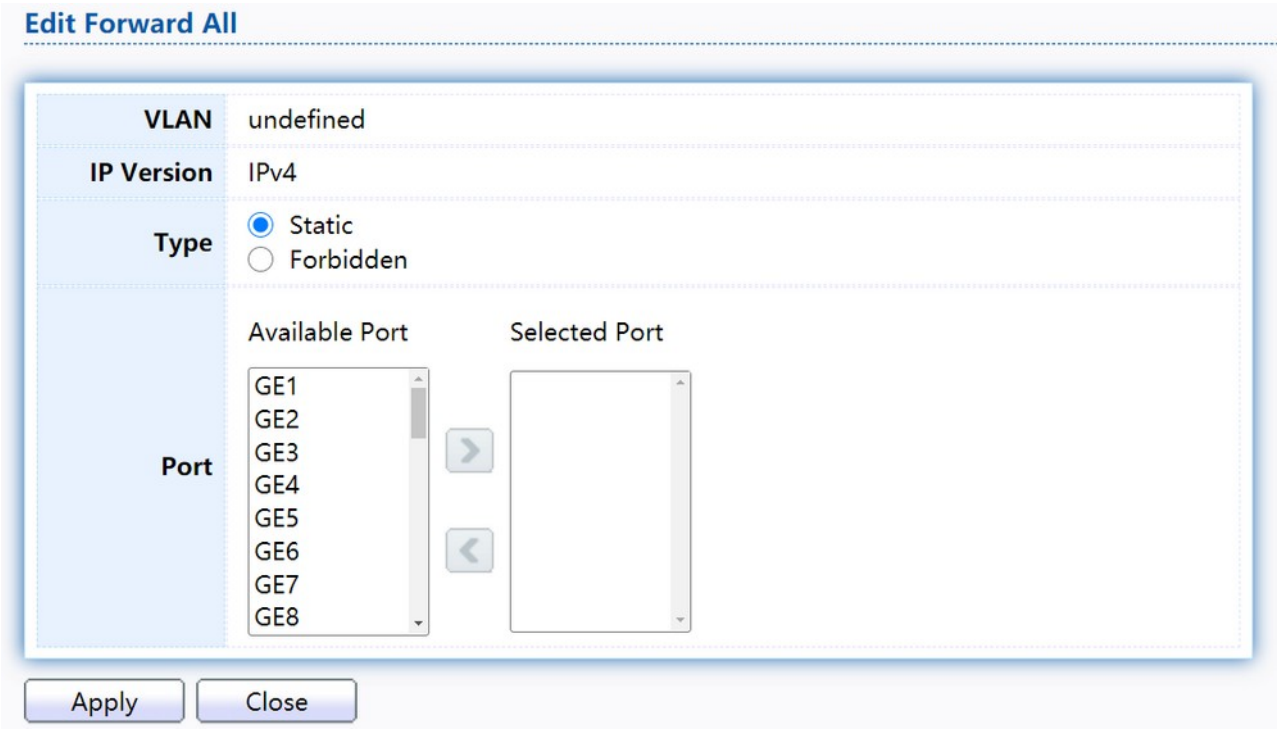


Figure 94. Multicast > General > Add/Edit Forward All.

Item	Description
VLAN	The VLAN ID for forward all entry: • Available VLAN: Optional VLAN member, • Selected VLAN: Selected VLAN member.
IP Version	IP Version: • IPv4: ipv4 multicast forward all, • IPv6: ipv6 multicast forward all.
Type	The forward all port type: • Static: static forward all port, • Forbidden: forbidden forward all port.
Port	The member ports of router entry: • Available Port: Optional router port member, • Selected Port: Selected router port member.

2.9.1.5 Throttling

This page allow user to configure port can learned max group number and if port group number arrived max group number action.

To display multicast max-group number and action setting web page, click Multicast> General> Throttling.

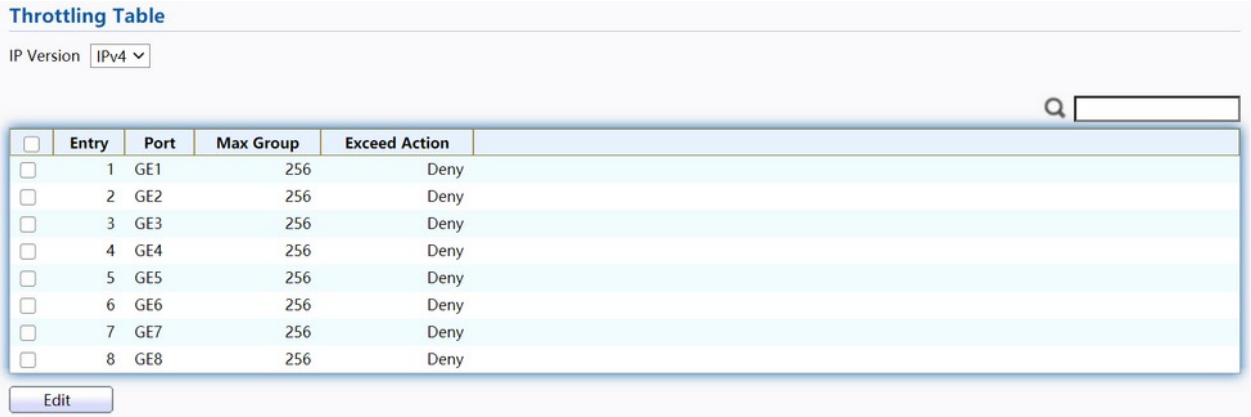


Figure 95. Multicast > General > Throttling.

Item	Description
IP Version	IP Version: • IPv4: ipv4 for igmp snooping throttling, • IPv6: ipv6 for mld snooping throttling.
Entry	The entry of number.
Port	The Port Name.
Max Group	Max number of the group for the port.
Exceed Action	Display the port exceed max number group learning group action.

Click “Edit” button to view Edit Throttling menu.

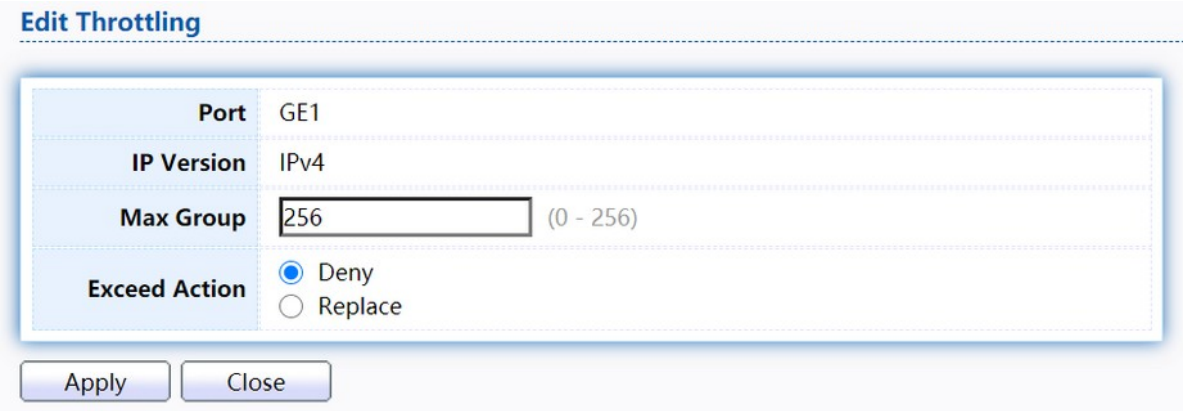


Figure 96. Multicast > General > Edit Throttling.

Item	Description
Port	Display the selected port list.
IP Version	Display the selected IP version.
Max Group	Max number of the group for the port.
Exceed Action	Excess Max number of port learning group action:

	• Deny: do not learning group. • Replace: random replace one exist group.

2.9.1.6 Filtering Profile

This page allow user to add, edit or delete profile for IGMP or MLD snooping.

To display Multicast Profile Setting web page, click Multicast> General> Filtering Profile.

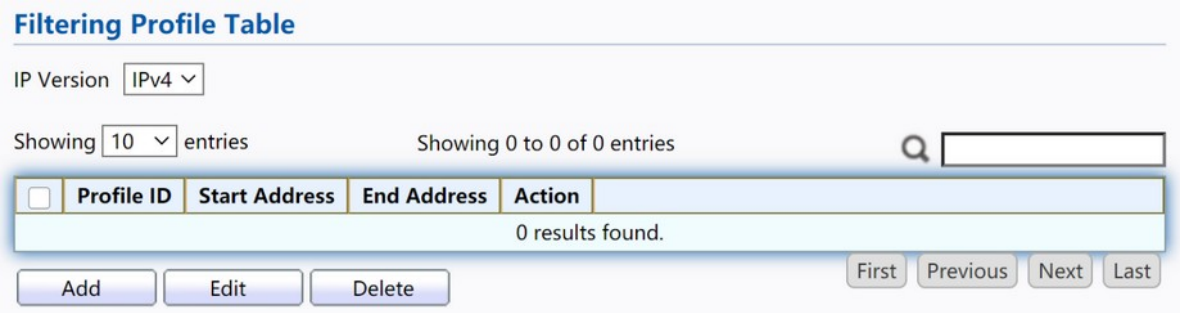
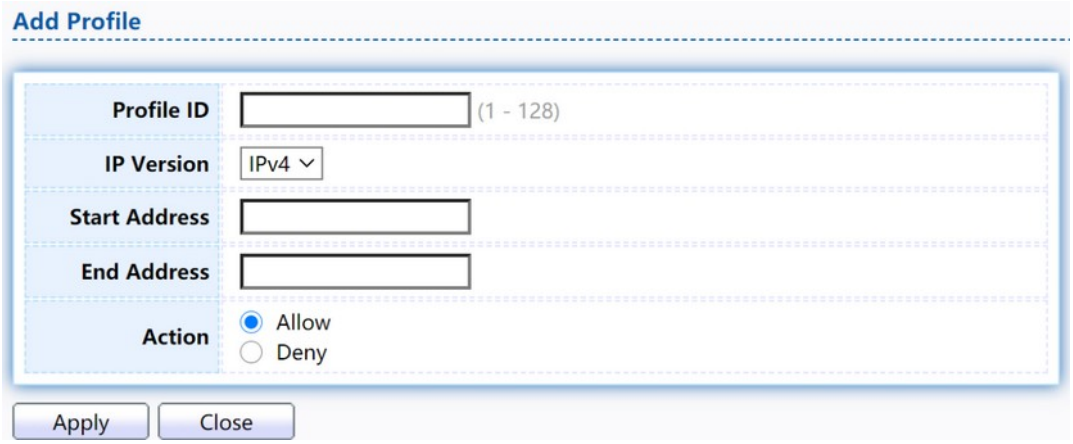


Figure 97. Multicast > General > Filtering Pofile.

Item	Description
IP Version	IP version: • IPv4: IGMP snooping profile. • IPv6: MLD snooping profile.
Profile ID	Profile ID.
Start Address	The start group address of the profile Display.
End Address	The end group address of the profile.
Action	Display the profile action.

Click "Add" or “Edit” button to view Add/Edit profile menu.



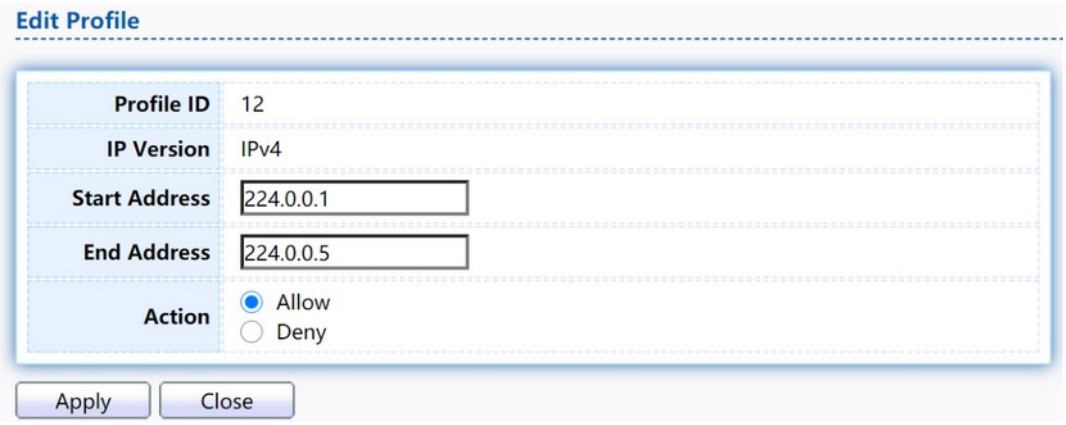


Figure 98. Multicast > General > Add/Edit Filtering Pofile.

Item	Description
IP Version	IP version: • IPv4: IGMP snooping profile. • IPv6: MLD snooping profile.
Profile ID	Profile ID.
Start Address	The start group address of the profile Display.
End Address	The end group address of the profile.
Action	The action of profile: • Allow: permit all packets that match the profile. • Deny: deny all packets that match the profile.

2.9.1.7 Filtering Binding

This page allow user to bind/remove profile for each port.

To display Multicast port filter binding profile web page, click Multicast> General> Filtering Binding.

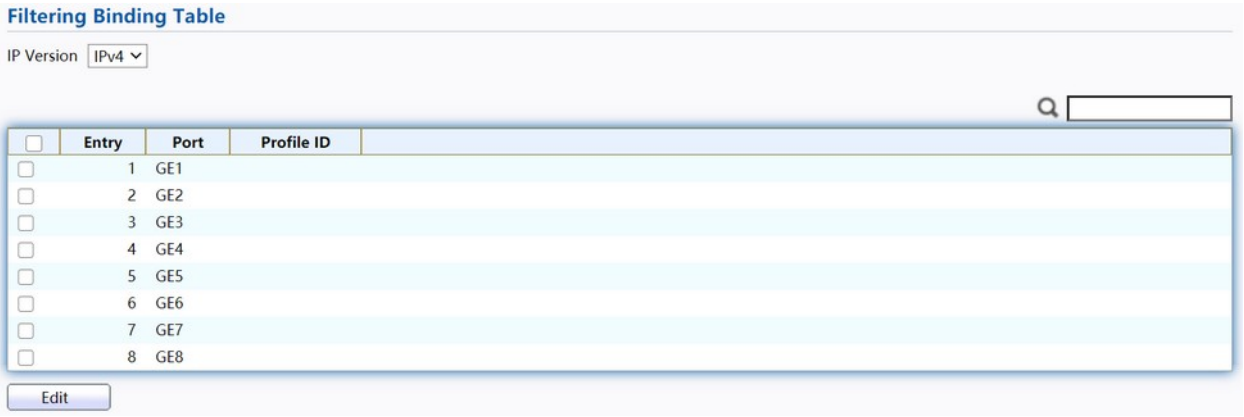


Figure 99. Multicast > General > Filtering Profile Binding.

Item	Description
IP Version	IP version: • IPv4: IGMP snooping profile. • IPv6: MLD snooping profile.
Entry	The entry of number.
Port	The Port Name.
Profile ID	Port binding Profile ID.

Click “Edit” button to view Edit profile Binding menu.

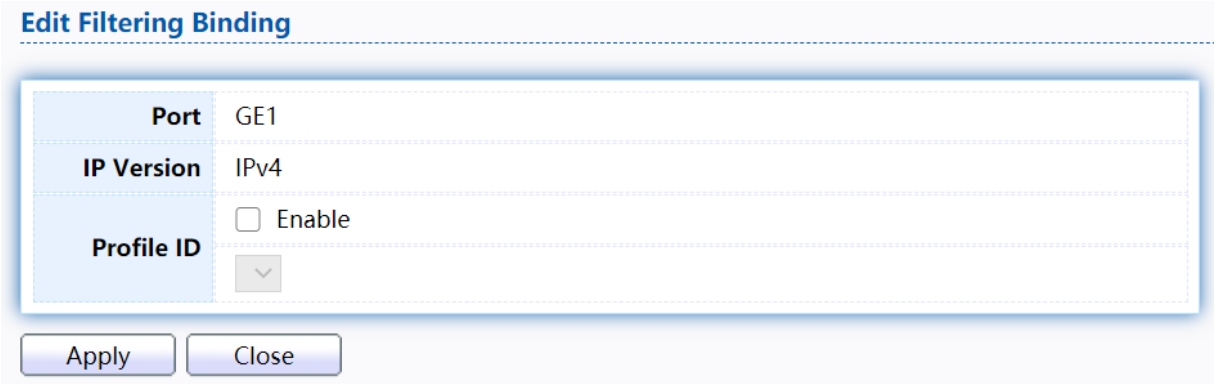


Figure 100. Multicast > General > Edit Filtering Profile Binding.

Item	Description
Port	Selected Port List.
IP Version	Display Selected Port filtering IP version.
Profile ID	If check Enable, can select or change profile ID, Else it will delete port filter profile binding.

2.9.2 IGMP Snooping

Use the IGMP Snooping pages to configure settings of IGMP snooping function.

2.9.2.1 Property

This page allow user to configure global settings of IGMP snooping and configure specific VLAN settings of IGMP Snooping.

To display IGMP Snooping global setting and VLAN Setting web page, click Multicast> IGMP Snooping> Property.

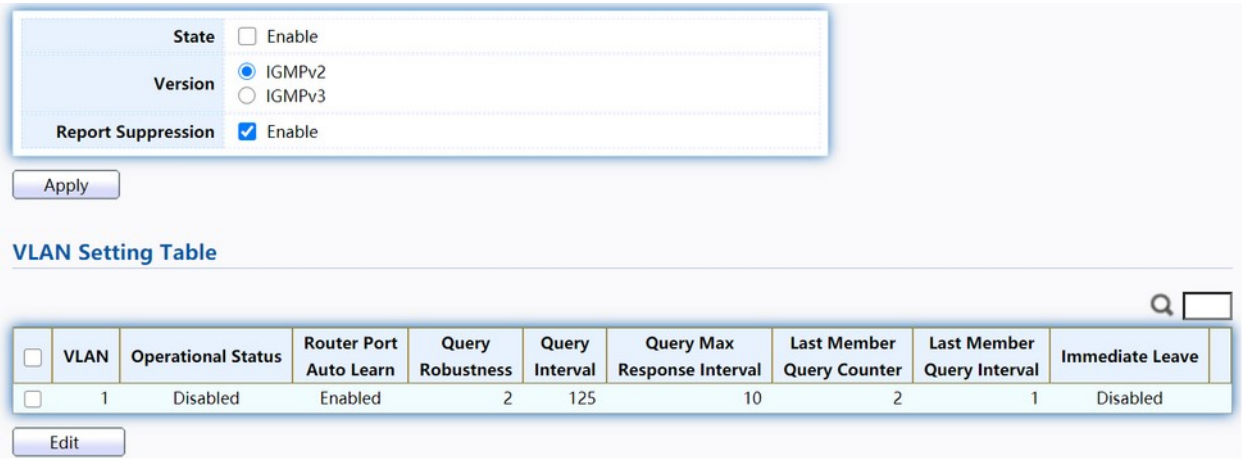


Figure 101. Multicast > IGMP Snooping > Property.

Item	Description
State	Set the enabling status of IGMP Snooping functionality. • Enable: If Checked Enable IGMP Snooping, else is Disabled IGMP Snooping.
Version	Set the igmp snooping version: • IGMPv2: Only support process igmp v2 packet. • IGMPv3: Support v3 basic and v2.
Report Suppression	Set the enabling status of IGMP v2 report suppression. • Enable: If Checked Enable IGMP Snooping v2 report suppression, else Disable the report suppression function.
VLAN	The IGMP entry VLAN ID.
Operation Status	The enable status of IGMP snooping VLAN functionality.
Router Port Auto Learn	The enabling status of IGMP snooping router port auto learning.
Query Robustness	The Query Robustness allows tuning for the expected packet loss on a subnet.
Query Interval	The interval of querier to send general query.
Query Max Response	In Membership Query Messages, it specifies the maximum allowed time before sending a responding report in units of 1/10 second.
Last Member Query count	The count that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Last Member Query Interval	The interval that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Immediate leave	The immediate leave status of the group will immediate leave when receive IGMP Leave message.

Click "Edit" button to Edit VLAN Setting menu.

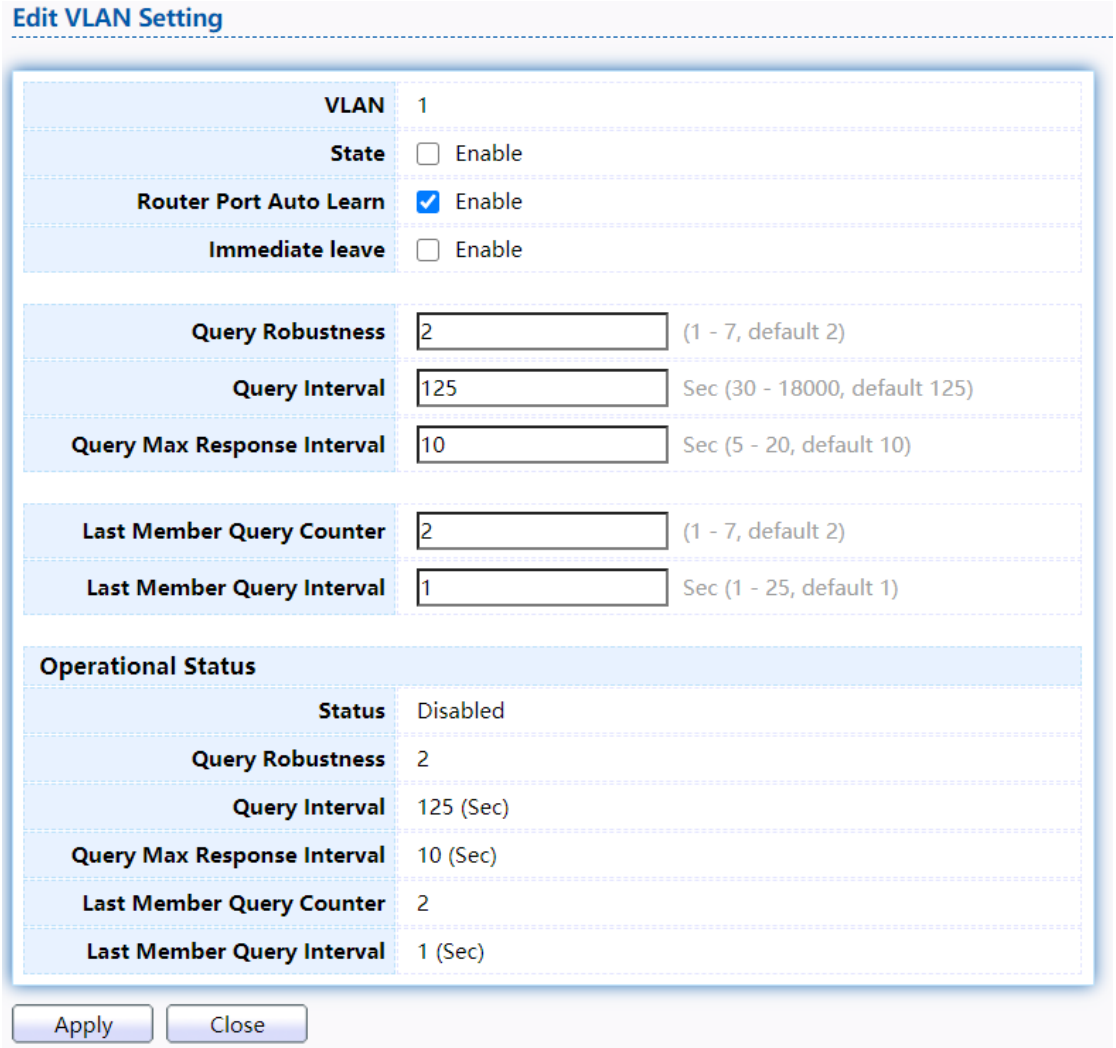


Figure 102. Multicast > IGMP Snooping > Property >Edit VLAN Setting.

Item	Description
VLAN	The selected VLAN List.
State	Set the enabling status of IGMP Snooping VLAN functionality. • Enable: If Checked Enable IGMP Snooping VLAN, else is Disabled IGMP Snooping VLAN.
Router Port Auto Learn	Set the enabling status of IGMP Snooping router port learning • Enable: If checked Enable learning router port by query and PIM, DVRMP, else Disable the learning.
Immediate leave	Immediate Leave the group when receive IGMP Leave message. • Enable: If checked Enable immediate leave, else disable immediate leave.
Query Robustness	The Admin Query Robustness allows tuning for the expected packet loss on a subnet.

Query Interval	The Admin interval of querier to send general query.
Query Max Response Interval	The Admin query max response interval, In Membership Query Messages, it specifies the maximum allowed time before sending a responding report in units of 1/10 second.
Last Member Query Counter	The Admin last member query count that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Last Member Query Interval	The Admin last member query interval that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Operational Status	
Status	Operational IGMP snooping status, must both IGMP snooping global and IGMP snooping enable the status will be enable.
Query Robustness	Operational Query Robustness.
Query Interval	Operational Query Interval.
Query Max Response	Operational Query Max Response Interval
Last Member Query Counter	Operational Last Member Query Count.
Last Member Query	Operational Last Member Query Interval.

2.9.2.2 Querier

This page allow user to configure querier settings on specific VLAN of IGMP Snooping.

To display IGMP Snooping Querier Setting web page, click Multicast> IGMP Snooping> Querier.

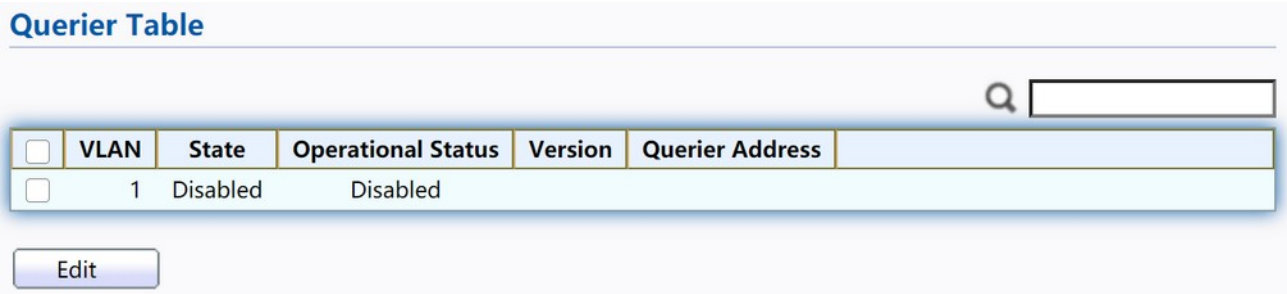


Figure 103. Multicast > IGMP Snooping > Querier.

Item	Description
VLAN	IGMP Snooping querier entry VLAN ID.
State	The IGMP Snooping querier Admin State.
Operational Status	The IGMP Snooping querier operational status.
Version	The IGMP Snooping querier operational version.

Querier IP	The operational Querier IP address on the VLAN.

Click "Edit" button to view Edit Querier menu.

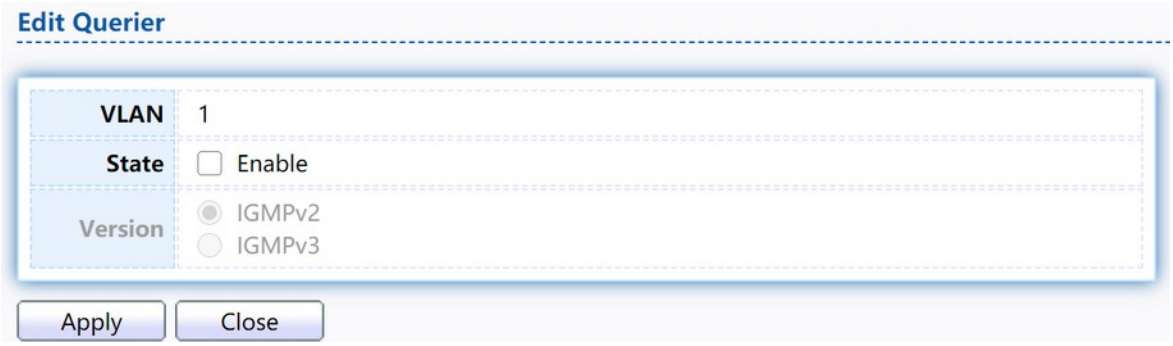


Figure 104. Multicast > IGMP Snooping > Querier > Edit Querier.

Item	Description
VLAN	The Selected Edit IGMP Snooping querier VLAN List.
State	Set the enabling status of IGMP Querier Election on the chose VLANs • Enabled: if checked Enable IGMP Querier else Disable IGMP Querier.
Version	Set the query version of IGMP Querier Election on the chose VLANs. • IGMPv2: Querier version 2. • IGMPv3: Querier version 3. (IGMP Snooping version should be IGMPv3).

2.9.2.3 Statistics

This page allow user to clear igmp snooping statics.

To display IGMP Snooping Statistics, click Multicast> IGMP Snooping> Statistics.

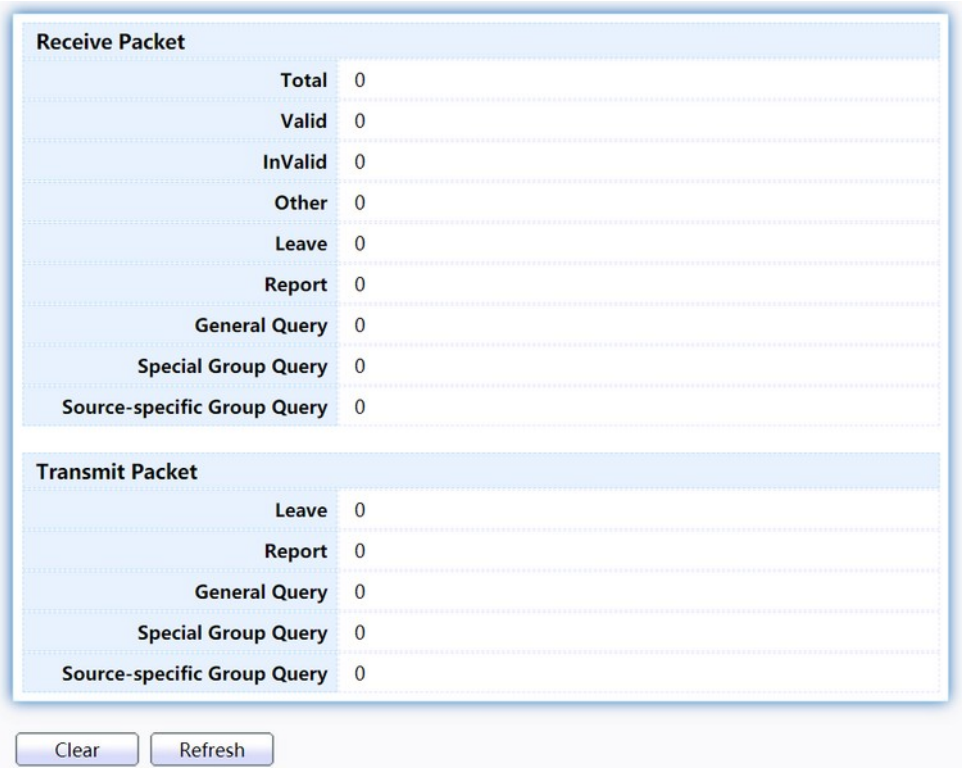


Figure 105. Multicast > IGMP Snooping > Statistics.

Item	Description
Receive Packet	
Total	Total RX igmp packet, include ipv4 multicast data to CPU.
Valid	The valid igmp snooping process packet.
InValid	The invalid igmp snooping process packet.
Other	The ICMP protocol is not 2, and is not ipv4 multicast data packet.
Leave	IGMP leave packet.
Report	IGMP join and report packet.
General Query	IGMP General Query packet.
Special Group Query	IGMP Special Group General Query packet.
Source-specific Group Query	IGMP Special Source and Group General Query packet.
Transmit Packet	
Leave	IGMP leave packet.
Report	IGMP join and report packet.
General Query	IGMP general query packet include querier transmit general query packet.

Special Group	IGMP special group query packet include querier transmit special group query packet.
Source-specific Group Query	IGMP Special Source and Group General Query packet.

2.9.3 MLD Snooping

Use the MLD Snooping pages to configure settings of MLD snooping function.

2.9.3.1 MED Port Setting

This page allow user to configure global settings of MLD snooping and configure specific VLAN settings of MLD Snooping.

To display MLD Snooping global setting and VLAN Setting web page, click Multicast> MLD Snooping> Property.

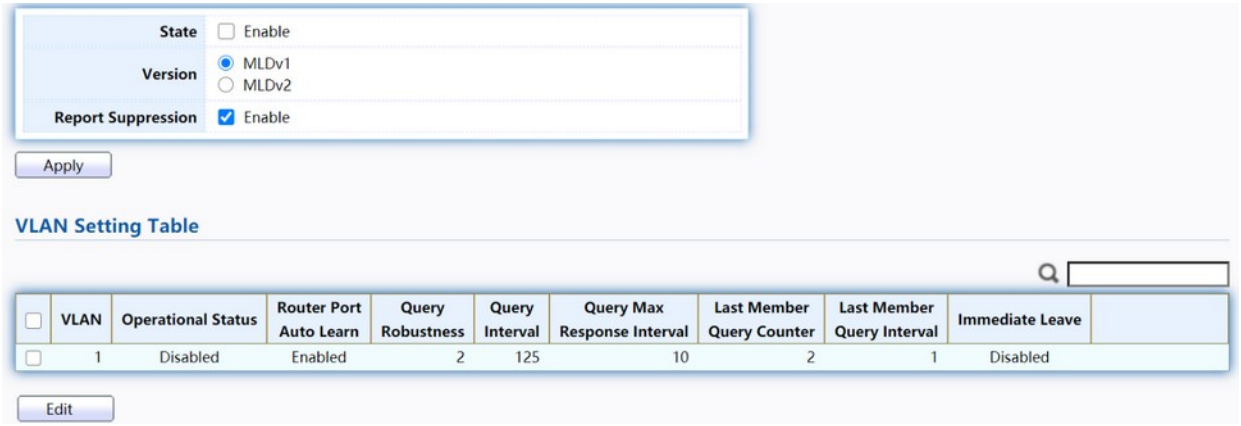


Figure 106. Multicast > MLD snooping > Property.

Item	Description
State	Set the enabling status of IGMP Snooping functionality. □ Enable: If Checked Enable IGMP Snooping, else is Disabled IGMP Snooping.
Version	Set the MLD snooping version: □ MLDv1: Only support process MLD v1 packet. □ MLDv2: Support v2 basic and v1.
Report Suppression	Set the enabling status of MLD v1 report suppression. □ Enable: If Checked Enable MLD Snooping v1 report suppression, else Disable the report suppression function.
VLAN	The MLD entry VLAN ID.
Operation Status	The enable status of MLD snooping VLAN functionality.
Router Port Auto Learn	The enabling status of MLD snooping router port auto learning.
Query Robustness	The Query Robustness allows tuning for the expected packet loss on a subnet.

Query Interval	The interval of querier to send general query.
Query Max Response Interval	In Membership Query Messages, it specifies the maximum allowed time before sending a responding report in units of 1/10 second.
Last Member Query count	The count that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Last Member Query Interval	The interval that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Immediate leave	The immediate leave status of the group will immediate leave when receive MLD Leave message.

Click "Edit" button to view Edit VLAN Setting menu.

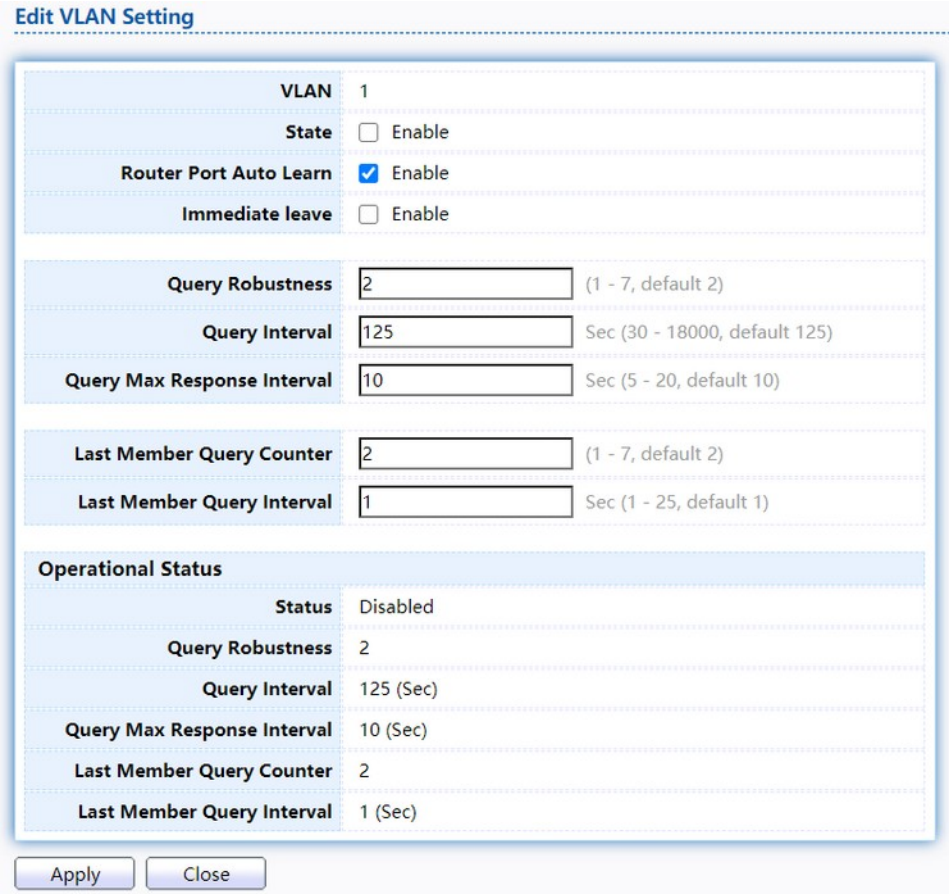


Figure 107. Multicast > MLD snooping > Edit VLAN Setting.

Item	Description
VLAN	The selected VLAN List.
State	Set the enabling status of MLD Snooping VLAN functionality. □ Enable: If Checked Enable MLD Snooping VLAN, else is Disabled MLD Snooping VLAN.

Router Port Auto Learn	Set the enabling status of MLD Snooping router port learning. □ Enable: If checked Enable learning router port by query and PIM, DVRMP, else Disable the learning.
Immediate leave	Immediate Leave the group when receive MLD Leave message. □ Enable: If checked Enable immediate leave, else disable immediate leave Immediate.
Query Robustness	The Admin Query Robustness allows tuning for the expected packet loss on a subnet.
Query Interval	The Admin interval of querier to send general query.
Query Max Response Interval	The Admin query max response interval, In Membership Query Messages, it specifies the maximum allowed time before sending a responding report in units of 1/10 second.
Last Member Query counter	The Admin last member query count that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Last Member Query Interval	The Admin last member query interval that Querier-switch sends Group-Specific Queries when it receives a Leave Group message for a group.
Operational Status	
Status	Operational MLD snooping status,must both MLD snooping global and MLD snooping enable the status will be enable.
Query Robustness	Operational Query Robustness.
Query Interval	Operational Query Interval.
Query Max Response	Operational Query Max Response Interval.
Last Member Query Counter	Operational Last Member Query Count.
Last Member Query Interval	Operational Last Member Query Interval.

2.9.3.2 Statistics

This page allow user to clear MLD snooping statics.

To display MLD Snooping Statistics, click Multicast> MLD Snooping> Statistics.

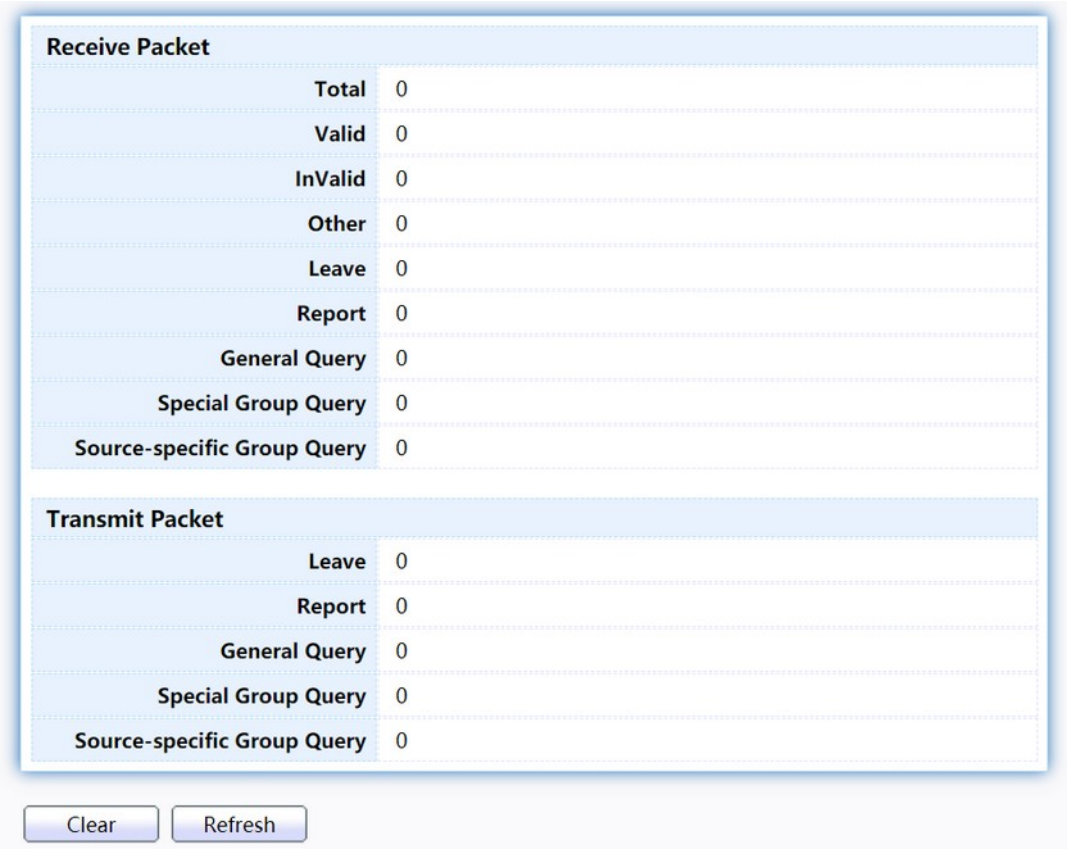


Figure 108. Multicast > MLD snooping > Statistics.

Item	Description
Receive Packet	
Total	Total RX MLD packet, include ipv4 multicast data to CPU.
Valid	The valid MLD snooping process packet.
In Valid	The invalid MLD snooping process packet.
Other	The ICMPV6 type is not MLD, and is not ipv6 multicast data packet, and is not IPV6 router protocol.
Leave	MLD leave packet.
Report	MLD join and report packet.
General Query	MLD General Query packet.
Special Group Query	MLD Special Group General Query packet.
Source-specific Group Query	MLD Special Source and Group General Query packet.
Transmit Packet	
Leave	MLD leave packet.
Report	MLD join and report packet.

General Query	MLD general query packet.
Special Group	MLD special group query packet.
Source-specific Group Query	MLD Special Source and Group General Query packet.

2.9.4 MVR

Use the MVR pages to configure settings of MVR function.

2.9.4.1 Property

To display multicast MVR property Setting web page, click Multicast> MVR> Property.

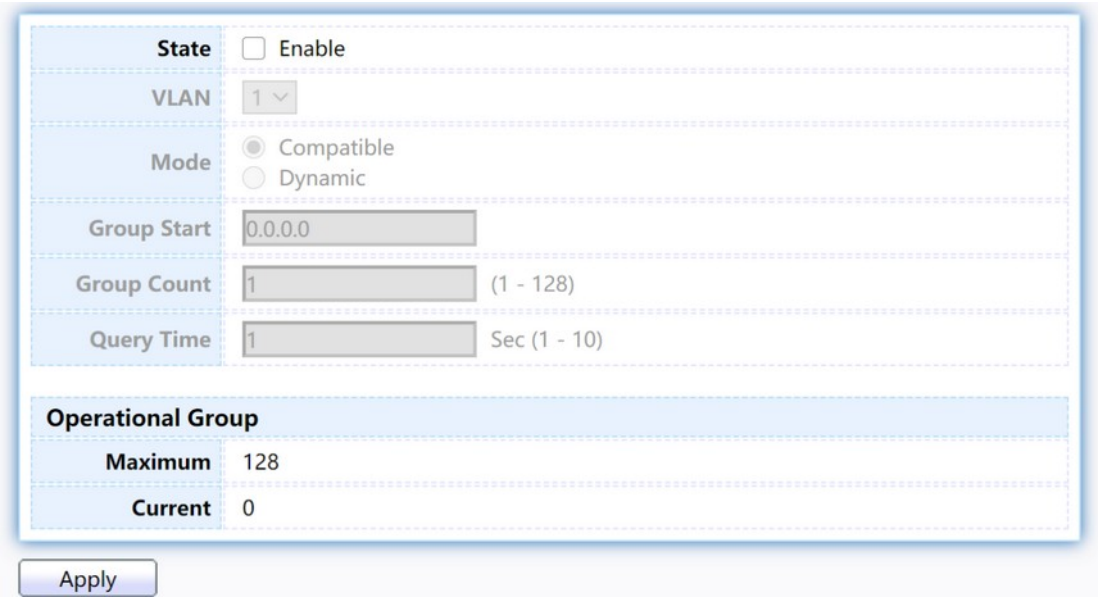


Figure 109. Multicast > MVR > Property.

Item	Description
State	• Enable: if checked enable the MVR state, else disable the MVR state.
VLAN	The MVR VLAN ID.
Mode	Set the MVR mode • Compatible: compatible mode. • Dynamic: dynamic mode, will learn group member on source port.
Group Start	MVR group range start.
Group Count	MVR group continue count.
Query Time	MVR query time when receive MVR leave MVR group packet.
Maximum	The max number of MVR group database.
Current	The learned MVR group current time.

2.9.4.2 Port Setting

This page allow user to configure port role and port immediate leave.

To display MVR port role and immediate leave state setting web page, click Multicast> MVR> Port Setting.

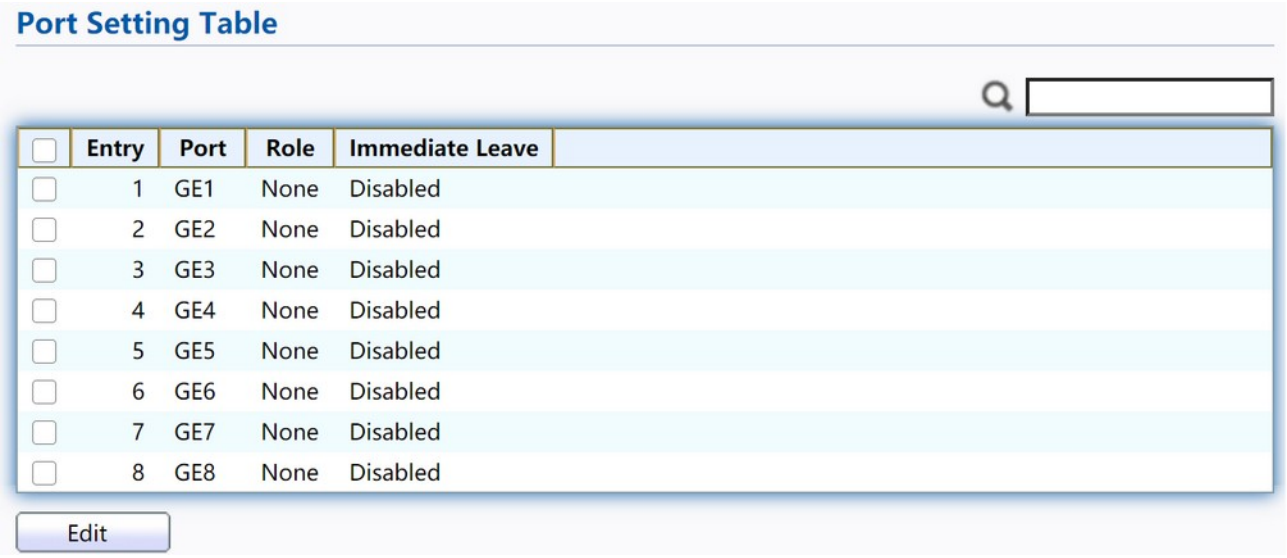


Figure 110. Multicast > MVR > Port Setting.

Item	Description
Entry	Entry of number.
Port	Port Name.
Role	Port Role for MVR, the type is None/Receiver/Source.
Immediate Leave	Status of immediate leave.

Click "Edit" button to view Edit Port Setting menu.

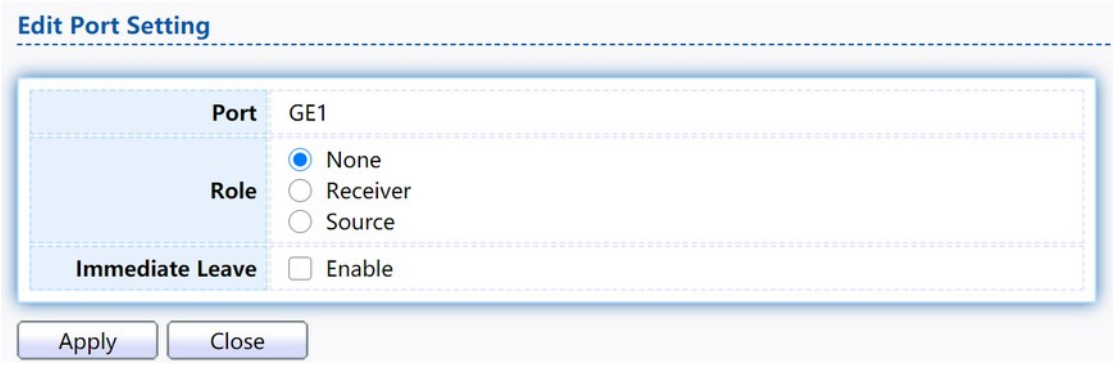


Figure 111. Multicast > MVR > Port Setting > Edit Port Setting.

Item	Description
Port	Display the selected port list.

Role	MVR port role: • None: port role is none. • Receiver: port role is receiver. • Source: port role is source.
Immediate Leave	MVR Port immediate leave. • Enable: if checked is enable immediate leave, else disable immediate leave.

2.9.4.3 Group Address

This page allow user to browse all multicast MVR groups that dynamic learned or statically added.

To display Multicast MVR Group web page, click Multicast> MVR> Group Address.

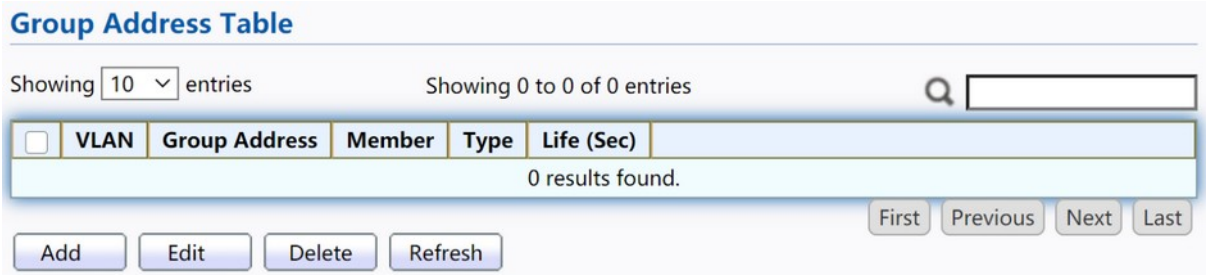


Figure 112. Multicast > MVR > Group Address.

Item	Description
VLAN	The VLAN ID of MVR group.
Group Address	The MVR group IP address.
Member	The member ports of MVR group.
Type	The type of MVR group. Static or Dynamic.
Life(Sec)	The life time of this dynamic MVR group.

Click "Add" button or “Edit” to view Add/Edit Group Address Table menu.

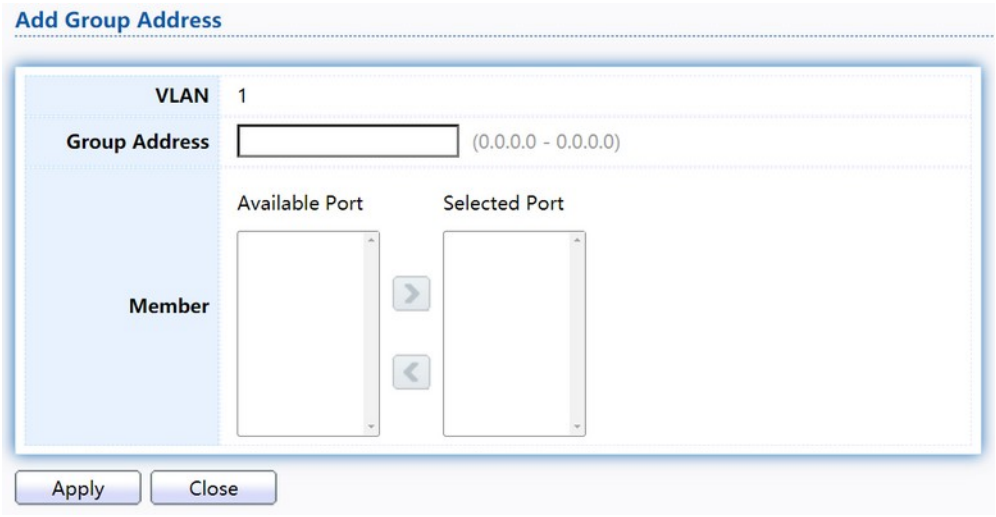


Figure 113. Multicast > MVR > Group Address > Add Group Address.

Item	Description
VLAN	The VLAN ID of MVR group.
Group Address	The MVR group IP address.
Member	The member ports of MVR group. • Available Port: Optional port member, it is only receiver port when MVR mode is compatible, it include source port when mode is dynamic. • Selected Port: Selected port member.

2.10 Security

Use the Security pages to configure settings for the switch security features.

2.10.1 RADIUS

This page allow user to add, edit or delete RADIUS server settings and modify default parameter of RADIUS server.

To display RADIUS web page, click Security > RADIUS.

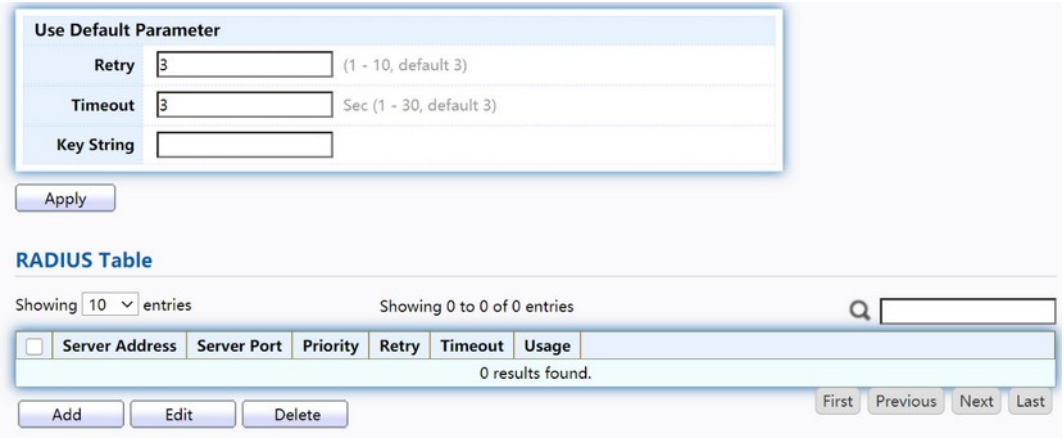
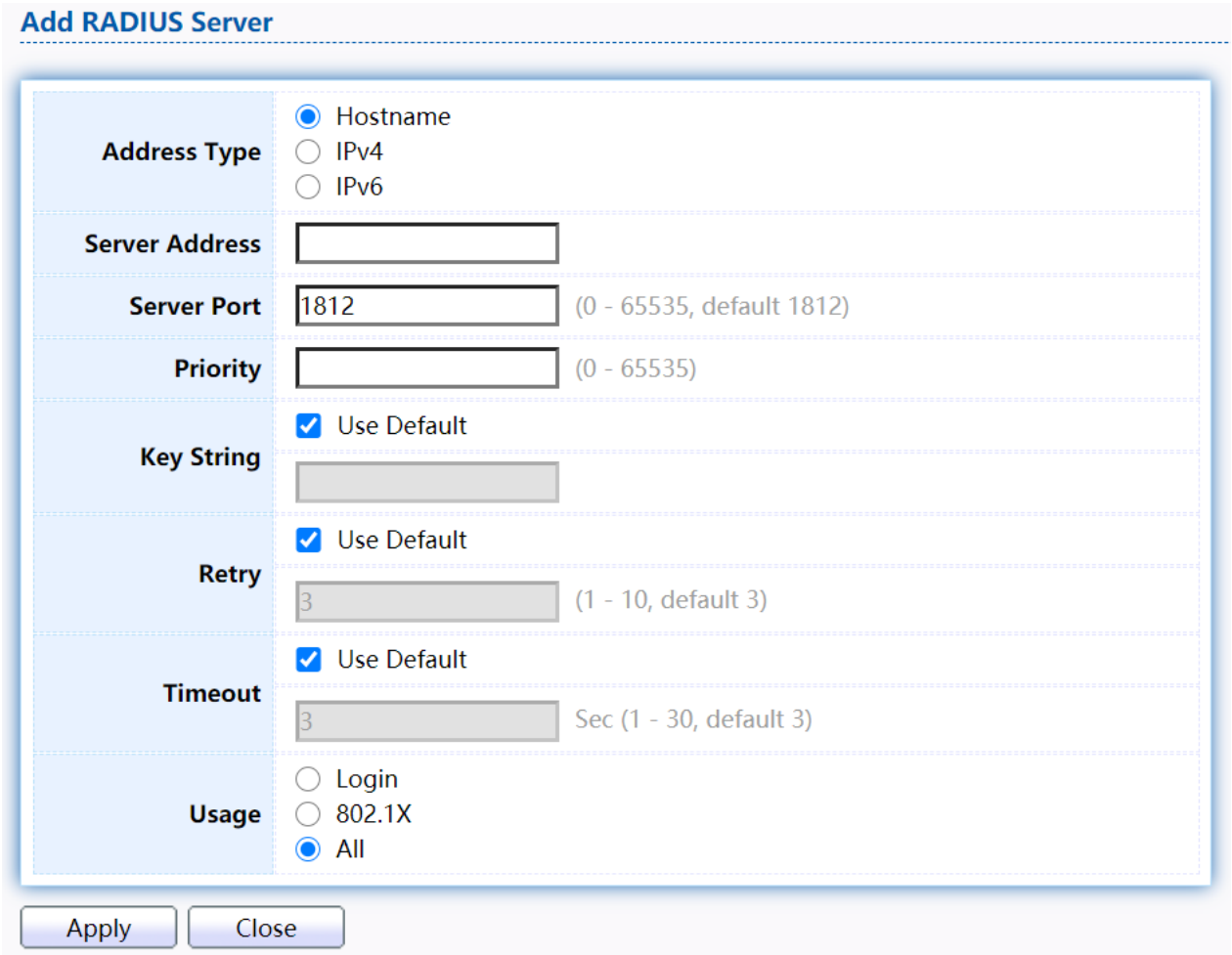


Figure 114. Security > RADIUS.

Item	Description
Retry	Set default retry number.
Timeout	Set default timeout value.
Key String	Set default RADIUS key string.
RADIUS Table	
Server Address	RADIUS server address.
Server Port	RADIUS server port.
Priority	RADIUS server priority (smaller value has higher priority). RADIUS session will try to establish with the server setting which has highest priority. If failed, it will try to connect to the server with next higher priority.
Retry	RADIUS server retry value. If it is fail to connect to server, it will keep trying until timeout with retry times.
Timeout	RADIUS server timeout value. If it is fail to connect to server, it will keep trying until timeout.
Usage	RADIUS server usage type • Login: For login authentication. • 802.1x: For 802.1x authentication. • All: For all types.

Click "Add" or “Edit” button to view Add/Edit RADIUS Server menu.



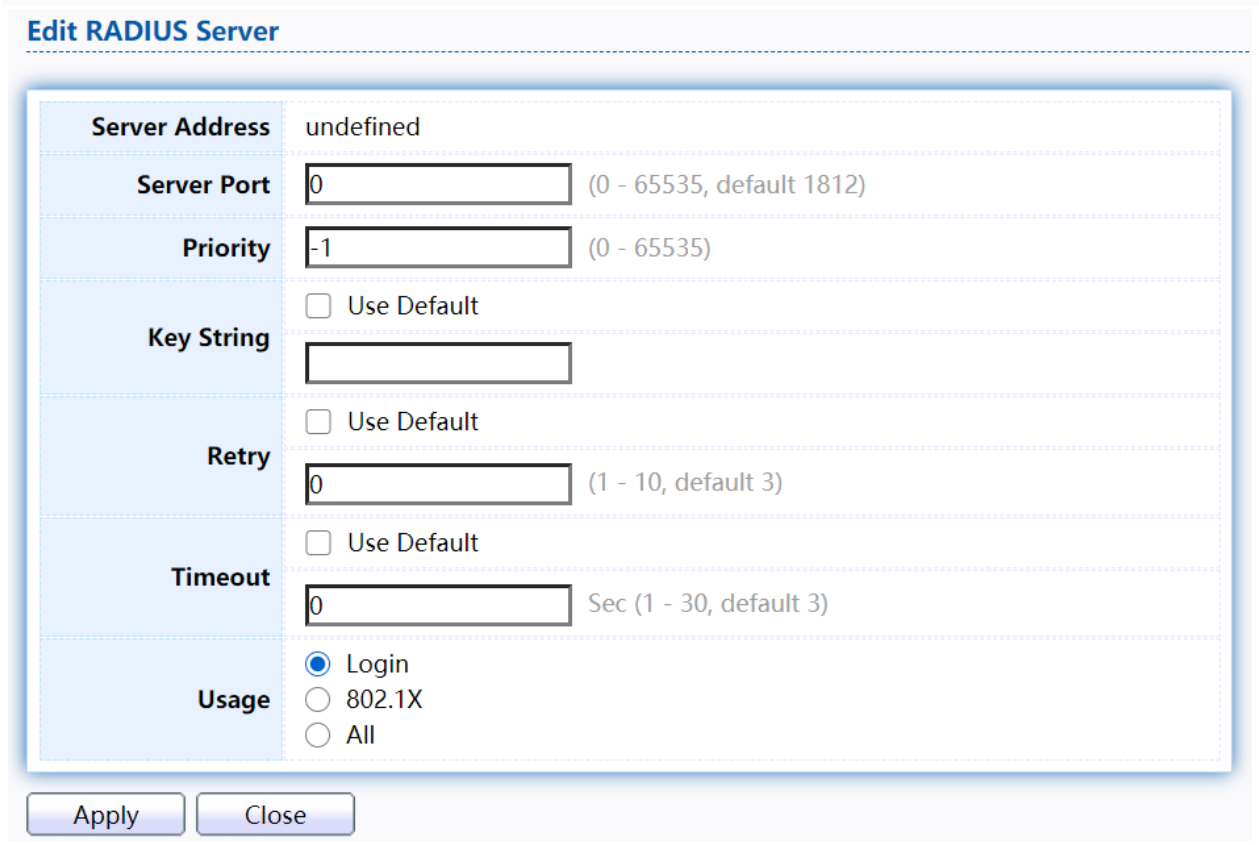


Figure 115. Security > RADIUS > Add/Edit RADIUS Server.

Item	Description
Address Type	In add dialog, user need to specify server Address Type: • Hostname: Use domain name as server address. • IPv4: Use IPv4 as server address. • IPv6: Use IPv6 as server address.
Server Address	In add dialog, user need to input server address based on address type. In edit dialog, it shows current edit server address.
Server Port	Set RADIUS server port.
Key String	Set RADIUS key string.
Priority	Set RADIUS server priority (smaller value has higher priority). RADIUS session will try to establish with the server setting which has highest priority. If failed, it will try to connect to the server with next higher priority.
Retry	Set RADIUS server retry value. If it is fail to connect to server, it will keep trying until timeout with retry times.
Timeout	Set RADIUS server timeout value. If it is fail to connect to server, it will keep trying until timeout.
Usage	Set RADIUS server usage type. • Login: For login authentication. • 802.1x: For 802.1x authentication. • All: For all types.

2.10.2 TACACS+

This page allow user to add, edit or delete TACACS+ server settings and modify default parameter of TACACS+ server.

To display TACACS+ web page, click Security > TACACS+.

Figure 116. Security > TACACS+.

Item	Description
Timeout	Set default timeout value.
Key String	Set default TACACS+ key string.
Server Address	TACACS+ server address.
Server Port	TACACS+ server port.
Priority	TACACS+ server priority (smaller value has higher priority). TACACS+ session will try to establish with the server setting which has highest priority. If failed, it will try to connect to the server with next higher priority.
Timeout	TACACS+ server timeout value. If it is fail to connect to server, it will keep trying until timeout.

Click "Add" or “Edit” button to view Add/Edit TACAS+ Server menu.

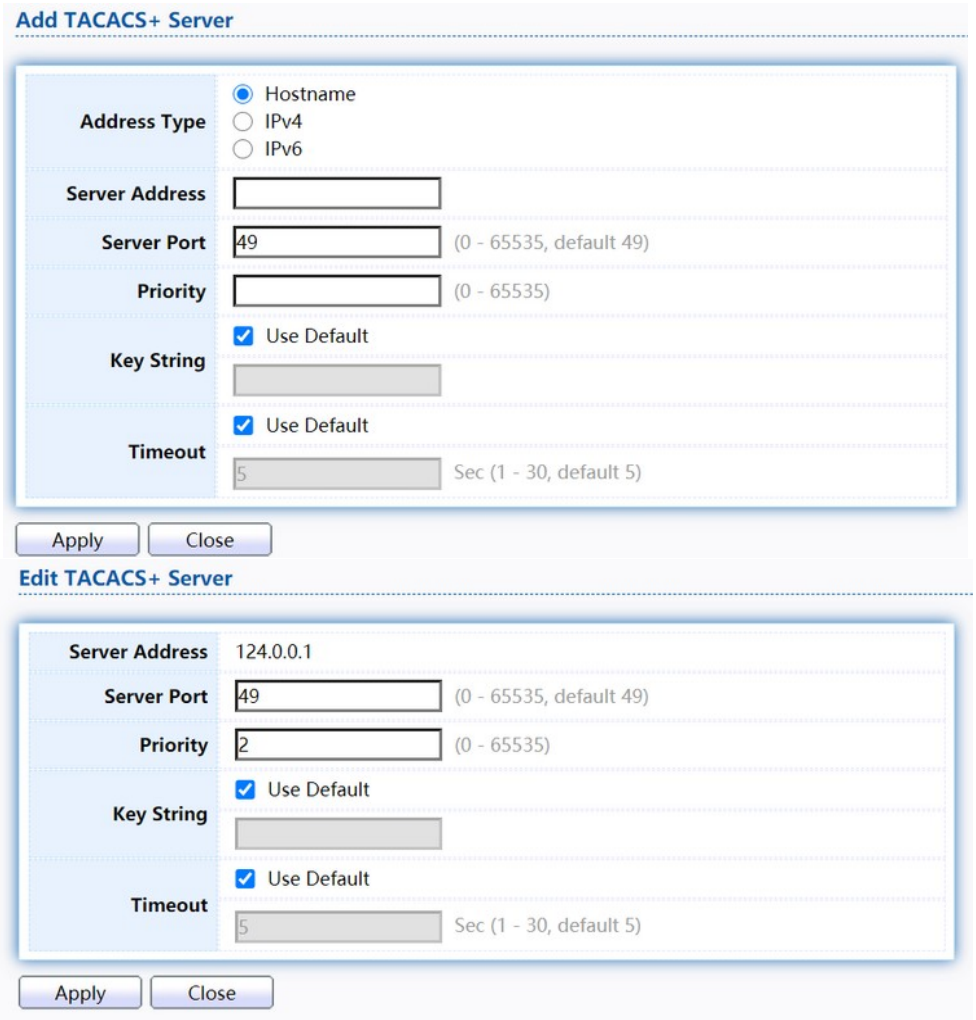


Figure 117. Security > TACACS+>Add/Edit TACACS Server.

Item	Description
Address Type	In add dialog, user need to specify server Address Type: □ Hostname: Use domain name as server address. □ IPv4: Use IPv4 as server address. □ IPv6: Use IPv6 as server address.
Server Address	In add dialog, user need to input server address based on address type. In edit dialog, it shows current edit server address.
Server Port	Set TACACS+ server port.
Priority	Set TACACS+ server priority (smaller value has higher priority). TACACS+ session will try to establish with the server setting which has highest priority. If failed, it will try to connect to the server with next higher priority
Key String	Set default TACACS+ key string.
Timeout	Set TACACS+ server timeout value. If it is fail to connect to server, it will keep trying until timeout.

2.10.3 AAA

2.10.3.1 Method List

This page allow user to add, edit or delete login authentication list settings (The “default” list cannot be deleted.). The line combined to this list will authenticate login user by methods in this list. If the first method is failed, it will try to use the next priority method to authenticate if it exists.

With RADIUS and TACACS+ methods, the failed means connecting to server fail. With Local method, the failed means cannot find the user in local database.

To display Method List web page, click Security > AAA > Method List.

Figure 118. Security > TACACS+>AAA> Method List.

Item	Description
Name	Login authentication list name. This name should be different from other existing lists.
Sequence	Priority of login authentication method. □ None: Authenticated with any condition. □ Local: Use local accounts database to authenticate. □ TACACS+: Use remote TACACS+ server to authenticate.

	□ RADIUS: Use remote Radius server to authenticate. □ Enable: Use local enable password to authenticate.

Click "Add" or “Edit” button to view Add/Edit Method List menu.

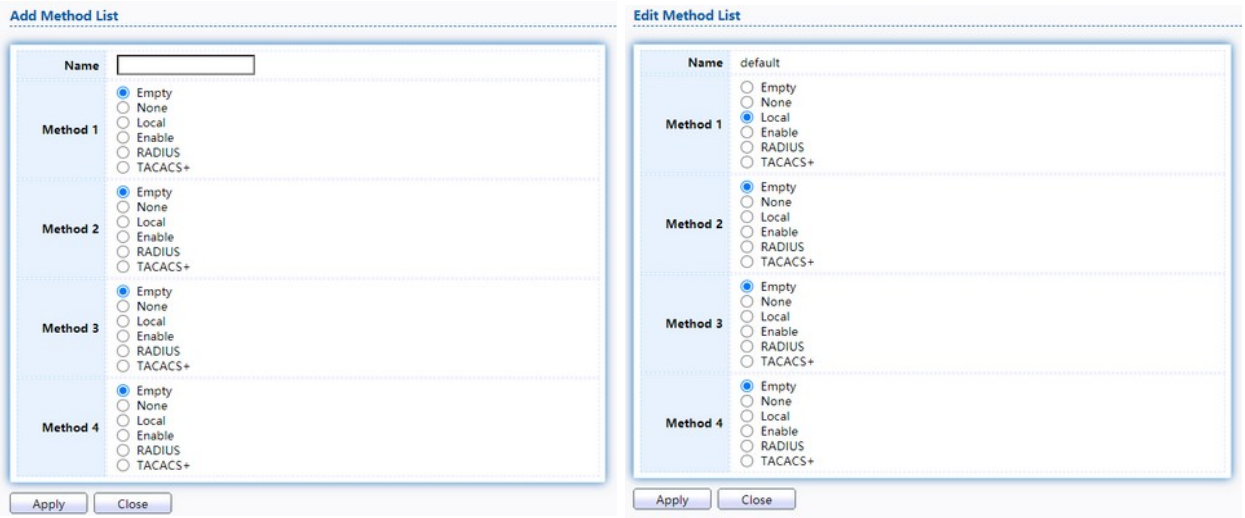


Figure 119. Security > TACACS+>AAA> Add/Edit Method List.

Item	Description
Name	Login authentication list name. This name should be different from other existing lists.
Method 1	Select first priority of login authentication method. □ None: Authenticated with any condition. □ Local: Use local accounts database to authenticate. □ TACACS+: Use remote TACACS+ server to authenticate. □ RADIUS: Use remote Radius server to authenticate. □ Enable: Use local enable password to authenticate.
Method 2	Select second priority of login authentication method. □ None: Authenticated with any condition. □ Local: Use local accounts database to authenticate. □ TACACS+: Use remote TACACS+ server to authenticate. □ RADIUS: Use remote Radius server to authenticate. □ Enable: Use local enable password to authenticate.
Method 3	Select third priority of login authentication method. □ None: Authenticated with any condition. □ Local: Use local accounts database to authenticate. □ TACACS+: Use remote TACACS+ server to authenticate. □ RADIUS: Use remote Radius server to authenticate. □ Enable: Use local enable password to authenticate.

Method 4	Select fourth priority of login authentication method. □ None: Authenticated with any condition. □ Local: Use local accounts database to authenticate. □ TACACS+: Use remote TACACS+ server to authenticate. □ RADIUS: Use remote Radius server to authenticate. □ Enable: Use local enable password to authenticate.

2.10.3.2 Login Authentication

This page allow user to combine AAA login authentication list to all management interfaces.

To display the login authentication combined web page, click Security > AAA > Login Authentication.

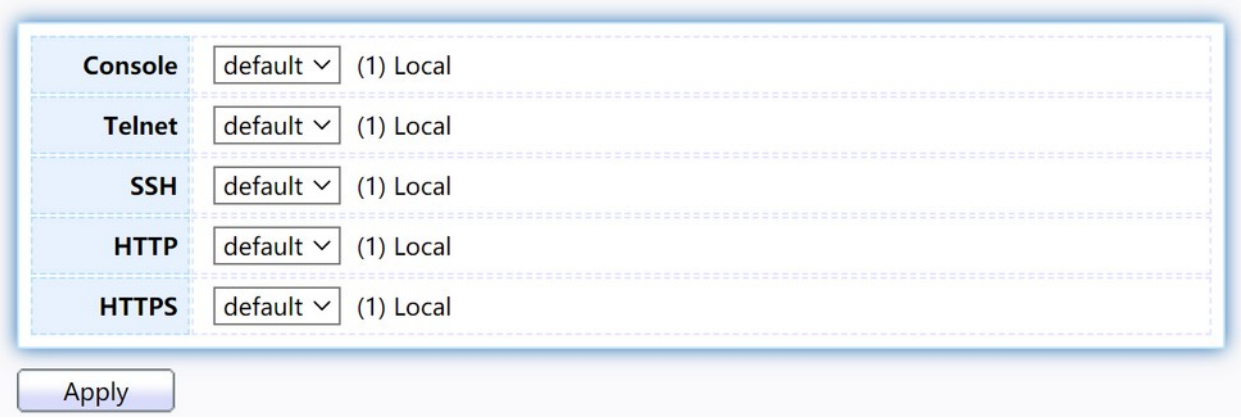


Figure 120. Security > TACACS+>AAA> login authentication.

Item	Description
Console	Specify login authentication list combined on console.
Telnet	Specify login authentication list combined on Telnet.
SSH	Specify login authentication list combined on SSH.
HTTP	Specify login authentication list combined on HTTP.
HTTPS	Specify login authentication list combined on HTTPS.

2.10.4 Management Access

Use the Management Access pages to configure settings of management access.

2.10.4.1 Management VLAN

This page allow user to change management VLAN.

To display Management VLAN page, click Security > Management Access > Management VLAN.

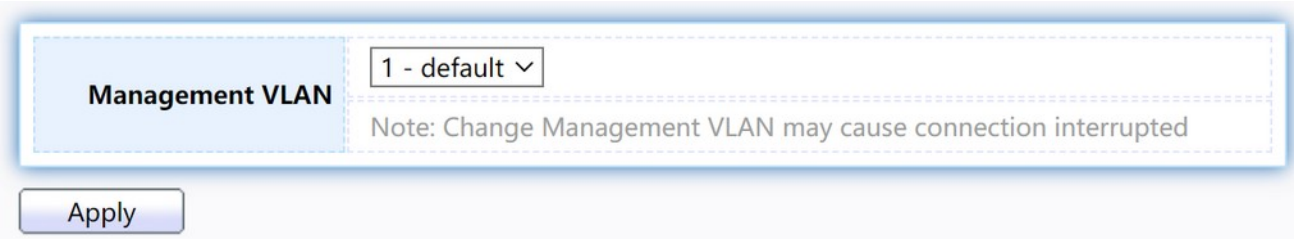


Figure 121. Security > Management Access > Management VLAN.

Item	Description
Management VLAN	Select management VLAN in option list. Management connection, such as http, https, snmp etc.., has the same VLAN of management VLAN are allow connecting to device. Others will be dropped.

2.10.4.2 Management Service

This page allow user to change management services related configurations.

To display Management Service click Security > Management Access > Management Service.

Figure 122. Security > Management Access > Management Service.

Item	Description
Management Service	Management service admin state. • Telnet: Connect CLI through telnet. • SSH: Connect CLI through SSH.

	• HTTP: Connect WEBUI through HTTP. • HTTPS: Connect WEBUI through HTTPS. • SNMP: Manage switch trough SNMP.
Session Timeout	Set session timeout minutes for user access to user interface. 0 minutes means never timeout.
Password Retry Count	Retry count is the number which CLI password input error tolerance count. After input error password exceeds this count, the CLI will freeze after silent time.
Silent Time	After input error password exceeds password retry count, the CLI will freeze after silent time.

2.10.4.3 Management ACL

This page allow user to add or delete management ACL rule. A rule cannot be deleted if under active.

To display Management ACL page, click Security > Management Access > Management ACL.

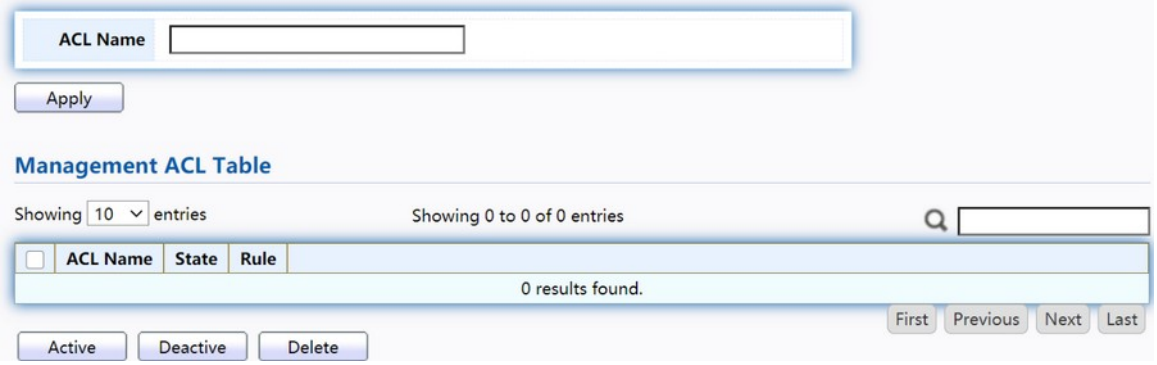


Figure 123. Security > Management Access > Management ACL.

Item	Description
ACL Name	Input MAC ACL name.
Management ACL	
ACL Name	Display Management ACL name.
State	Display Management ACL whether active.
Rule	Display the number Management ACE rule of ACL.

2.10.4.4 Management ACE

This page allow user to add, edit or delete ACE rule. An ACE rule cannot be edited or deleted if ACL under active. New ACE cannot be added if ACL under active.

To display Management ACE page, click Security > Management Access > Management ACE.

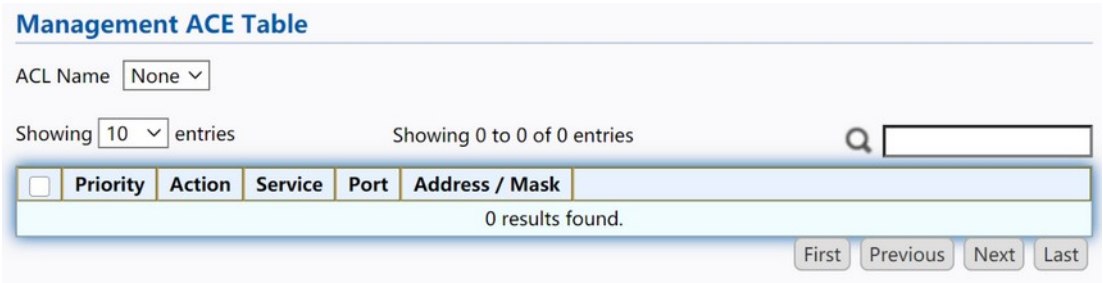


Figure 124. Security > Management Access > Management ACE.

Item	Description
ACL Name	Select the ACL name to which an ACE is being added.
Priority	Display the priority of ACE.
Action	Display the action of ACE.
Service	Display the service ACE.
Port	Display the port list of ACE.
Address / Mask	Display the source IP address and mask of ACE.

Click “Add” or “Edit” button to view Add / Edit Management ACE menu.

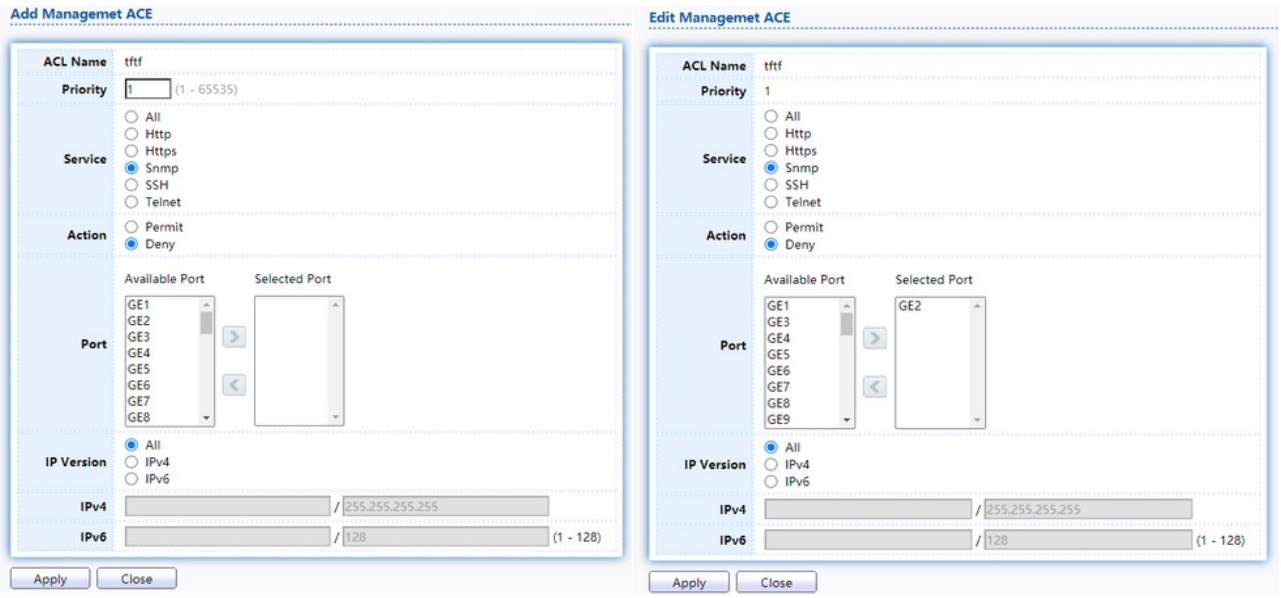


Figure 125. Security > Management Access > Add/Edit Management ACE.

Item	Description
ACL Name	Display the ACL name to which an ACE is being added.
Priority	Specify the priority of the ACE. ACE with higher sequence are processed first (1 is the highest priority). Only available on Add Dialog.
Service	Select the type service of rule.

	• All: All services. • Http: Only Http service. • Https: Only Https service. • Snmp: Only Snmp service. • SSH: Only SSH service. • Telnet: Only Telnet service.
Action	Select the action after ACE match packet. • Permit: Forward packets that meet the ACE criteria. • Deny: Drop packets that meet the ACE criteria.
Port	Select ports which will be matched.
IP Version	Select the type of source IP address. • All: All IP addresses can access. • IPv4: Specify IPv4 address ca access. • IPv6: Specify IPv6 address ca access.
IPv4	Enter the source IPv4 address value and mask to which will be matched.
IPv6	Enter the source IPv6 address value and mask to which will be matched.

2.10.5 Authentication Manager

Use the Management Access pages to configure settings of management access.

2.10.5.1 Property

This page allow user to edit authentication global settings and some port mods' configurations.

To display authentication manager Property web page, click Security > Authentication Manager > Property.

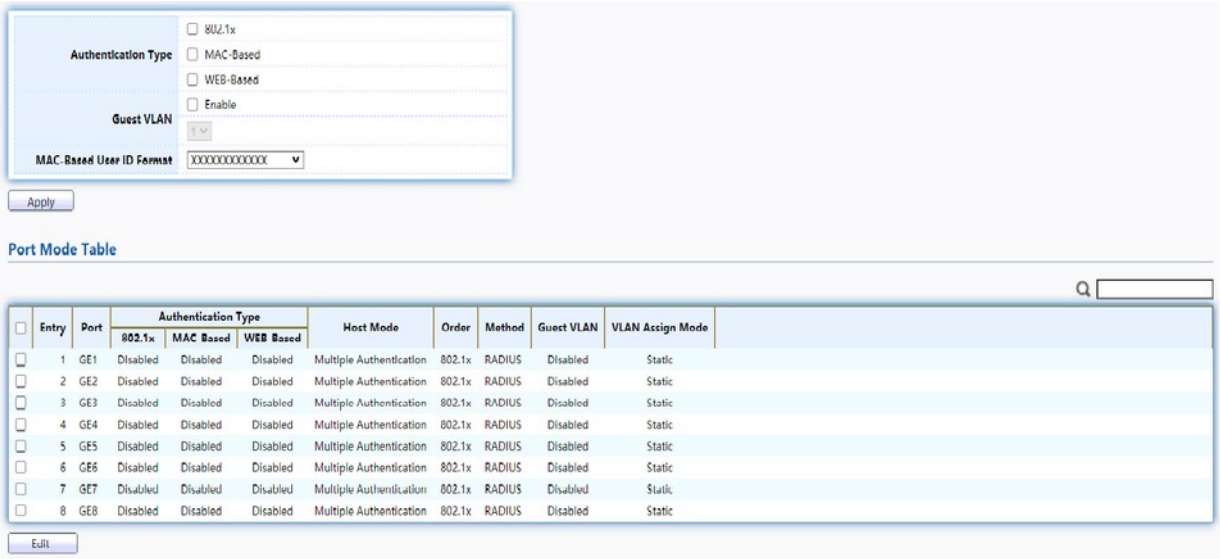


Figure 126. Security > Authentication Manager > Property.

Item	Description
Authentication Type	Set checkbox to enable/disable following authentication types. • 802.1x: Use IEEE 802.1x to do authentication. • MAC-Based: Use MAC address to do authentication. • WEB-Based: Prompt authentication web page for user to do authentication.
Guest VLAN	Set checkbox to enable/disable guest VLAN, if guest VLAN is enabled, you need to select one available VLAN ID to be guest VID.
MAC-Based User ID Format	Select mac-based authentication RADIUS username/password ID format. • XXXXXXXXXXXX, • Xxxxxxxxxxx, • XX:XX:XX:XX:XX:XX, • xx:xx:xx:xx:xx:xx, • XX-XX-XX-XX-XX-XX, • xx-xx-xx-xx-xx-xx, • XX.XX.XX.XX.XX.XX, • xx.xx.xx.xx.xx.xx, • XXXX:XXXX:XXXX, • xxxx:xxxx:xxxx.
Port Mode Table	
Port	Port Name.
Authentication Type (802.1X)	802.1X authentication type state. • Enabled: 802.1X is enabled. • Disabled: 802.1X is disabled.
Authentication Type (MAC-Based)	MAC-Based authentication type state. • Enabled: MAC-Based authentication is enabled. • Disabled: MAC-Based authentication is disabled.
Authentication Type (WEB-Based)	WEB-Based authentication type state. • Enabled: WEB-Based authentication is enabled. • Disabled: WEB-Based authentication is disabled.
Host Mode	Authenticating host mode. • Multiple Authentication: In this mode, every client need to pass authenticate procedure individually. • Multiple Hosts: In this mode, only one client need to be authenticated and other clients will get the same access accessibility. Web-auth cannot be enabled in this mode. • Single Host: In this mode, only one host is allowed to be authenticated.

	It is the same as Multi-auth mode with max hosts number configure to be 1.
Order	Support following authentication type order combinations. Web Authentication should always be the last type. The authentication manager will go to next type if current type is not enabled or authenticated fail. • 802.1x, • MAC-Based, • WEB-Based, • 802.1x MAC-Based, • 802.1x WEB-Based, • MAC-Based 802.1x, • WEB-Based 802.1x, • 802.1x MAC-Based WEB-Based.
Method	Support following authentication method order combinations. These orders only available on MAC-Based authentication and WEB-Based authentication. 802.1x only support Radius method. • Local: Use DUT's local database to do authentication, • Radius: Use remote RADIUS server to do authentication, • Local Radius, • Radius Local.
Guest VLAN	Port guest VLAN enable state. • Enabled: Guest VLAN is enabled on port. • Disabled: Guest VLAN is disabled on port.
VLAN Assign Mode	Support following VLAN assign mode and only apply when source is RADIUS • Disable: Ignore the VLAN authorization result and keep original VLAN of host. • Reject: If get VLAN authorized information, just use it. However, if there is no VLAN authorized information, reject the host and make it unauthorized. • Static: If get VLAN authorized information, just use it. If there is no VLAN authorized information, keep original VLAN of host.

Click "Edit" button to view the Edit Port Mode menu.

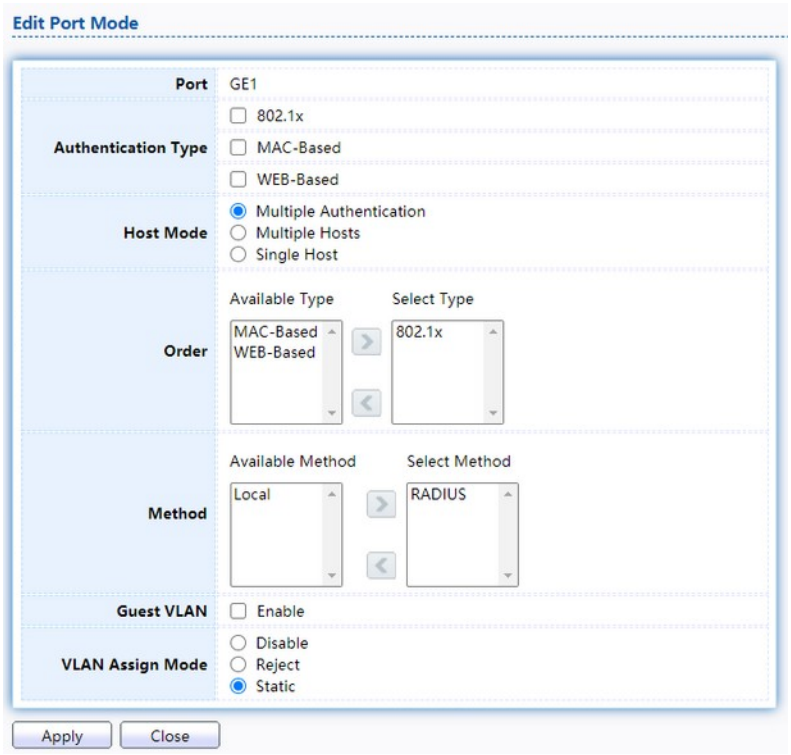


Figure 127. Security > Authentication Manager > Property > Edit Port Mode.

Item	Description
Port	Selected port list.
Authentication Type	Set checkbox to enable/disable authentication types.
Host Mode	Select authenticating host mode. • Multiple Authentication: In this mode, every client need to pass authenticate procedure individually. • Multiple Hosts: In this mode, only one client need to be authenticated and other clients will get the same access accessibility. Web-auth cannot be enabled in this mode. • Single Host: In this mode, only one host is allowed to be authenticated. It is the same as Multi-auth mode with max hosts number configure to be 1.
Order	Support following authentication type order combinations. Web Authentication should always be the last type. The authentication manager will go to next type if current type is not enabled or authenticated fail. • 802.1x, • MAC-Based, • WEB-Based, • 802.1x MAC-Based, • 802.1x WEB-Based,

	• MAC-Based 802.1x, • WEB-Based 802.1x, • 802.1x MAC-Based WEB-Based.
Method	Support following authentication method order combinations. • These orders only available on MAC-Based authentication and WEB-Based authentication. 802.1x only support Radius method. • Local: Use DUT's local database to do authentication. • Radius: Use remote RADIUS server to do authentication. • Local Radius. • Radius Local.
Guest VLAN	Set checkbox to enable / disable guest VLAN.
VLAN Assign Mode	Support following VLAN assign mode and only apply when source is RADIUS. • Disable: Ignore the VLAN authorization result and keep original VLAN of host. • Reject: If get VLAN authorized information, just use it. However, if there is no VLAN authorized information, reject the host and make it unauthorized. • Static: If get VLAN authorized information, just use it. If there is no VLAN authorized information, keep original VLAN of host.

2.10.5.2 Port Setting

This page allow user to configure authentication manger port settings.

To display the authentication manager Port Setting web page, click Security > Authentication Manager > Port Setting.

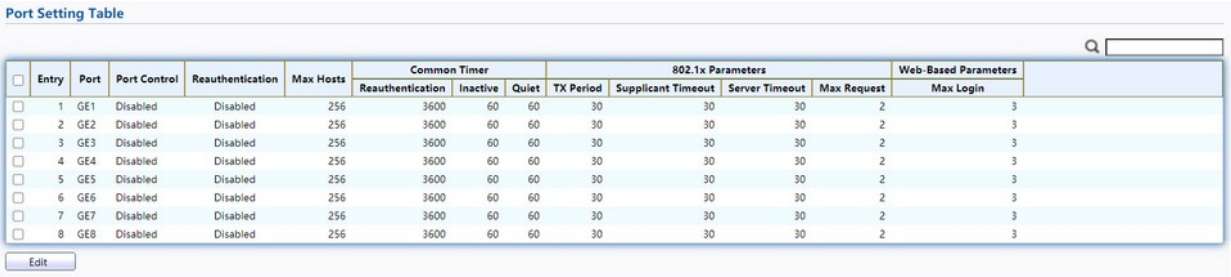


Figure 128. Security > Authentication Manager > Port Setting.

Item	Description
Port	Port Name.
Port Control	Support following authentication port control types. • Disable: Disable authentication function and all clients have network accessibility. • Force Authorized: Port is force authorized and all clients have network

	accessibility. • Force Unauthorized: Port is force unauthorized and all clients have no network accessibility. • Auto: Need passing authentication procedure to get network accessibility.
Reauthentication	Reauthenticate state: • Enabled: Host will be reauthenticated after reauthentication period. • Disabled: Host will not be authenticated after reauthentication period.
Max Hosts	In Multiple Authentication mode, total host number cannot not exceed max hosts number.
Common Timer (Reauthentication)	After re-authenticate period, host will return to initial state and need to pass authentication procedure again.
Common Timer (Inactive)	If no packet from the authenticated host, the inactive timer will increase. After inactive timeout, the host will be unauthorized and corresponding session will be deleted. In multi-host mode, the packet is counting on the authorized host only.
Common Timer (Quiet)	When port is in Locked state after authenticating fail several times, the host will be locked in quiet period. After this quiet period, the host is allowed to authenticate again.
802.1X Params (TX Period)	Number of seconds that the device waits for a response to an Extensible Authentication Protocol (EAP) request/identity frame from the supplicant (client) before resending the request.
802.1X Params (Supplicant Timeout)	The maximum number of EAP requests that can be sent. If a response is not received after the defined period (supplicant timeout), the authentication process is restarted.
802.1X Params (Server Timeout)	Number of seconds that lapses before EAP requests are resent to the supplicant.
802.1X Params (Max Request)	Number of seconds that lapses before the device resends a request to the authentication server.
Web-Based Params (Max Login)	Allow user login fail number. After login fail number exceed, the host will enter Lock state and is not able to authenticate until quiet period exceed.

Click "Edit" button to view Edit Port Setting menu.

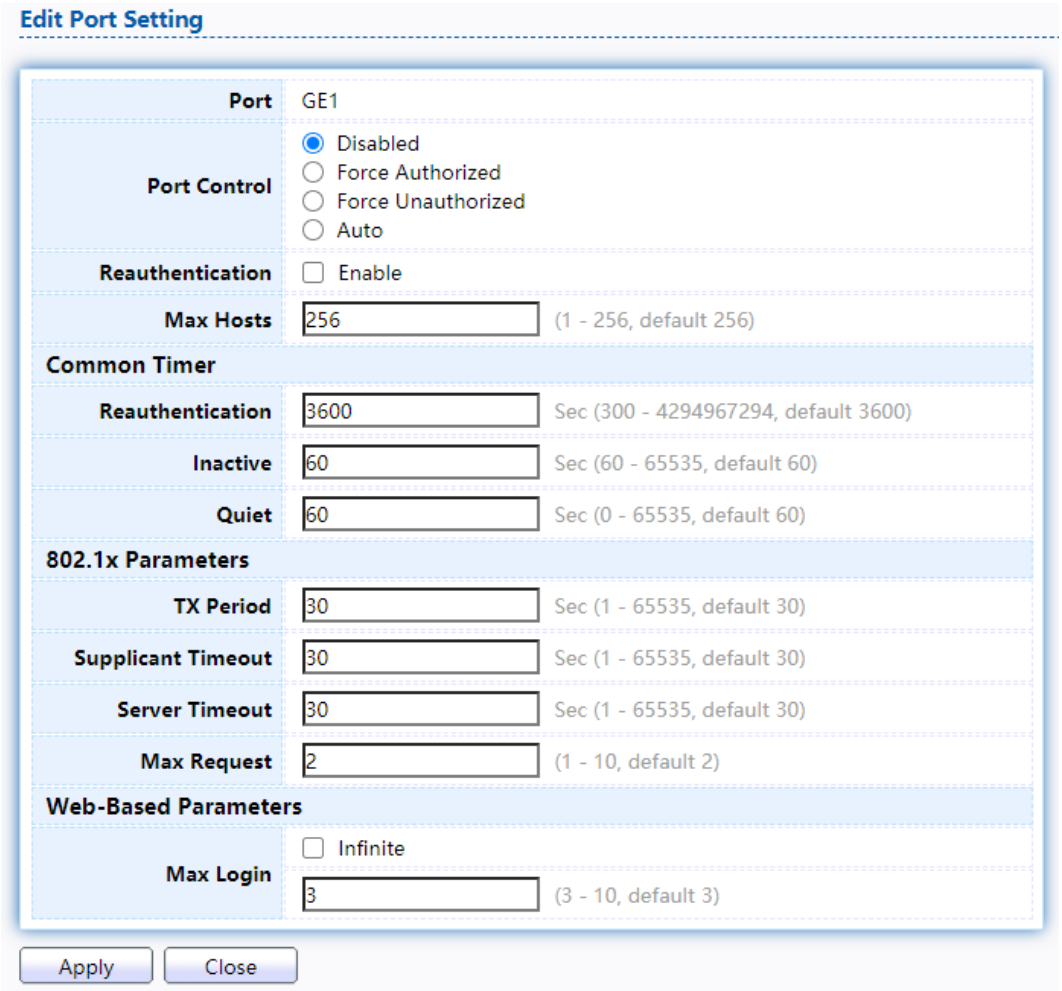


Figure 129. Security > Authentication Manager > Port Setting > Edit Port Setting.

Item	Description
Port	Port Name.
Port Control	Support following authentication port control types. • Disable: Disable authentication function and all clients have network accessibility. • Force Authorized: Port is force authorized and all clients have network accessibility. • Force Unauthorized: Port is force unauthorized and all clients have no network accessibility. • Auto: Need passing authentication procedure to get network accessibility.
Reauthentication	Set checkbox to enable/disable reuauthentication.
Max Hosts	In Multiple Authentication mode, total host number cannot not exceed max hosts number.
Common Timer	

Reauthentication	After re-authenticate period, host will return to initial state and need to pass authentication procedure again.
Inactive	If no packet from the authenticated host, the inactive timer will increase. After inactive timeout, the host will be unauthorized and corresponding session will be deleted. In multi-host mode, the packet is counting on the authorized host only.
Quiet	When port is in Locked state after authenticating fail several times, the host will be locked in quiet period. After this quiet period, the host is allowed to authenticate again.
802.1X Params (TX Period)	Number of seconds that the device waits for a response to an Extensible Authentication Protocol (EAP) request/identity frame from the supplicant (client) before resending the request.
802.1X Params (Supplicant Timeout)	The maximum number of EAP requests that can be sent. If a response is not received after the defined period (supplicant timeout), the authentication process is restarted.
802.1X Params (Server Timeout)	Number of seconds that lapses before EAP requests are resent to the supplicant.
802.1X Params (Max Request)	Number of seconds that lapses before the device resends a request to the authentication server.
Web-Based Params (Max Login)	Set checkbox to set max login number to be infinite or specify max login number.

2.10.5.3 MAC-Based Local Account

This page allow user to add/edit/delete MAC-Based authentication local accounts.

To display MAC-Based Local Account web page, click Security > Authentication Manger > MAC-Based Local Account.

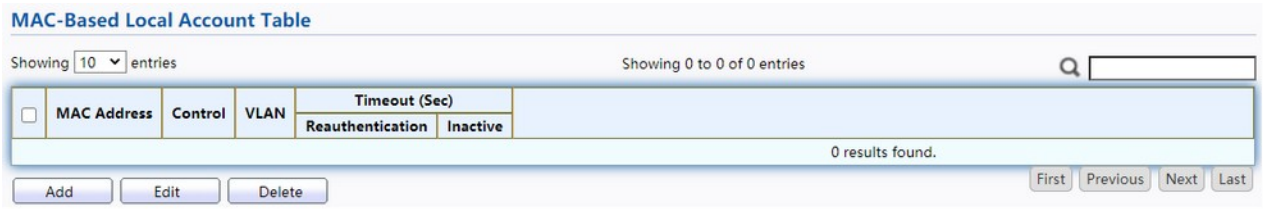


Figure 130. Security > Authentication Manager > MAC-Based Local Account.

Item	Description
MAC Address	Authenticated host MAC address, and each MAC allow only one entry in local database.
Control	Control Type: • Force Authorized: Host will be force authorized. • Force Unauthorized: Host will be force unauthorized.

VLAN	Assigned VLAN ID for the authenticated host.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.the service ACE.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

Click “Add" or “Edit” button to view Add MAC-Base Local Account menu.

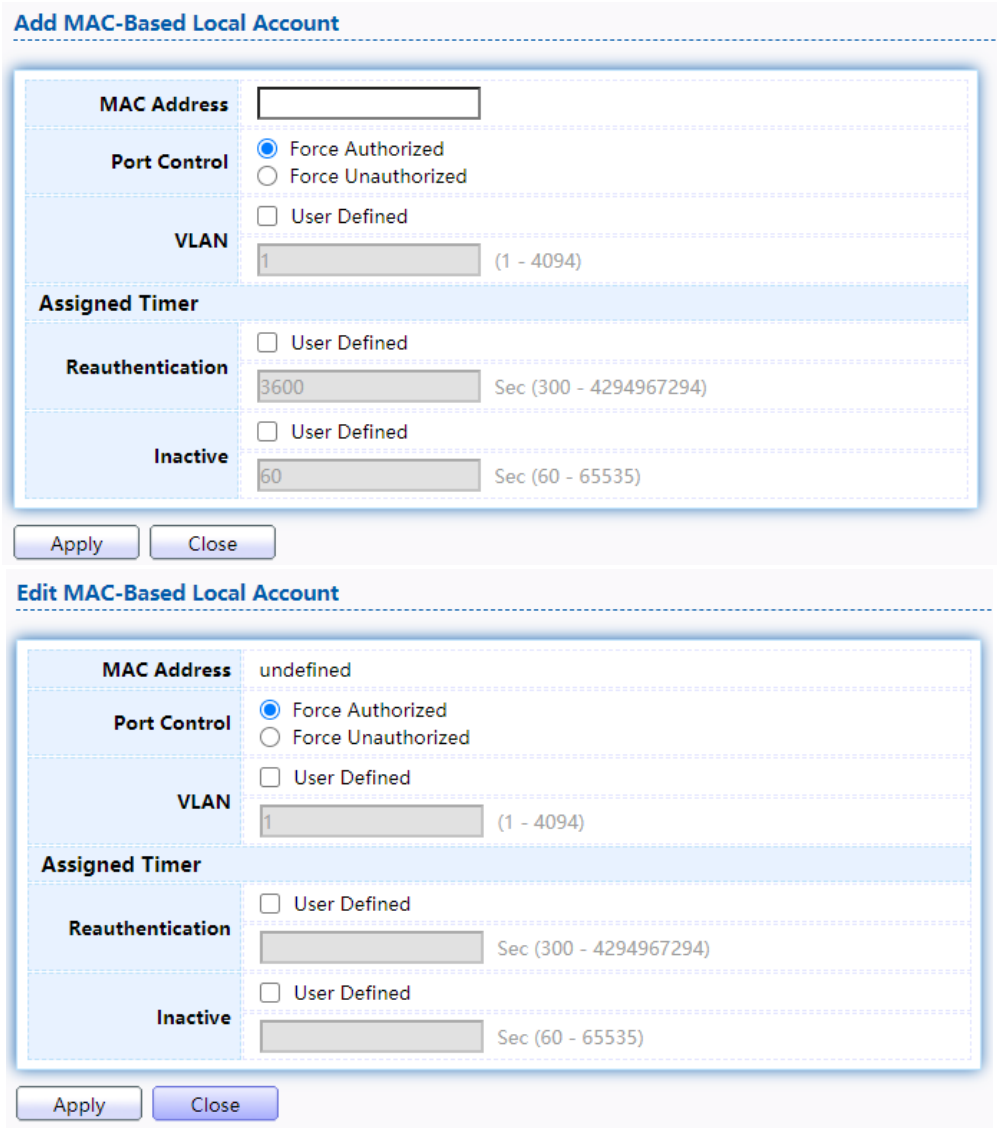


Figure 131. Security > Authentication Manager > Add MAC-Based Local Account.

Item	Description
MAC Address	Authenticated host MAC address, and each MAC allow only one entry in local database.
Control	Control Type: • Force Authorized: Host will be force authorized. • Force Unauthorized: Host will be force unauthorized.

VLAN	Assigned VLAN ID for the authenticated host.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.the service ACE.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

2.10.5.4 WEB-Based Local Account

This page allow user to add/edit/delete WEB-Based authentication local accounts.

To display Management ACE page, click Security > Management Access > Management ACE.

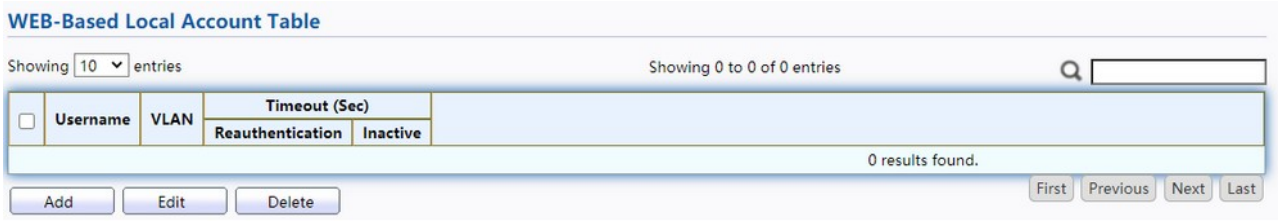


Figure 132. Security > Authentication Manager > WEB-Based Local Account.

Item	Description
Username	Authenticating account user name.
VLAN	Assigned VLAN ID for the authenticated host.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

Click “Add” or “Edit” button to view Add / Edit WEB-Base Local Account menu.

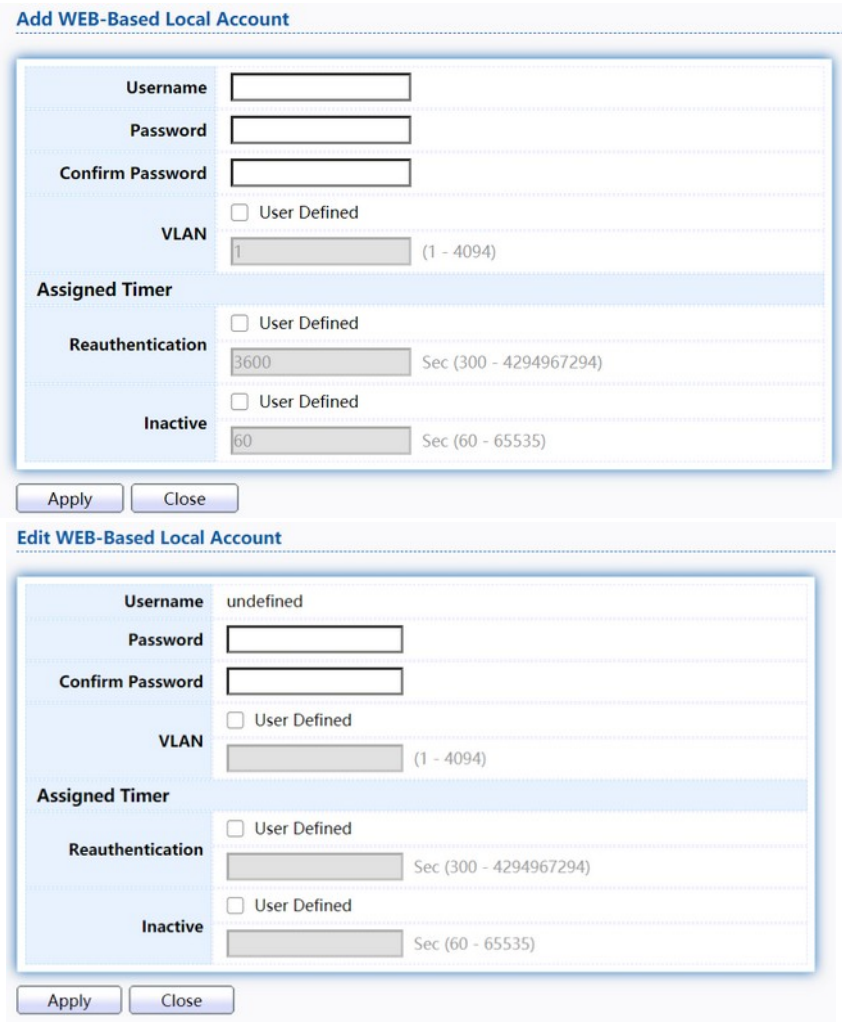


Figure 133. Security > Authentication Manager > Add/Edit WEB-Based Local Account.

Item	Description
Username	Authenticating account user name.
Password	Authenticating account password.
Confirm Password	Confirm authenticating account password.
VLAN	Assigned VLAN ID for the authenticated host.
Port	Select ports which will be matched.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

2.10.5.5 Sessions

This page show all detail information of authentication sessions and allow user to select specific session to delete by clicking “Clear ” button.

To display Sessions web page, click Security > Authentication Manger > Sessions.

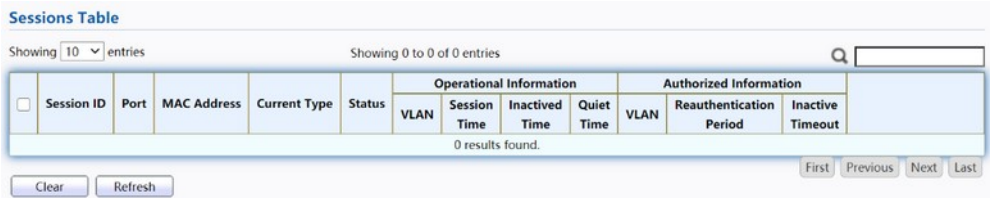


Figure 134. Security > Authentication Manager > Sessions.

Item	Description
Session ID	Session ID is unique of each session.
Port	Port name which the host located.
MAC Address	Host MAC address.
Current Type	Show current authenticating type. • 802.1x: Use IEEE 802.1X to do authenticating. • MAC-Based: Use MAC-Based authentication to do authenticating. • WEB-Based: Use WEB-Based authentication to do authenticating.
Status	Show host authentication session status. • IP version (IPv4, IPv6), • Disable: This session is ready to be deleted, • Running: Authentication process is running • Authorized: Authentication is passed and getting network accessibility. • UnAuthorized: Authentication is not passed and not getting network accessibility. • Locked: Host is locked and do not allow to do authenticating until quiet period. • Guest: Host is in the guest VLAN.
Operational(VLAN)	Shows host operational VLAN ID.
Operational (Session Time)	In “Authorized” state, it shows total time after authorized.
Operational (Inactived Time)	In “Authorized” state, it shows how long the host do not send any packet.
Operational (Quiet Time)	In “Locked” state, it shows total time after locked.
Authorized (VLAN)	Shows VLAN ID given from authorized procedure.
Authorized (Reauthentication Period)	Shows reauthentication period given from authorized procedure.
Authorized (Inactive Timeouts)	Shows inactive timeout given from authorized procedure.

2.10.6 Port Security

This page allow user to configure port security settings for each interface. When port security is enabled on interface, action will be perform once learned MAC address over limitation.

To display Port Security web page, click Security > Port Security.

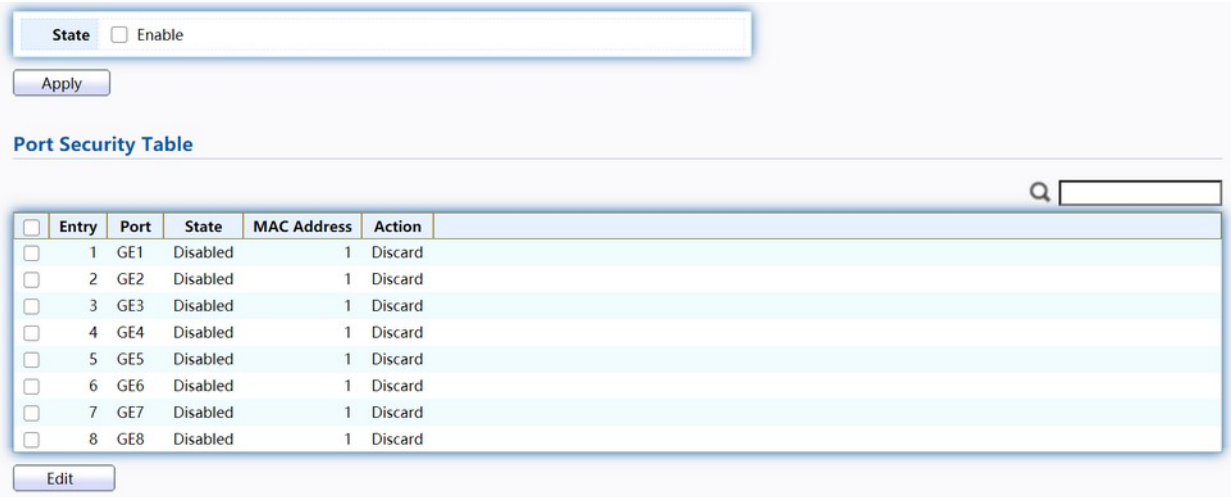


Figure 135. Security > Port Security.

Item	Description
State	Enable/Disable the port security function.
Port	Select one or multiple ports to configure.
State	Select the status of port security. • Disable: Disable port security function. • Enable: Enable port security function.
MAC Address	Specify the number of how many mac addresses can be learned.
Action	Select the action if learned mac addresses. • Forward: Forward this packet whose SMAC is new to system and exceed the learning-limit number. • Discard: Discard this packet whose SMAC is new to system and exceed the learning-limit number. • Shutdown: Shutdown this port when receives a packet whose SMAC is new to system and exceed the learning limit number.

Click "Edit" button to view Edit Port Security menu.

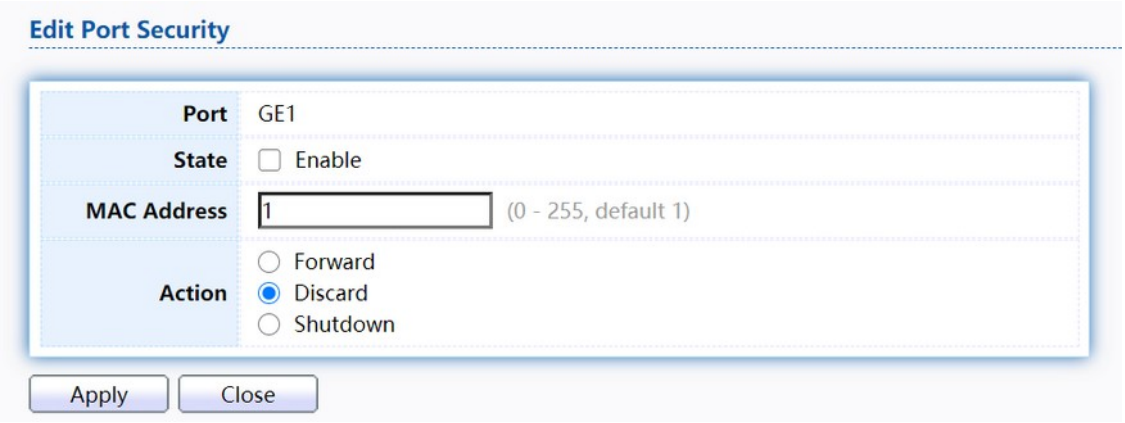


Figure 136. Security > Port Security > Edd Port Security.

Item	Description
Port	Select one or multiple ports to configure.
State	Select the status of port security. • Disable: Disable port security function. • Enable: Enable port security function.
MAC Address	Specify the number of how many mac addresses can be learned.
Action	Select the action if learned mac addresses. • Forward: Forward this packet whose SMAC is new to system and exceed the learning-limit number. • Discard: Discard this packet whose SMAC is new to system and exceed the learning-limit number. • Shutdown: Shutdown this port when receives a packet whose SMAC is new to system and exceed the learning limit number.

2.10.7 Protected Port

This page allow user to configure protected port setting to prevent the selected ports from communication with each other. Protected port is only allowed to communicate with unprotected port. In other words, protected port is not allowed to communicate with another protected port.

To display Protected Port web page, click Security > Protected Port.

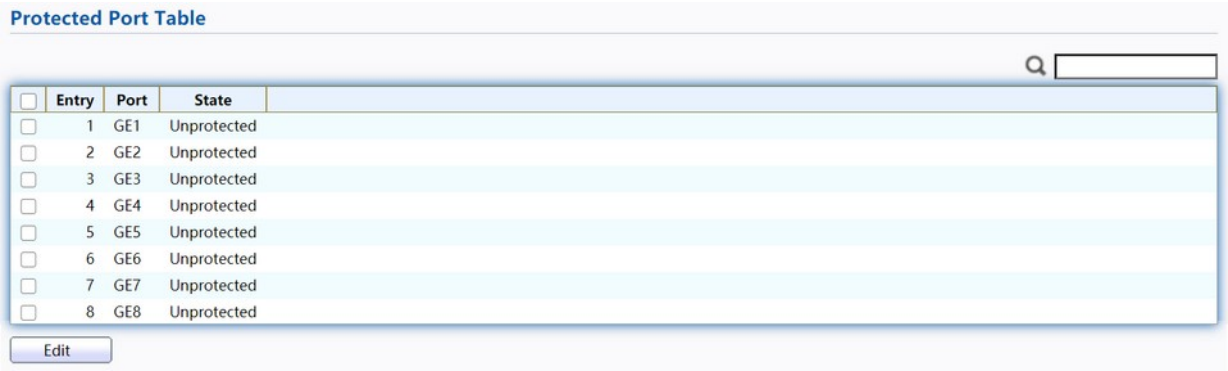


Figure 137. Security > Protected Port.

Item	Description
Port	Port Name.
State	Port protected admin state.

Click "Edit" button to view Edit Protected Port menu.

Figure 138. Security > Protected Port > Edit Protected Port.

Item	Description
Port	Selected port list.
State	Port protected admin state. • Protected: Enable protecting function. • Unprotected: Disable protecting function.

2.10.8 Storm Control

To display Storm Control global setting web page, click Security > Storm Control.

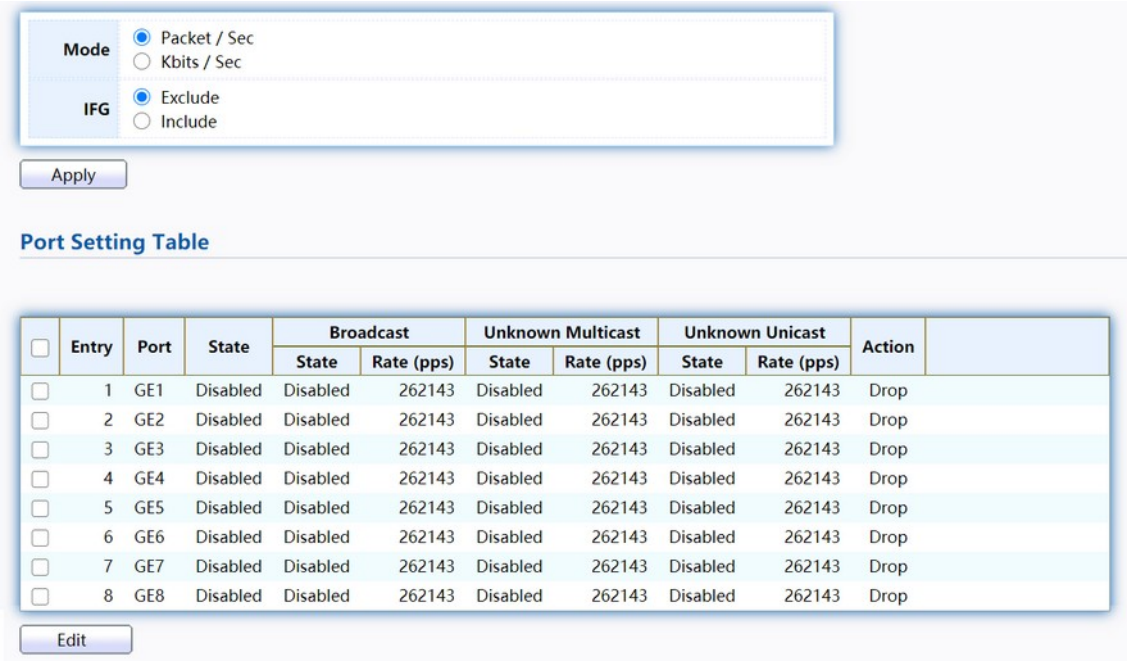


Figure 139. Security > Storm Control.

Item	Description
Mode(Unit)	Select the unit of storm control. • Packet / Sec: storm control rate calculates by packet-based. • Kbits / Sec: storm control rate calculates by octet-based.
IFG	Select the rate calculates w/o preamble & IFG (20 bytes) • Excluded: exclude preamble & IFG (20 bytes) when count ingress storm control rate. • Included: include preamble & IFG (20 bytes) when count ingress storm control rate.

Click "Edit" button to view Edit Port Setting menu.

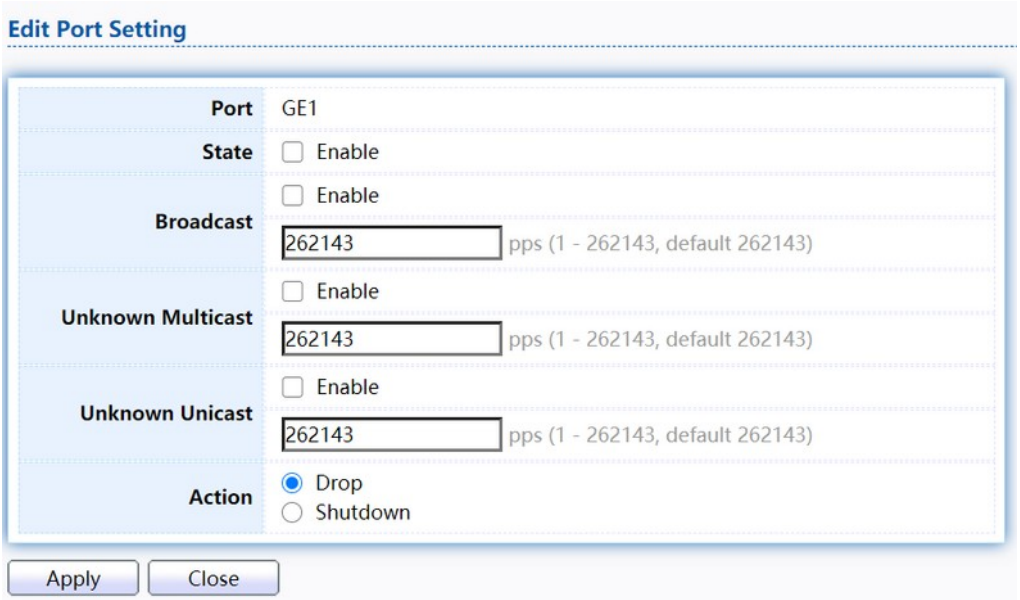


Figure 140. Security > Storm Control > Edit Port Setting.

Item	Description
Port	Select the setting ports.
State	Select the state of setting. • Enable: Enable the storm control function.
Broadcast	Enable: Enable the storm control function of Broadcast packet. Value of storm control rate, Unit: pps (packet per-second, range 1 – 262143) or Kbps (Kbits per-second, range16 – 1000000) depends on global mode setting.
Unknown Multicast	Enable: Enable the storm control function of Unknown multicast packet. Value of storm control rate, Unit: pps (packet per-second, range 1-262143) or Kbps (Kbits per-second, range16 - 1000000) depends on global mode setting.
Unknown Unicast	Enable: Enable the storm control function of Unknown unicast packet.

	Value of storm control rate, Unit: pps (packet per-second, range 1 - 262143) or Kbps (Kbits per-second, range16 – 1000000) depends on global mode setting.
Action	Select the state of setting. • Drop: Packets exceed storm control rate will be dropped. • Shutdown: Port will be shutdown when packets exceed storm control rate.

2.10.9 DoS

A Denial of Service (DoS) attack is a hacker attempt to make a device unavailable to its users. DoS attacks saturate the device with external communication requests, so that it cannot respond to legitimate traffic. These attacks usually lead to a device CPU overload.

The DoS protection feature is a set of predefined rules that protect the network from malicious attacks. The DoS Security Suite Settings enables activating the security suite.

2.10.9.1 Property

To display Dos Global Setting web page, click Security > Dos > Property.

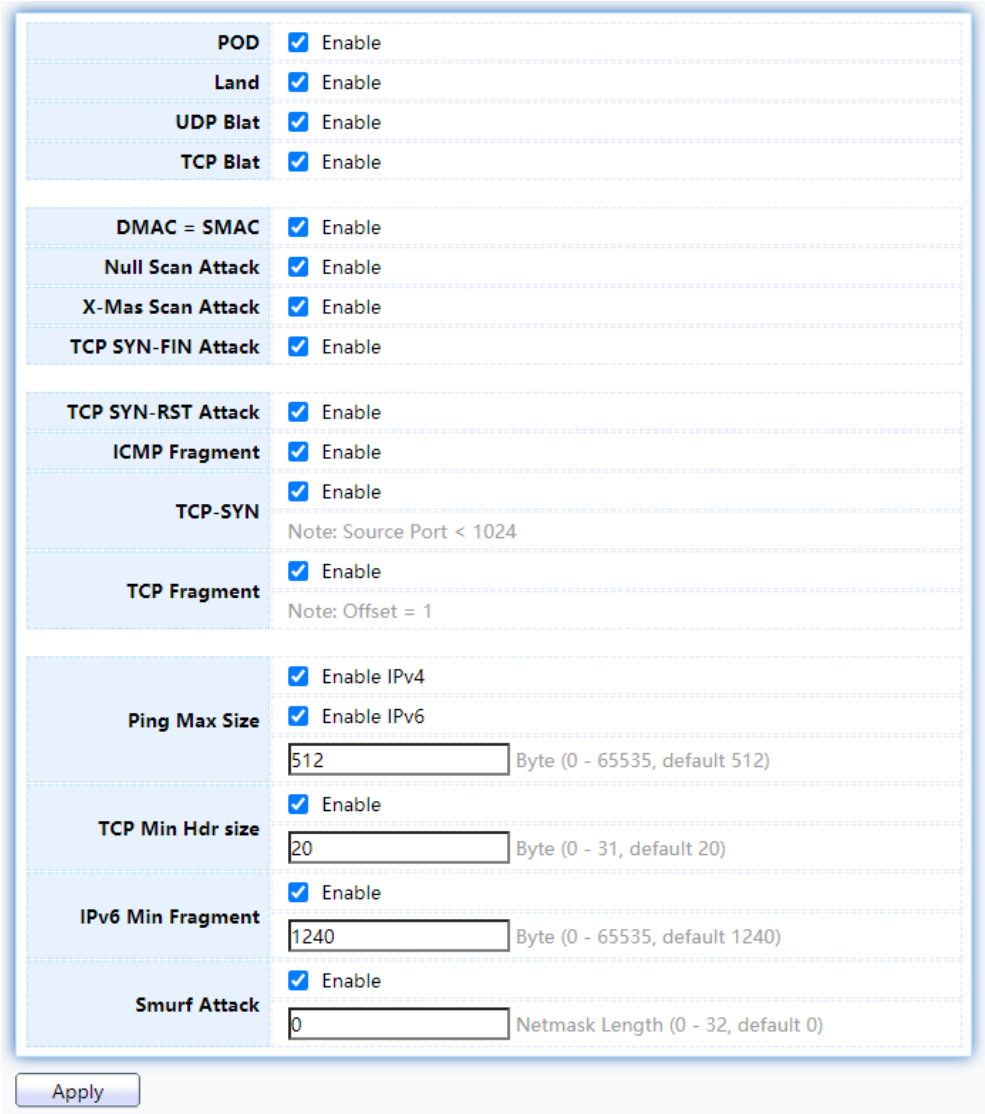


Figure 141. Security > DoS > Property.

Item	Description
POD	Avoids ping of death attack.
Land	Drops the packets if the source IP address is equal to the destination IP address.
UDP Blat	Drops the packets if the UDP source port equals to the UDP destination port.
DMAC = SMAC	Drops the packets if the destination MAC address is equal to the source MAC address.
Null Scan Attach	Drops the packets with NULL scan.
X-Mas Scan Attack	Drops the packets if the sequence number is zero, and the FIN, URG and PSH bits are set.
TCP SYN-FIN Attack	Drops the packets with SYN and RST bits set.

TCP SYN-RST Attack	Drops the packets with SYN and RST bits set
ICMP Flagment	Drops the fragmented ICMP packets.
TCP SYN (SPORT<1024)	Drops SYN packets with sport less than 1024.
TCP Fragment (Offset = 1)	Drops the TCP fragment packets with offset equals to one.
Ping Max Size	Specify the maximum size of the ICMPv4/ICMPv6 ping packets. The valid range is from 0 to 65535 bytes, and the default value is 512 bytes.
IPv6 Min Flagment	Checks the minimum size of IPv6 fragments, and drops the packets smaller than the minimum size. The valid range is from 0 to 65535 bytes, and default value is 1240 bytes.
Smurf Attack	Avoids smurf attack. The length range of the netmask is from 0 to 323 bytes, and default length is 0 bytes.

2.10.9.2 Port Setting

To configure and display the state of DoS protection for interfaces, click Security > DoS > Port Setting.

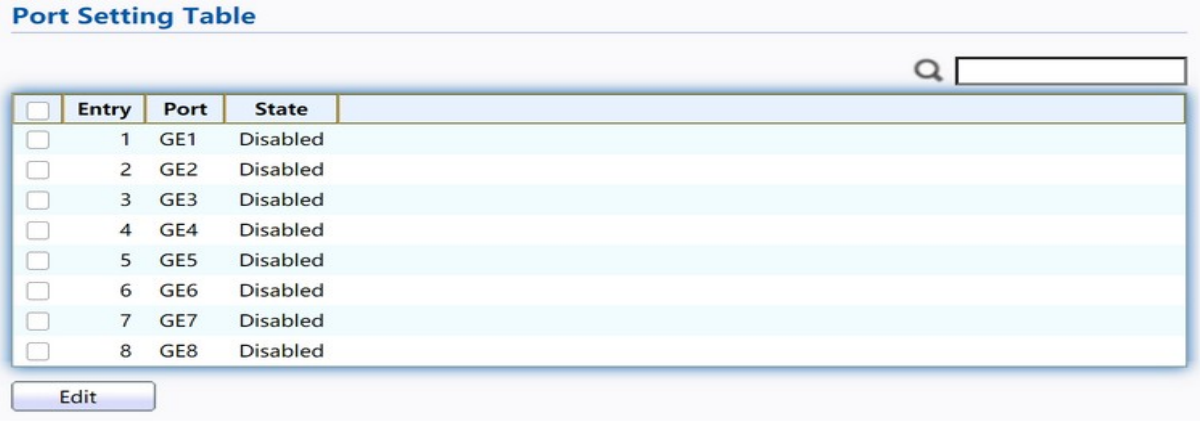


Figure 142. Security > DoS > Port Setting.

Item	Description
Port	Interface or port number.
State	Enable/Disable the DoS protection on the interface.

Click "Edit" button to view Edit Port Setting menu.

Figure 143. Security > DoS > Port Setting.

Item	Description
Port	Interface or port number.
State	Enable/Disable the DoS protection on the interface.

2.10.10 Dynamic ARP Inspection

Use the Dynamic ARP Inspection pages to configure settings of Dynamic ARP Inspection.

2.10.10.1 Property

This page allow user to configure global and per interface settings of Dynamic ARP Inspection.

To display property page, click Security > Dynamic ARP Inspection > Property.

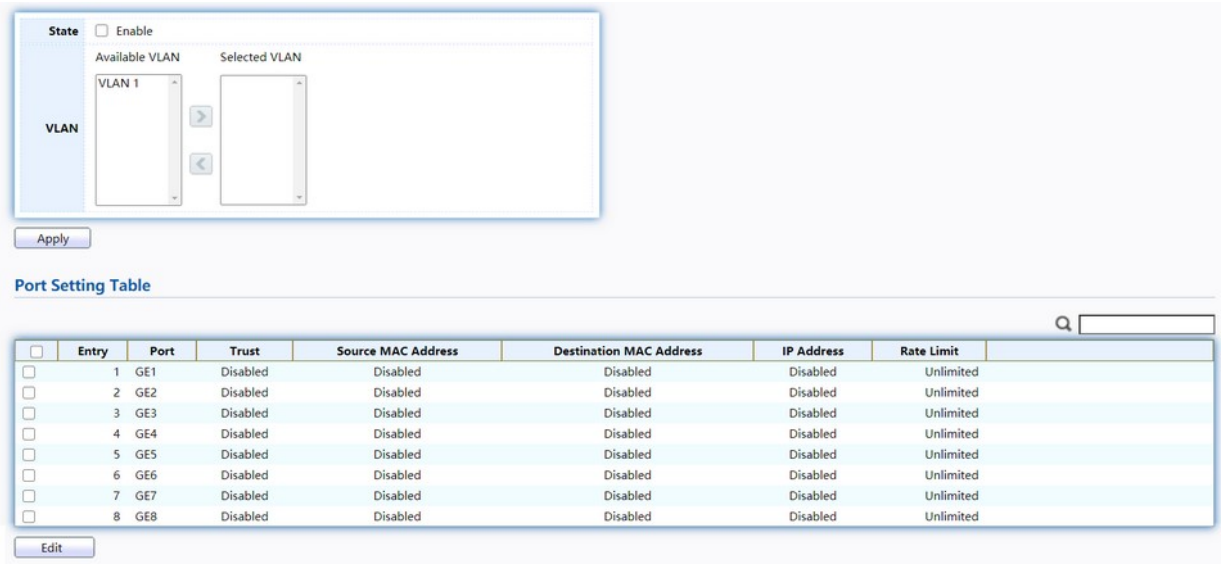


Figure 144. Security > Dynamic ARP Inspection > Property.

Item	Description
State	Set checkbox to enable/disable Dynamic ARP Inspection function.
VLAN	Select VLANs in left box then move to right to enable Dynamic ARP Inspection. Or select VLANs in right box then move to left to disable Dynamic ARP Inspection.
Port	Display port ID.

Trust	Display enable/disabled trust attribute of interface.
Source MAC address	Display enable/disabled destination mac address validation attribute of interface.
IP Address	Display enable/disabled IP address validation attribute of interface. Allow zero which means allow 0.0.0.0 IP address.
Rate Limit	Display rate limitation value of interface.

Click "Edit" button to view Edit Port Setting menu.

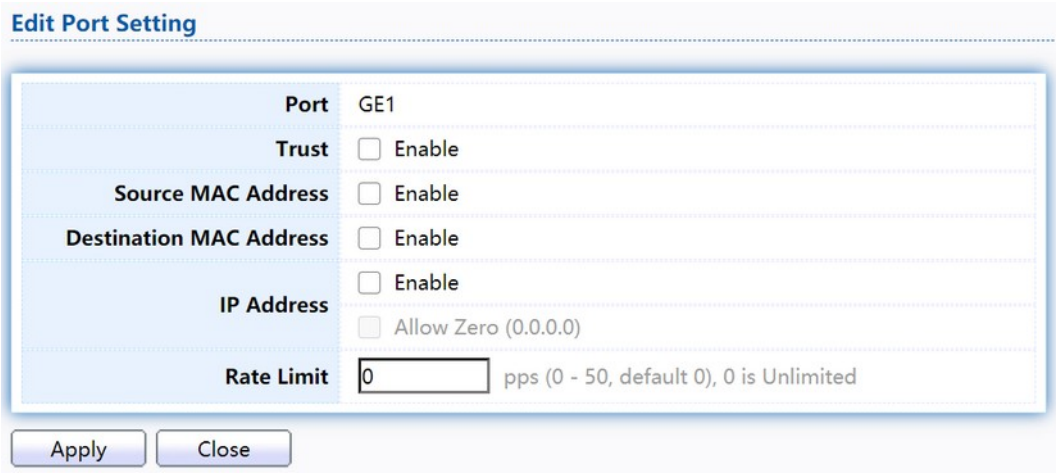


Figure 145. Security > Dynamic ARP Inspection > Property>Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
Trust	Set checkbox to enable/disabled trust of interface. All ARP packet will be forward directly if enable trust. Default is disabled.
Source MAC Address	Set checkbox to enable or disable source mac address validation of interface. All ARP packets will be checked whether sender mac is same as source mac in Ethernet header if enable source mac address validation. Default is disabled.
Destination MAC Address	Set checkbox to enable or disable destination mac address validation of interface. All ARP packets will be checked whether target mac is same as destination mac in Ethernet header if enable destination mac address validation. Default is disabled.
IP Address	Set checkbox to enable or disable IP address validation of interface. All ARP packets will be checked whether IP address is 0.0.0.0, 255.255.255.255 or multicast address. Default is disabled.
IP Address – Allow Zero	Set checkbox to enable or disable allow zero of IP address validation. 0.0.0.0 IP address is valid if allow zero enable. Default is disabled.
Rate Limit	Input rate limitation of ARP packets. The unit is pps. 0 means unlimited.

	Default is unlimited.

2.10.11 DHCP Snooping

Use the DHCP Snooping pages to configure settings of DHCP Snooping.

2.10.11.1 Property

This page allow user to configure global and per interface settings of DHCP Snooping. To display property page, click Security > DHCP Snooping > Property.

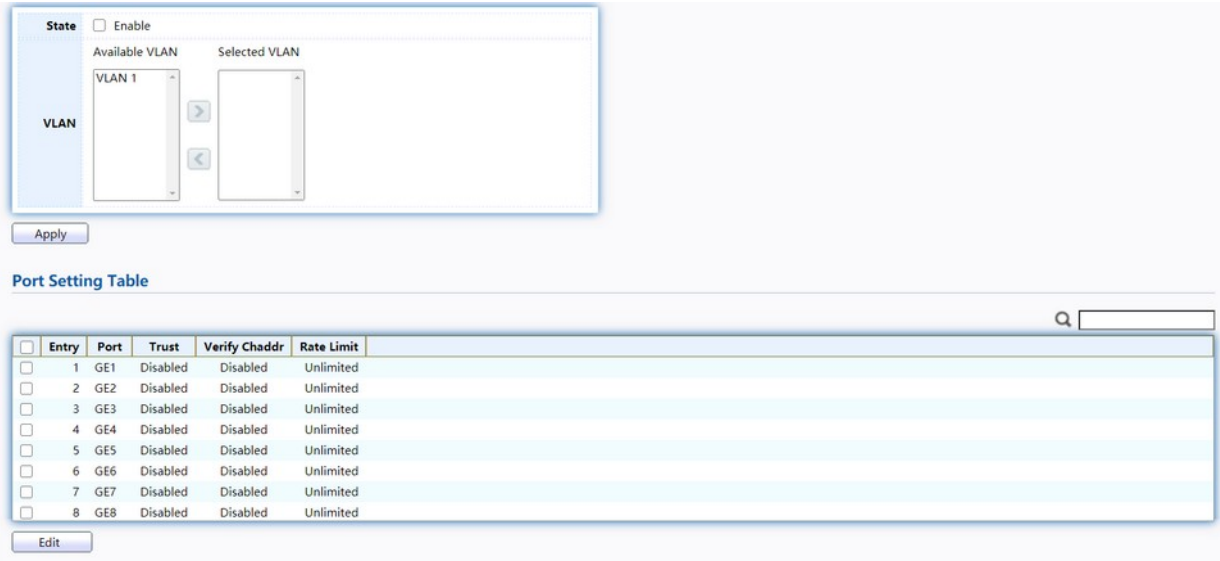


Figure 146. Security > DHCP Snooping > Property.

Item	Description
State	Set checkbox to enable/disable DHCP Snooping function.
VLAN	Select VLANs in left box then move to right to enable DHCP Snooping. Or select VLANs in right box then move to left to disable DHCP Snooping.
Port Setting Table	
Port	Display port ID.
Trust	Display enable/disabled trust attribute of interface.
Verify Chaddr	Display enable/disabled chaddr validation attribute of interface.
Rate Limit	Display rate limitation value of interface.

Click "Edit" button to view Edit Port Setting menu.

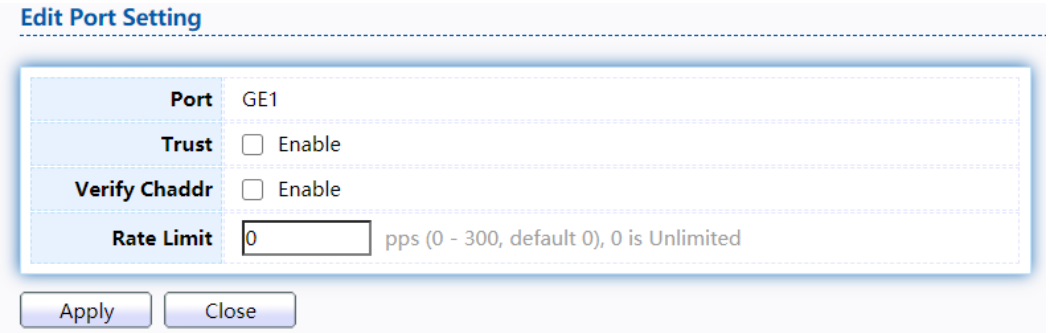


Figure 147. Security > DHCP Snooping > Property > Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
Trust	Set checkbox to enable/disabled trust of interface. All DHCP packet will be forward directly if enable trust. Default is disabled.
Verify Chaddr	Set checkbox to enable or disable source mac address validation of interface. All DHCP packets will be checked whether sender mac is same as source mac in Ethernet header if enable source mac address validation. Default is disabled.
Rate Limit	Input rate limitation of DHCP packets. The unit is pps. 0 means unlimited. Default is unlimited.

2.10.11.2 Statistics

This page allow user to browse all statistics that recorded by DHCP snooping function. To view the Statistics menu, navigate to Security > DHCP Snooping > Statistics.

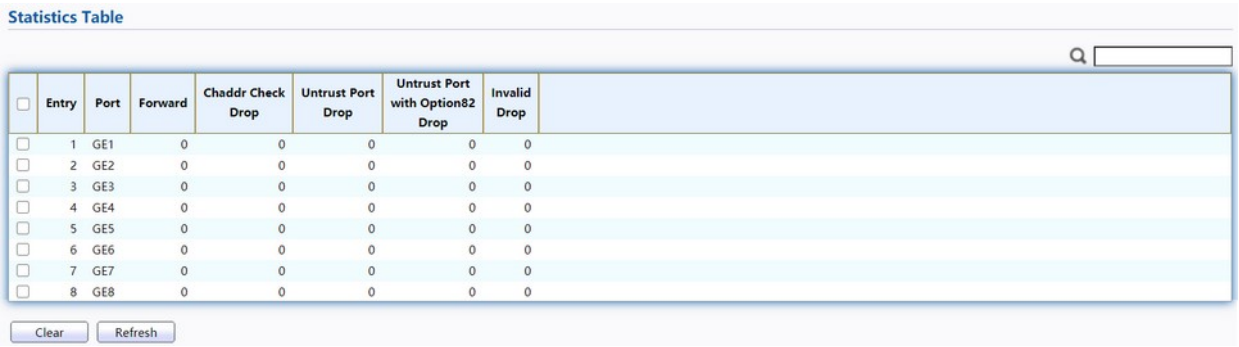


Figure 148. Security > DHCP Snooping > Statistics.

Item	Description
Port	Display port ID.
Forwarded	Display how many packets forwarded normally.
Chaddr Check Drop	Display how many packets dropped by chaddr validation.

Untrusted Port Drop	Display how many DHCP server packets that are received by untrusted port dropped.
Untrusted Port with Option82	Display how many packets dropped by untrusted port with option82 checking.
Invalid Drop	Display how many packets dropped by invalid checking.

2.10.11.3 Option82 Property

This page allow user to set string of DHCP option82 remote ID filed. The string will attach in option82 if option inserted. To display Option82 Property page, click Security > DHCP Snooping > Option82 Property.

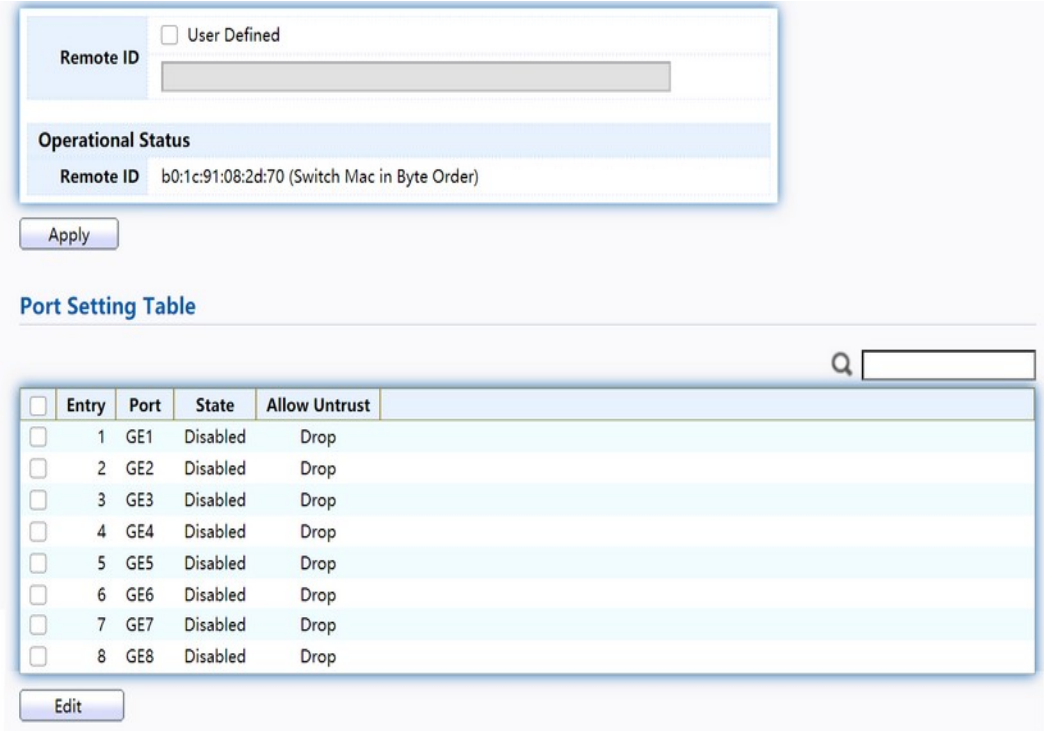


Figure 149. Security > DHCP Snooping > Option82 Property.

Item	Description
User Defined	Set checkbox to enable user-defined remote-ID. By default, remote ID is switch mac in byte order.
Remote ID	Input user-defined remote ID. Only available when enable user-define remote ID.
Port Setting Table	
Port	Display port ID.
State	Display option82 enable/disable status of interface.
Allow untrusted	Display allow untrusted action of interface.

Click "Edit" button to view Edit Port Setting menu.

Figure 150. Security > DHCP Snooping > Option82 Property > Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
State	Set checkbox to enable/disable option82 function of interface.
Allow untrusted	Select the action perform when untrusted port receive DHCP packet has option82 filed. Default is drop. • Keep: Keep original option82 content. • Replace: Replace option82 content by switch setting. • Drop: Drop packets with option82.

2.10.11.4 Option82 Circuit ID

This page allow user to set string of DHCP option82 circuit ID filed. The string will attach in option82 if option inserted. To display Option82 Circuit ID page, click Security > DHCP Snooping > Option82 Circuit ID.

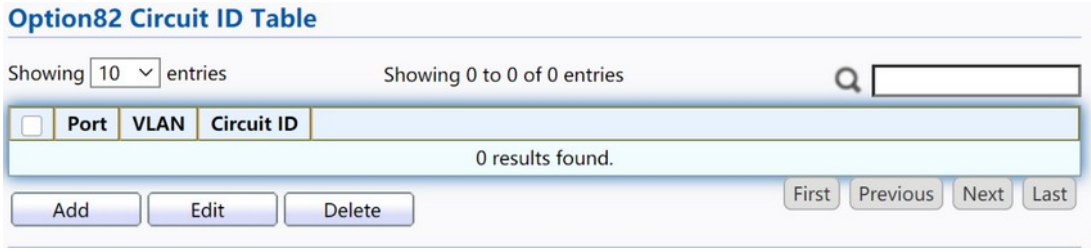


Figure 151. Security > DHCP Snooping > Option82 Circuit ID.

Item	Description
Port	Display port ID of entry.
VLAN	Display associate VLAN of entry.
Circuit ID	Display circuit ID string of entry.

Click “Add” button or "Edit" button to view the Add/Edit Option82 Circuit ID menu.

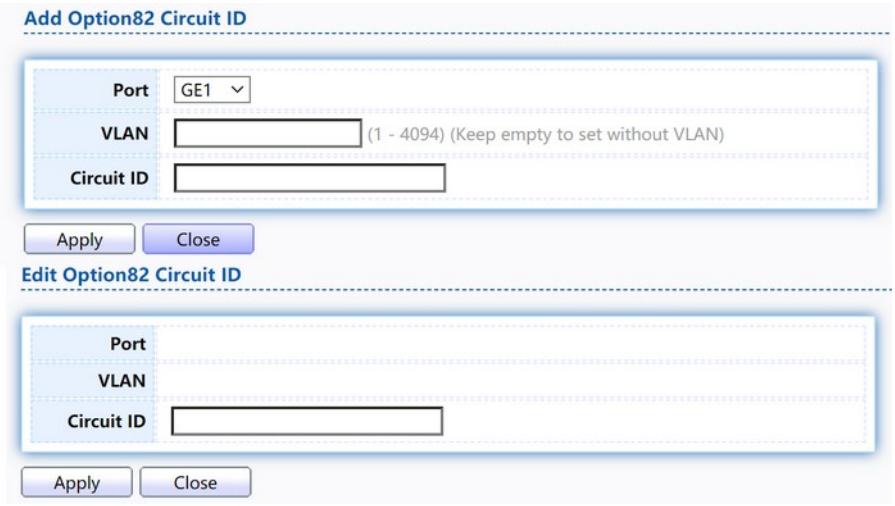


Figure 152. Security > DHCP Snooping > Option82 Circuit ID > Add/Edit Option82 Circuit ID.

Item	Description
Port	Select port from list to associate to CID entry. Only available on Add dialog.
VLAN	Input VLAN ID to associate to circuit ID entry. VLAN ID is not mandatory. Only available on Add dialog.
Circuit ID	Input String as circuit ID. Packets match port and VLAN will be inserted circuit ID.

2.10.12 IP Source Guard

Use the IP Source Guard pages to configure settings of IP Source Guard.

2.10.12.1 Port Setting

Use the IP Source Guard pages to configure settings of IP Source Guard. To display Port Setting page, click Security > IP Source Guard > Port
Setting.

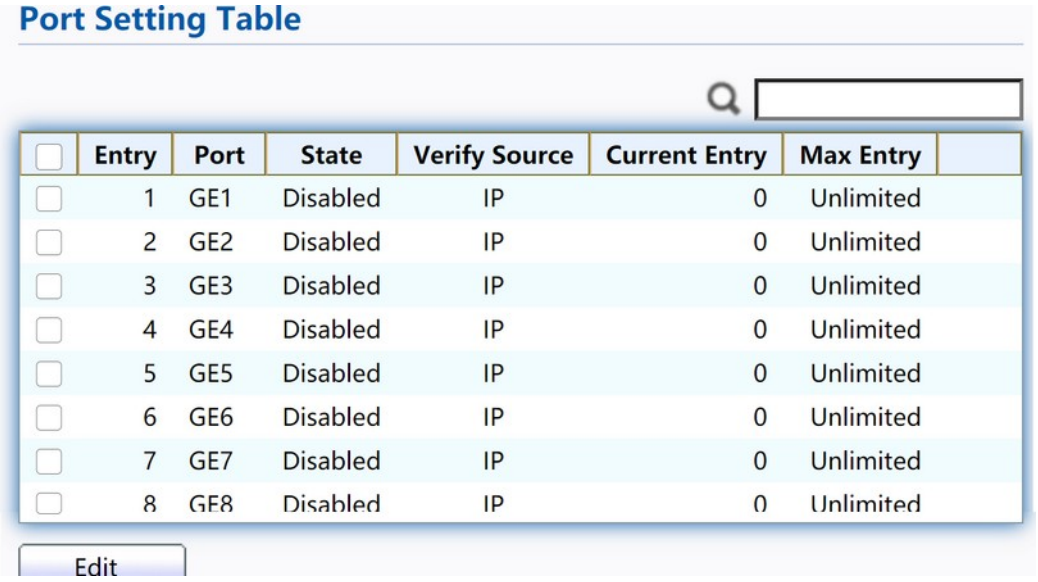


Figure 153. Security > IP Source Guard > Port Setting.

Item	Description
Port	Display port ID.
State	Display IP Source Guard enable/disable status of interface.
Verify Source	Display mode of IP Source Guard verification.
Current Binding Entry	Display current binding entries of a interface.
Max Binding Entry	Display the number of maximum binding entry of interface.

Click "Edit" button to view the Edit Port Setting menu.

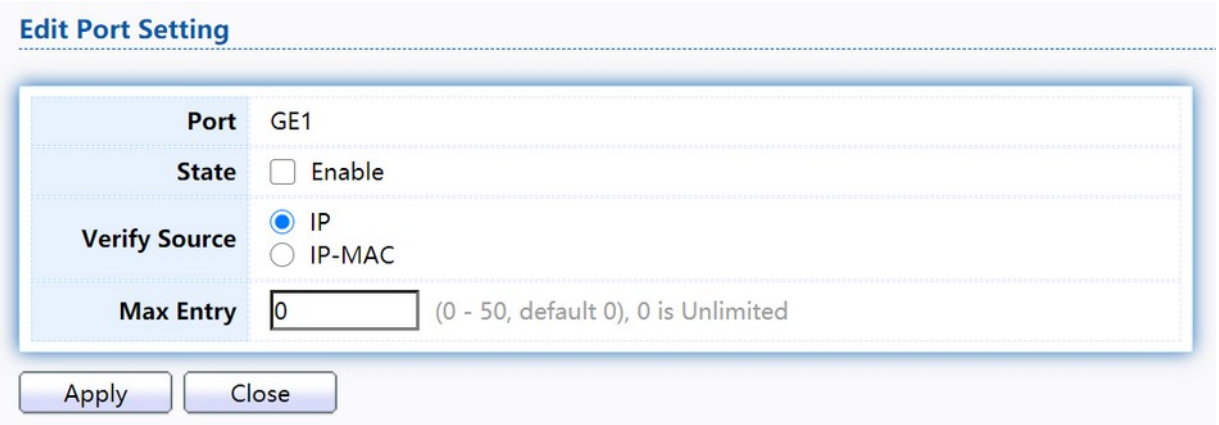


Figure 154. Security > IP Source Guard > Port Setting > Edit Port Setting.

Item	Description
Port	Display selected port to be edited.
Status	Set checkbox to enable or disable IP Source Guard function. Default is disabled.
Verify Source	Select the mode of IP Source Guard verification. • IP: Only verify source IP address of packet. • IP-MAC: Verify source IP and source MAC address of packet.
Max Entry	Input the maximum number of entries that a port can be bounded. Default is un-limited on all ports. No entry will be bound if limitation reached.

2.10.12.2 IMPV Binding

This page allow user to add static IP source guard entry and browse all IP source guard entries that learned by DHCP snooping or statically create by user. To display IPMV Binding page, click Security > IP Source Guard > IMPV Binding.

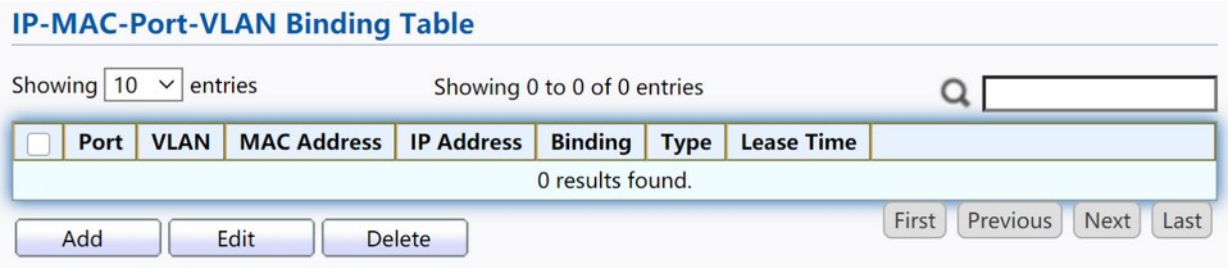


Figure 155. Security > IP Source Guard > IMPV Binding.

Item	Description
Port	Display port ID of entry.
VLAN	Display VLAN ID of entry.
MAC Address	Display MAC address of entry. Only available of IP-MAC binding entry.
IP Address	Display IP address of entry. Mask always to be 255.255.255.255 for IP-MAC binding. IP binding entry display user input.
Binding	Display binding type of entry.
Type	Type of existing binding entry. • Static: Entry added by user. • Dynamic: Entry learned by DHCP snooping.
Lease Time	Lease time of DHCP Snooping learned entry. After lease time entry will be deleted. Only available of dynamic entry.

Click "Add" or “Edit” button to view the Add/Edit IP-MAC-Port-VLAN Binding menu.

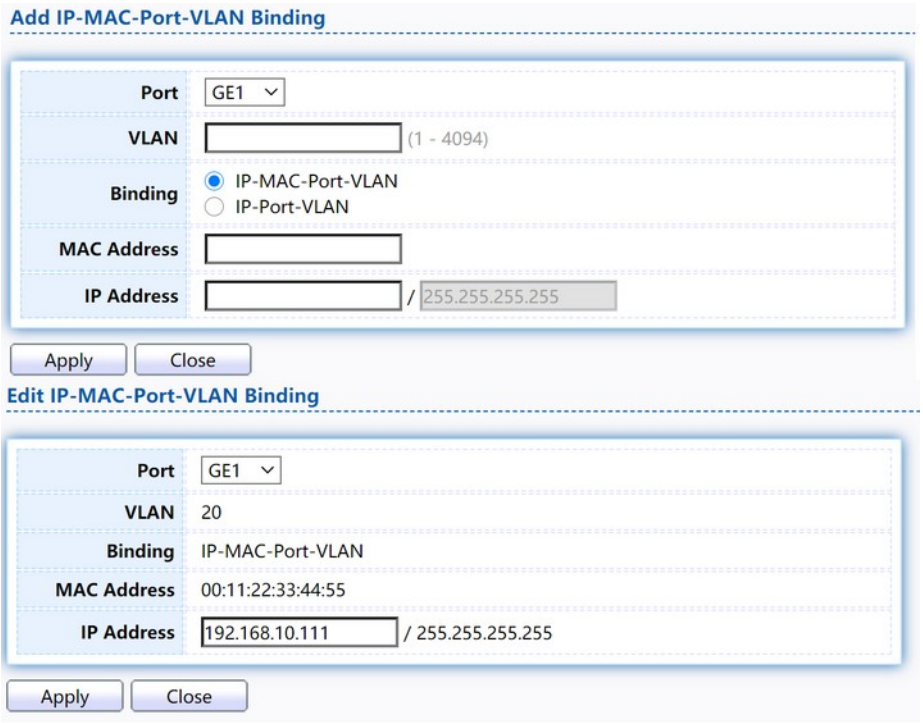


Figure 156. Security > IP Source Guard > Add/Edit IP-MAC-Port-VLAN Binding.

Item	Description
Port	Select port from list of a binding entry.
VLAN	Specify a VLAN ID of a binding entry.
Binding	Select matching mode of binding entry. • IP-MAC-Port-VLAN: packet must match IP address, MAC address, Port and VLAN ID. • IP-Port-VLAN: packet must match IP address or subnet, Port and VLAN ID.
MAC Address	Input MAC address. Only available on IP-MAC-Port-VLAN mode.
IP Address	Input IP address and mask. Mask only available on IP-MAC-Port mode.

2.10.12.3 Save Database

This page allow user to configure DHCP snooping database which can backup and restore dynamic DHCP snooping entries. To display Save Database page, click Security > DHCP Snooping > Save Database.

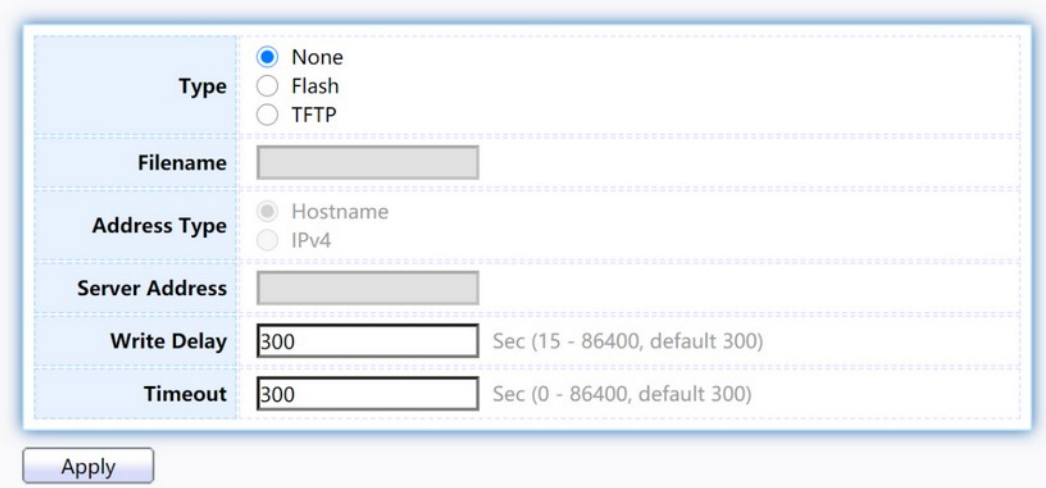


Figure 157. Security > IP Source Guard > Save Database.

Item	Description
Type	Select the type of database agent. • None: Disable database agent service. • Flash: Save DHCP dynamic binding entries to flash. • TFTP: Save DHCP dynamic binding entries to remote TFTP server.
Filename	Input filename for backup file. Only available when selecting type “flash” and “TFTP”.
Address Type	Select the type of TFTP server. • Hostname: TFTP server address is hostname. • IPv4: TFTP server address is IPv4 address.
Server Address	Input remote TFTP server hostname or IP address. Only available when selecting type “TFTP”.
Write Delay	Input delay timer for doing backup after change happened. Default is 300 seconds.
Timeout	Input aborts timeout for doing backup failure. Default is 300 seconds.

2.11 PoE

Manage global PoE information and ports.

2.11.1 PoE Global information

This page allow user to configure PoE global configurations.

To display the Global web page, click PoE > PoE Global Information.

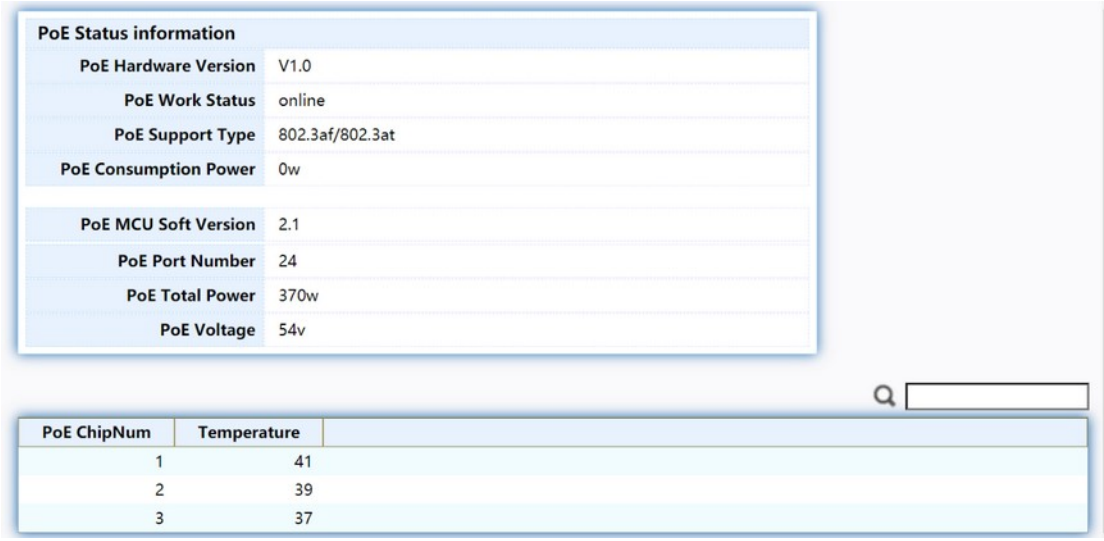


Figure 158. PoE > PoE Global information.

Item	Description
PoE Hardware Version	Hardware version of the PoE module.
PoE Work Status	Working status of the current PoE module.
PoE Support Type	The type of PoE protocol supported by this PoE module.
PoE Consuming Power	Current consumed power.
PoE MCU Soft Version	MCU software version of this PoE module.
PoE Port Number	The number of PoE ports supported by this PoE module.
PoE Total Power	Maximum supply power.
PoE Voltage	Input voltage of the PoE module.
PoE Chipnum	Chip serial number.
Temperature	Chip temperature.

2.11.2 PoE Port

Use this page to set the status, power priority, and power limit of the PoE port.

To display the Priority Setting web page, click PoE > PoE Port.

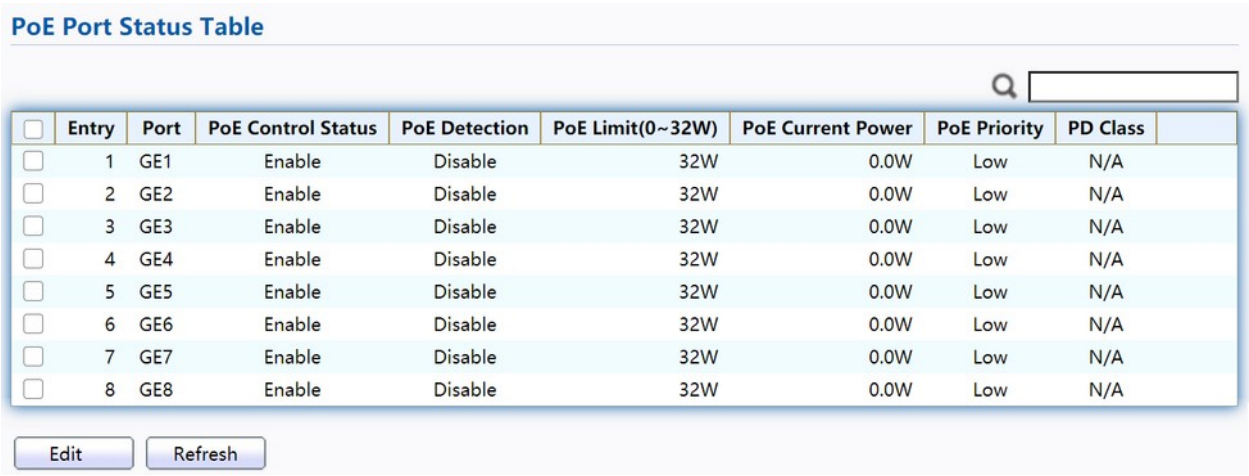


Figure 159. PoE > PoE Port.

Item	Description
Port	Display port ID of entry.
Control Status	Displays the enabled / disabled status of the PoE interface.
Detection	Display PoE detection results.
PoE Limit	Display the maximum usable power of the port.
Current Power	Display the current power used by the port.
PoE Priority	Display port power priority. “Low” is lower priority; “High” is high priority ; “Critical” is Critical priority.
PD Class	Display the type of PD.

Click “Edit” button to view the Edit PoE port menu.

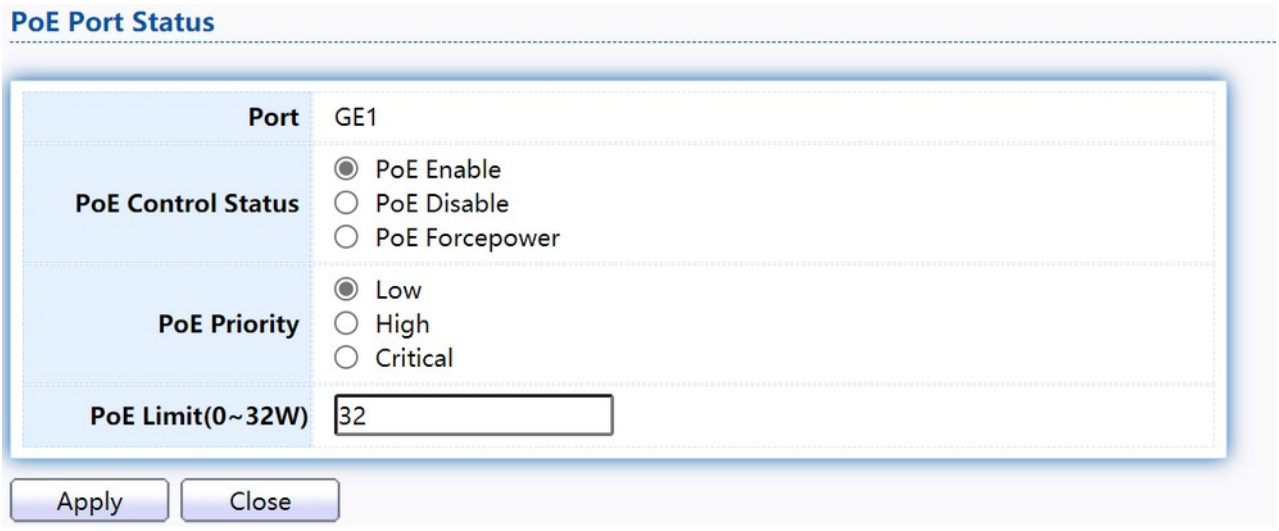


Figure 160. PoE > PoE Port > Edit PoE Port.

Item	Description
Port	Display port ID of entry.
Control Status	Select the status of the PoE interface. • PoE Enabled, • PoE Disabled, • PoE Forcepower: PoE forced power supply.
PoE Priority	Select port power priority. “Low” is lower priority; “High” is high priority ; “Critical” is Critical priority.
PoE Limit	Enter max supply power value for the selected port list. The default is 32.

2.11.3 PoE Alive Check Status Setting

Use this page to power down the PoE interface restart.

To display the PoE Alive Check Status Setting web page, click PoE > PoE Alive Check Status Setting.

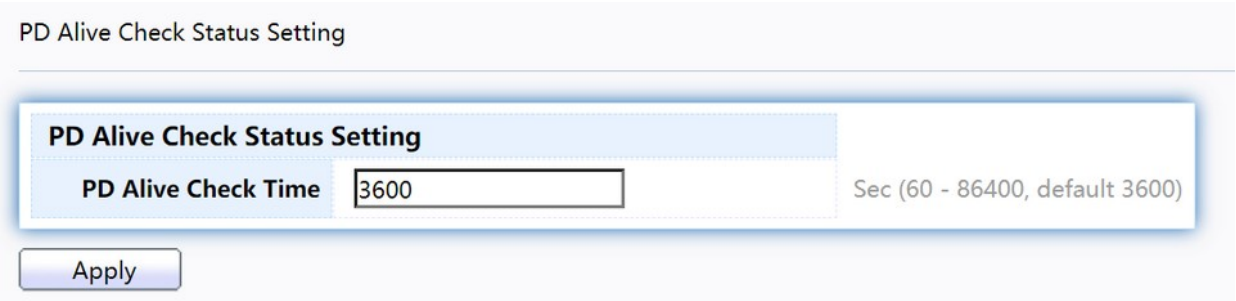


Figure 161. PoE > PoE Alive Check Status Setting.

Item	Description
Alive Check Status Setting Time	Set time value to get one data flow. Determine whether to restart based on the data traffic of the two periods.

2.11.4 PoE Schedule

Use this page to set the open time, close time, restart time, open day, close day, and restart day of the PoE schedule.

To display the Priority Setting web page, click PoE > PoE Schedule.

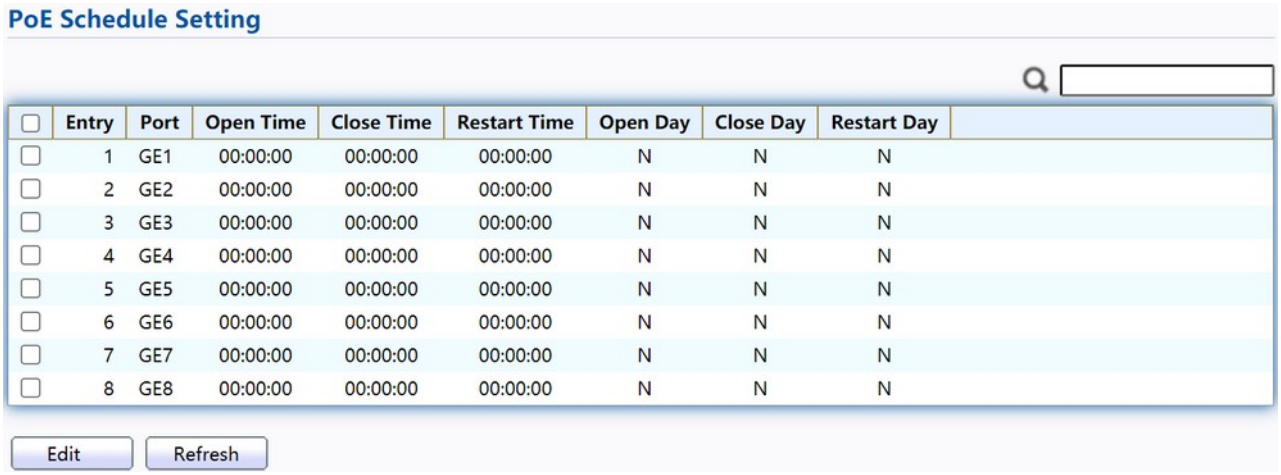


Figure 162. PoE > PoE Schedule.

Item	Description
Port	Display port ID of entry.
Open Time	Displays the opening time of the port.
Close Time	Displays the closing time of the port.
Restart Time	Displays the restarting time of the port.
Open Day	Displays the opening date of the port.
Close Day	Displays the closing date of the port.
Restart Day	Displays the restarting date of the port.

Click “Edit” button to view the Edit PoE Schedule menu.

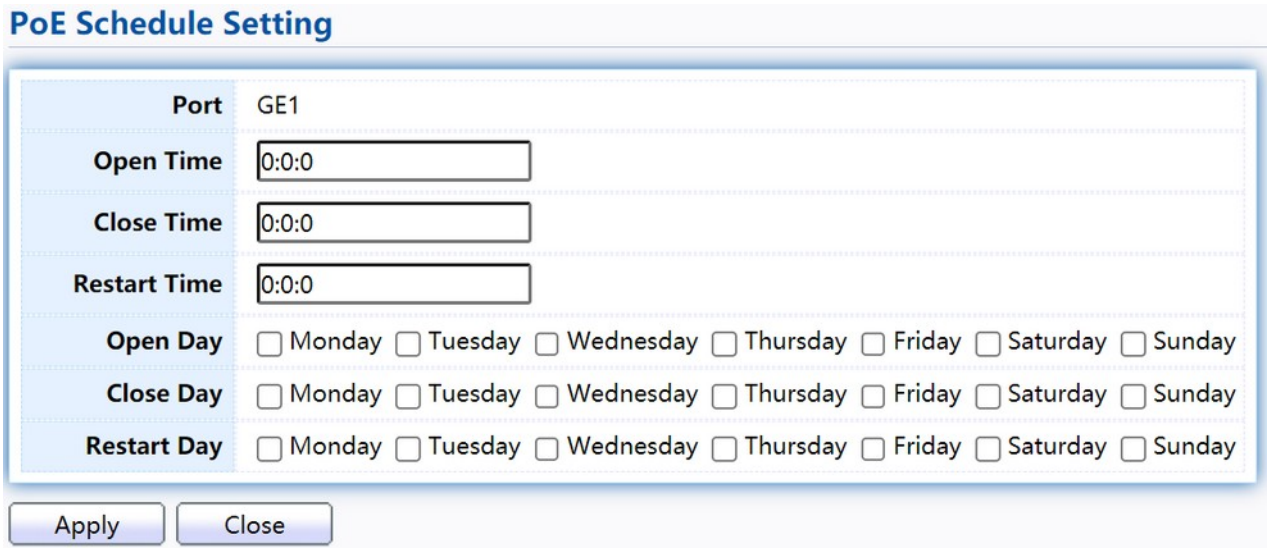


Figure 163. PoE > PoE Schdule > Edit PoE Schdule.

Item	Description
Port	Display port ID of entry.
Open Time	Input the open time to open the PoE interface.
Close Time	Input the close time to close the PoE interface.
Restart Time	Input the restart time to restart the PoE interface.
Open Day	Select the open date to open the PoE interface. Multiple dates can be selected, but they cannot be the same as the close time date and restart time date.
Close Day	Select the close date to close the PoE interface. Multiple dates can be selected, but they cannot be the same as the open time date and restart time date.
Restart Day	Select the restart date to restart the PoE interface. Multiple dates can be selected, but they cannot be the same as the open time date and close time date.

2.12 ONVIF

Manage ONVIF device.

2.12.1 Onvif Server

This page allows users to use the switch as a server.

To display the Onvif Server page, click Onvif > Onvif Server.

Figure 164. Onvif > Onvif Server.

Item	Description
Onvif Server	Setting up the switch as an onvif server.

2.12.2 Onvif Discover

This page shows a list of Onvif devices.

To display the Onvif Discover page, click Onvif > Onvif Discover.

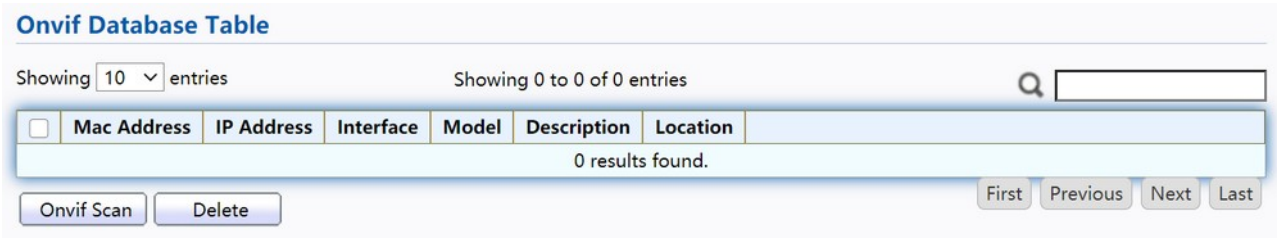


Figure 165. Onvif > Onvif Discover.

Item	Description
Mac Address	Show mac address of Onvif device.
IP Address	Show IP address of Onvif device.
Interface	Display the port ID of the switch connected to the device.
Model	Display the model of the Onvif device.
Description	Show description of Onvif device.
Location	Show production origin of Onvif equipment.
Add	Detect Onvif devices in the network.
Delete	Clear selected entry device.

2.13 ACL

Use the ACL pages to configure settings for the switch ACL features.

2.13.1 MAC ACL

This page allow user to add or delete ACL rule. A rule cannot be deleted if under binding.

To display MAC ACL page, click ACL > MAC ACL.

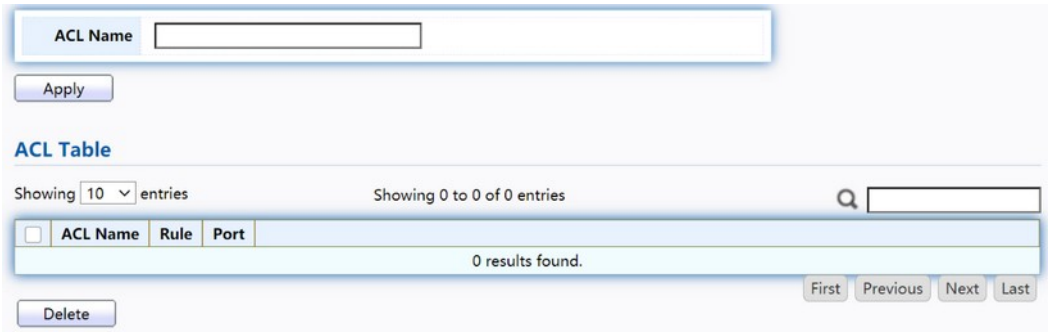


Figure 166. ACL > MAC ACL.

Item	Description
ACL Name	Input MAC ACL name.
ACL Name	Display MAC ACL name.
Rule	Display the number ACE rule of ACL.

Port	Display the port list that bind this ACL.

2.13.2 MAC ACE

This page allow user to add, edit or delete ACE rule. An ACE rule cannot be edited or deleted if ACL under binding. New ACE cannot be added if ACL under binding.

To display MAC ACE page, click ACL > MAC ACE.

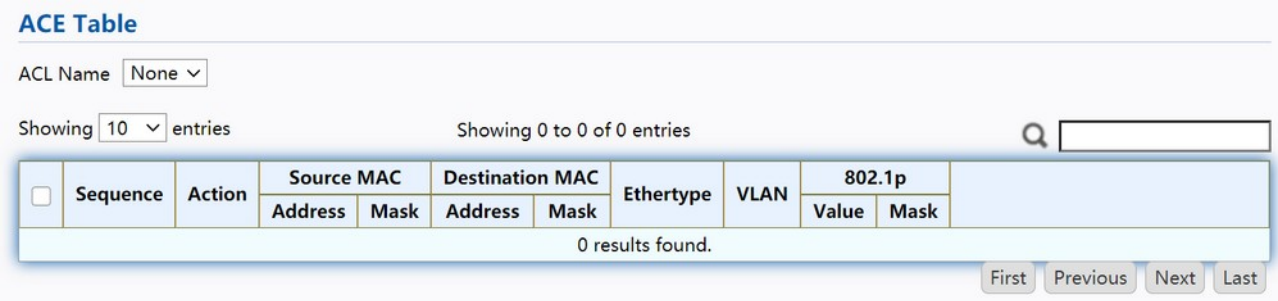


Figure 167. ACL > MAC ACE.

Item	Description
ACL Name	Select the ACL name to which an ACE is being added.
Sequence	Display the sequence of ACE.
Action	Display the action of ACE.
Source MAC	Display the source MAC address and mask of ACE.
Destination MAC	Display the destination MAC address and mask of ACE.
Ethertype	Display the Ethernet frame type of ACE.
VLAN ID	Display the VLAN ID of ACE.
802.1p Value	Display the 802.1p value of ACE.
802.1p Mask	Display the 802.1p mask of ACE.

Click “Edit” button to view the Edit ACE menu.

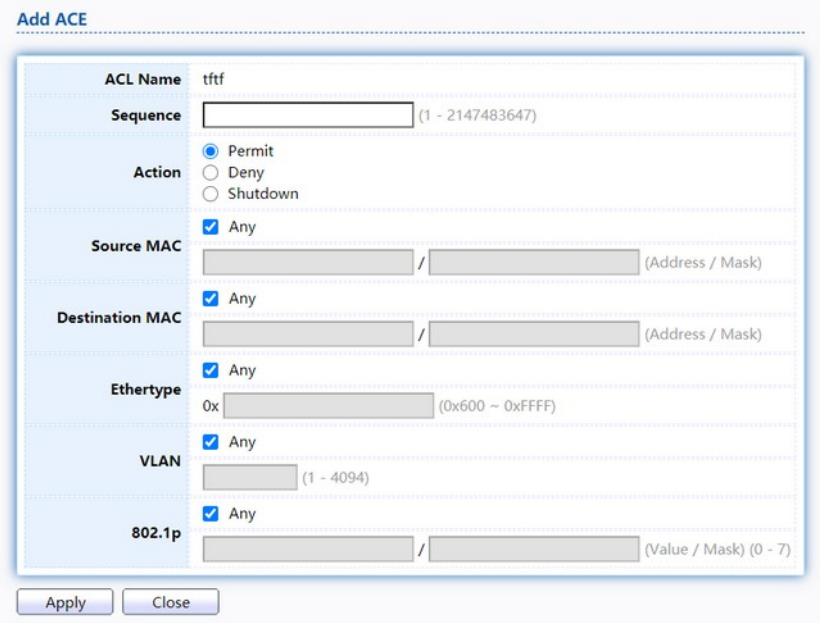


Figure 168. ACL > Edit ACE.

Item	Description
ACL Name	Display the ACL name to which an ACE is being added.
Sequence	Specify the sequence of the ACE. ACEs with higher sequence are processed first (1 is the highest priority). Only available on Add Dialog.
Action	Select the action after ACE match packet. • Permit: Forward packets that meet the ACE criteria. • Deny: Drop packets that meet the ACE criteria. • Shutdown: Drop packets that meet the ACE criteria, and disable the port from where the packets were received. Such ports can be reactivated from the Port Settings page.
Source MAC	Select the type for source MAC address. • Any: All source addresses are acceptable. • User Defined: Only a source address or a range of source addresses which users define are acceptable. Enter the source MAC address and mask to which will be matched.
Destination MAC	Select the type for Destination MAC address. • Any: All destination addresses are acceptable. • User Defined: Only a destination address or a range of destination addresses which users define are acceptable. Enter the destination MAC address and mask to which will be matched.
Ethertype	Select the type for Ethernet frame type. • Any: All Ethernet frame type is acceptable. • User Defined: Only an Ethernet frame type which users define is acceptable. Enter the Ethernet frame type value to which will be

	matched.
VLAN	Select the type for VLAN ID. • Any: All VLAN ID is acceptable. • User Defined: Only a VLAN ID which users define is acceptable. Enter the VLAN ID to which will be matched.
802.1p	Select the type for 802.1p value. • Any: All 802.1p value is acceptable. • User Defined: Only an 802.1p value or a range of 802.1p value which users define is acceptable. Enter the 802.1p value and mask to which will be matched.

2.13.3 IPv4 ACL

This page allow user to add or delete IPv4 ACL rule. A rule cannot be deleted if under binding.

To display IPv4 ACL page, click ACL > IPv4 ACL.

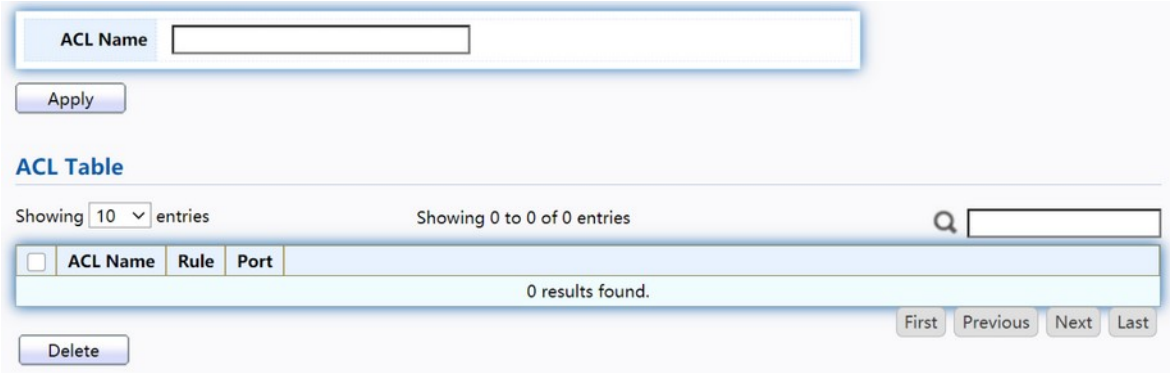


Figure 169. ACL > IPv4 ACL.

Item	Description
ACL Name	Input IPv4 ACL name.
ACL Name	Display IPv4 ACL name.
Rule	Display the number ACE rule of ACL.
Port	Display the port list that bind this ACL.

2.13.4 IPv4 ACE

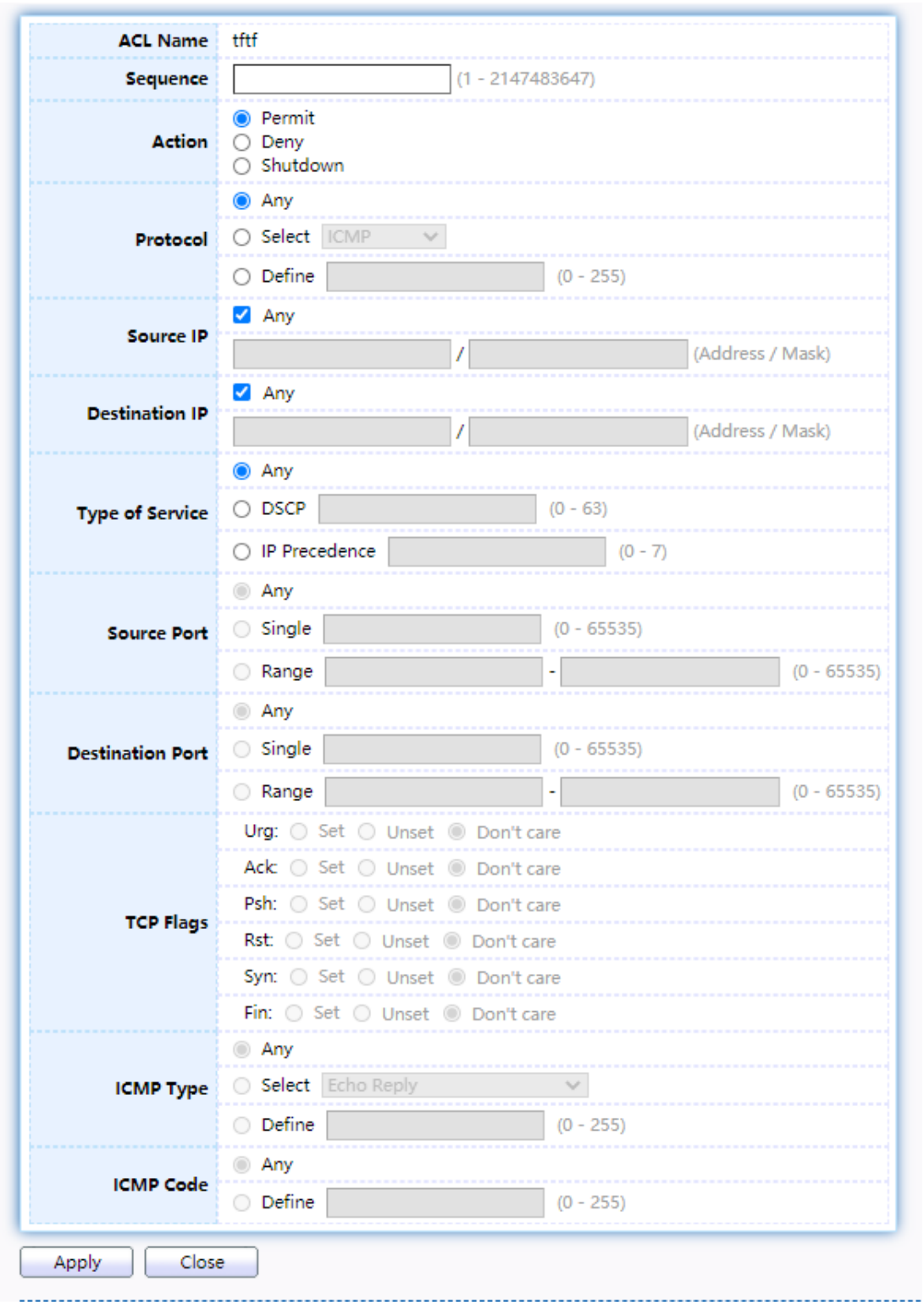
This page allow user to add, edit or delete ACE rule. An ACE rule cannot be edited or deleted if ACL under binding. New ACE cannot be added if ACL under binding.

To display IPv4 ACE page, click ACL > IPv4 ACE.

Figure 170. ACL > IPv4 ACE.

Item	Description
ACL Name	Select the ACL name to which an ACE is being added.
Sequence	Display the sequence of ACE.
Action	Display the action of ACE.
Source IP	Display the source IP address and mask of ACE.
Destination IP	Display the destination IP address and mask of ACE.
Source Port	Display single source port or a range of source ports of ACE. Only available when protocol is TCP or UDP.
Destination Port	Display single destination port or a range of destination ports of ACE. Only available when protocol is TCP or UDP.
TCP Flags	Display the TCP flag value if ACE. Only available when protocol is TCP.
Type of Service	Display the ToS value of ACE which could be DSCP or IP Precedence.
ICMP	Display the ICMP type and code of ACE. Only available when protocol is ICMP.

Click "Add" or “Edit” button to view the Add/Edit ACE menu.


ACL Name
tftf
Sequence
(1 - 2147483647)
Action
Permit
Deny
Shutdown
Protocol
Any
Select
ICMP
Define
(0 - 255)
Source IP
Any
(Address / Mask)
Destination IP
Any
(Address / Mask)
Type of Service
Any
DSCP
(0 - 63)
IP Precedence
(0 - 7)
Source Port
Any
Single
(0 - 65535)
Range
(0 - 65535)
Destination Port
Any
Single
(0 - 65535)
Range
(0 - 65535)
TCP Flags
Urg: Set Unset Don't care
Ack: Set Unset Don't care
Psh: Set Unset Don't care
Rst: Set Unset Don't care
Syn: Set Unset Don't care
Fin: Set Unset Don't care
ICMP Type
Any
Select
Echo Reply
Define
(0 - 255)
ICMP Code
Any
Define
(0 - 255)
Apply
Close

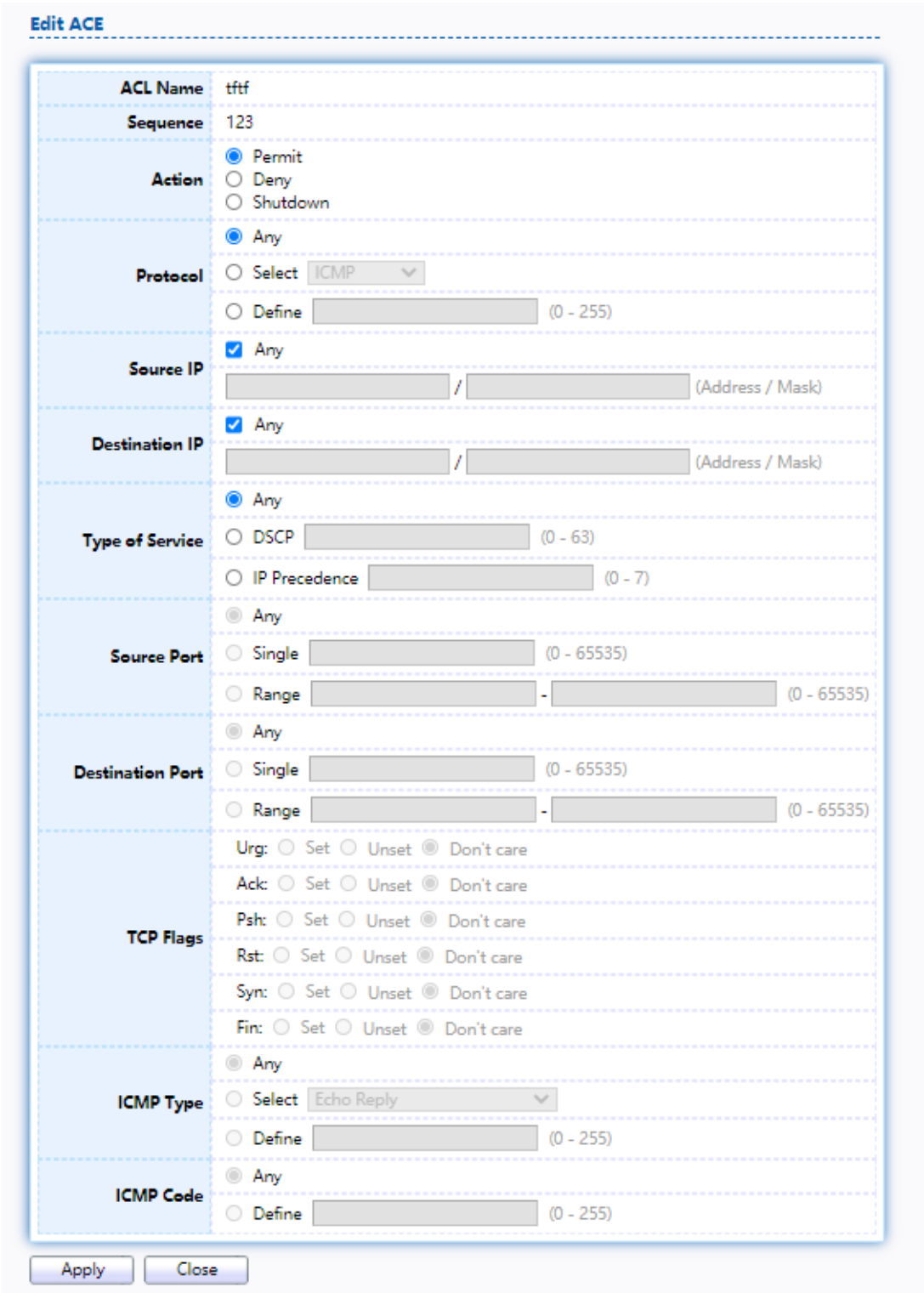


Figure 171. ACL > Add/Edit ACE.

Item	Description
ACL Name	Display the ACL name to which an ACE is being added.
Sequence	Specify the sequence of the ACE. ACEs with higher sequence are processed first (1 is the highest sequence). Only available on Add

	dialog.
Action	Select the action after ACE match packet. • Permit: Forward packets that meet the ACE criteria. • Deny: Drop packets that meet the ACE criteria. • Shutdown: Drop packets that meet the ACE criteria, and disable the port from where the packets were received. Such ports can be reactivated from the Port Settings page.
Protocol	Select the type of protocol for a match. • Any (IP): All IP protocols are acceptable. • Select from list: Select one of the following protocols from the drop-down list. (ICMP/IpinIP/TCP/EGP/IGP/UDP/HMP/RDP/IPV6/IPV6:ROUT/IPV6:FRAG/ RSVP/IPV6:ICMP/OSPF/PIM/L2TP)
Source IP	Select the type for source IP address. • Any: All source addresses are acceptable. • User Defined: Only a source address or a range of source addresses which users define are acceptable. Enter the source IP address value and mask to which will be matched.
Destination IP	Select the type for destination IP address. • Any: All destination addresses are acceptable. • User Defined: Only a destination address or a range of destination addresses which users define are acceptable. Enter the destination IP address value and mask to which will be matched.
Source Port	Select the type of protocol for a match. Only available when protocol is TCP or UDP. • Any: All source ports are acceptable. • Single: Enter a single TCP/UDP source port to which packets are matched. • Range: Select a range of TCP/UDP source ports to which the packet is matched. There are eight different port ranges that can be configured (shared between source and destination ports). TCP and UDP protocols each have eight port ranges.
Destination Port	Select the type of protocol for a match. Only available when protocol is TCP or UDP. • Any: All source ports are acceptable. • Single: Enter a single TCP/UDP source port to which packets are matched. • Range: Select a range of TCP/UDP source ports to which the packet is matched. There are eight different port ranges that can be configured (shared between source and destination ports). TCP and UDP protocols each have eight port ranges.
TCP Flags	Select one or more TCP flags with which to filter packets. Filtered

	packets are either forwarded or dropped. Filtering packets by TCP flags increases packet control, which increases network security. Only available when protocol is TCP.
Type of Service	Select the type of service for a match. • Any: All types of service are acceptable. • DSCP to match: Enter a Differentiated Serves Code Point (DSCP) to match. • IP Precedence to match: Enter a IP Precedence to match.
ICMP Type	Either select the message type by name or enter the message type number. Only available when protocol is ICMP. • Any: All message types are acceptable. • Select from list: Select message type by name. • Protocol ID to match: enter the number of message type.
ICMP Code	Select the type for ICMP code. Only available when protocol is ICMP. • Any: All codes are acceptable. • User Defined: Enter an ICMP code to match.

2.13.5 IPv6 ACL

This page allow user to add or delete Ipv6 ACL rule. A rule cannot be deleted if under binding.

To display IPv6 ACL page, click ACL > IPv6 ACL.

Figure 172. ACL > IPv6 ACL.

Item	Description
ACL Name	Input IPv6 ACL name.
ACL Name	Display IPv6 ACL name.
Rule	Display the number ACE rule of ACL.
Port	Display the port list that bind this ACL.

2.13.6 IPv6 ACE

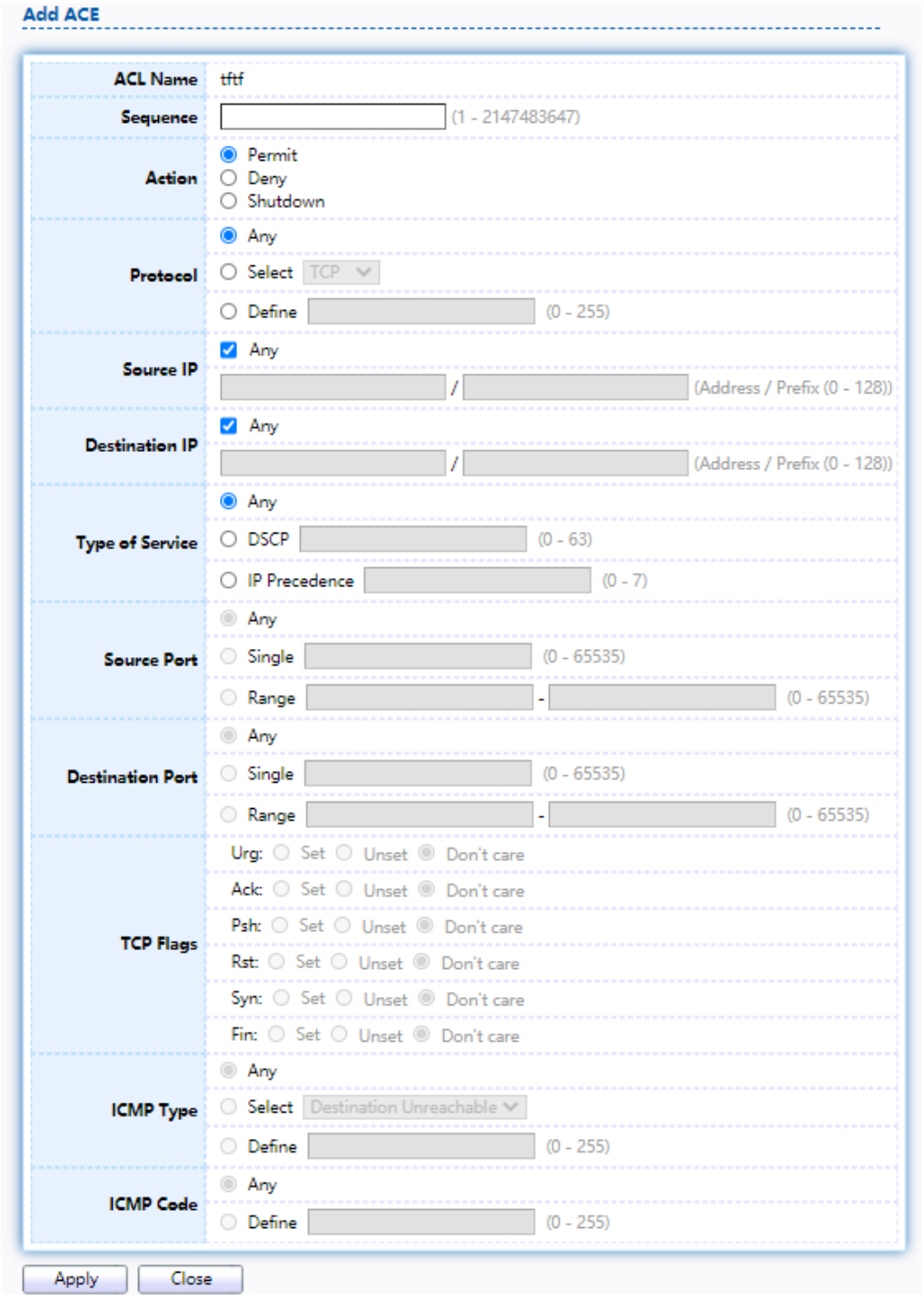
This page allow user to add, edit or delete ACE rule. An ACE rule cannot be edited or deleted if ACL under binding. New ACE cannot be added if ACL under binding.

To display IPv6 ACE page, click ACL > IPv6 ACE.

Figure 173. ACL > IPv6 ACE.

Item	Description
ACL Name	Select the ACL name to which an ACE is being added.
Sequence	Display the sequence of ACE.
Action	Display the action of ACE.
Protocol	Display the protocol value of ACE.
Source IP	Display the source IP address and mask of ACE.
Destination IP	Display the destination IP address and mask of ACE.
Source Port	Display single source port or a range of source ports of ACE. Only available when protocol is TCP or UDP.
Destination Port	Display single destination port or a range of destination ports of ACE. Only available when protocol is TCP or UDP.
TCP Flags	Display the TCP flag value if ACE. Only available when protocol is TCP.
Type of Service	Display the ToS value of ACE which could be DSCP or IP Precedence.
ICMP	Display the ICMP type and code of ACE. Only available when protocol is ICMP.

Click "Add" or “Edit” button to view the Add/Edit ACE menu.


Add ACE
ACL Name
tftf
Sequence
(1 - 2147483647)
Action
Permit
Deny
Shutdown
Protocol
Any
Select
TCP
Define
(0 - 255)
Source IP
Any
(Address / Prefix (0 - 128))
Destination IP
Any
(Address / Prefix (0 - 128))
Type of Service
Any
DSCP
(0 - 63)
IP Precedence
(0 - 7)
Source Port
Any
Single
(0 - 65535)
Range
(0 - 65535)
Destination Port
Any
Single
(0 - 65535)
Range
(0 - 65535)
TCP Flags
Urg: Set Unset Don't care
Ack: Set Unset Don't care
Psh: Set Unset Don't care
Rst: Set Unset Don't care
Syn: Set Unset Don't care
Fin: Set Unset Don't care
ICMP Type
Any
Select
Destination Unreachable
Define
(0 - 255)
ICMP Code
Any
Define
(0 - 255)
Apply
Close

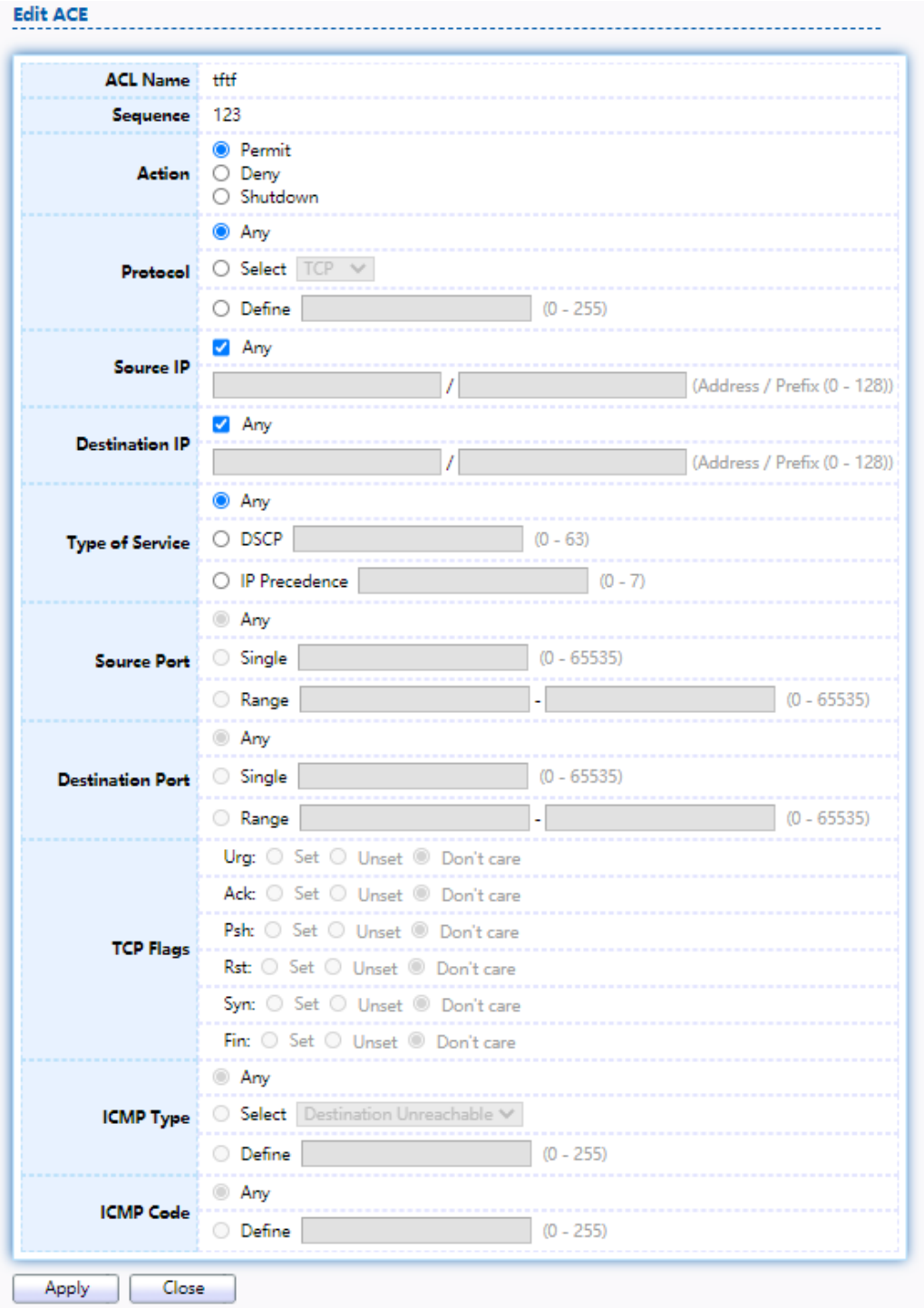


Figure 174. ACL > Add/Edit ACE.

Item	Description
ACL Name	Display the ACL name to which an ACE is being added.
Sequence	Specify the sequence of the ACE. ACEs with higher sequence are processed first (1 is the highest sequence). Only available on Add dialog.

Action	Select the action after ACE match packet. • Permit: Forward packets that meet the ACE criteria. • Deny: Drop packets that meet the ACE criteria. • Shutdown: Drop packets that meet the ACE criteria, and disable the port from where the packets were received. Such ports can be reactivated from the Port Settings page.
Protocol	Select the type of protocol for a match. • Any (IP): All IP protocols are acceptable. • Select from list: Select one of the following protocols from the drop-down list. (TCP / UDP / ICMP) • Protocol ID to match: Enter the protocol ID.
Source IP	Select the type for source IP address. • Any: All source addresses are acceptable. • User Defined: Only a source address or a range of source addresses which users define are acceptable. Enter the source IP address value and mask to which will be matched.
Destination IP	Select the type for destination IP address. • Any: All destination addresses are acceptable. • User Defined: Only a destination address or a range of destination addresses which users define are acceptable. Enter the destination IP address value and mask to which will be matched.
Source Port	Select the type of protocol for a match. Only available when protocol is TCP or UDP. • Any: All source ports are acceptable. • Single: Enter a single TCP/UDP source port to which packets are matched. • Range: Select a range of TCP/UDP source ports to which the packet is matched. There are eight different port ranges that can be configured (shared between source and destination ports). TCP and UDP protocols each have eight port ranges.
Destination Port	Select the type of protocol for a match. Only available when protocol is TCP or UDP. • Any: All source ports are acceptable. • Single: Enter a single TCP/UDP source port to which packets are matched. • Range: Select a range of TCP/UDP source ports to which the packet is matched. There are eight different port ranges that can be configured (shared between source and destination ports). TCP and UDP protocols each have eight port ranges.
TCP Flags	Select one or more TCP flags with which to filter packets. Filtered packets are either forwarded or dropped. Filtering packets by TCP

	flags increases packet control, which increases network security. Only available when protocol is TCP.
Type of Service	Select the type of service for a match. • Any: All types of service are acceptable. • DSCP to match: Enter a Differentiated Serves Code Point (DSCP) to match. • IP Precedence to match: Enter a IP Precedence to match.
ICMP Type	Either select the message type by name or enter the message type number. Only available when protocol is ICMP. • Any: All message types are acceptable. • Select from list: Select message type by name. • Protocol ID to match: enter the number of message type.
ICMP Code	Select the type for ICMP code. Only available when protocol is ICMP. • Any: All codes are acceptable. • User Defined: Enter an ICMP code to match.

2.13.7 ACL Binding

This page allow user to bind or unbind ACL rule to or from interface. IPv4 and Ipv6 ACL cannot be bound to the same port simultaneously.

To display ACL Binding page, click ACL > ACL Binding.

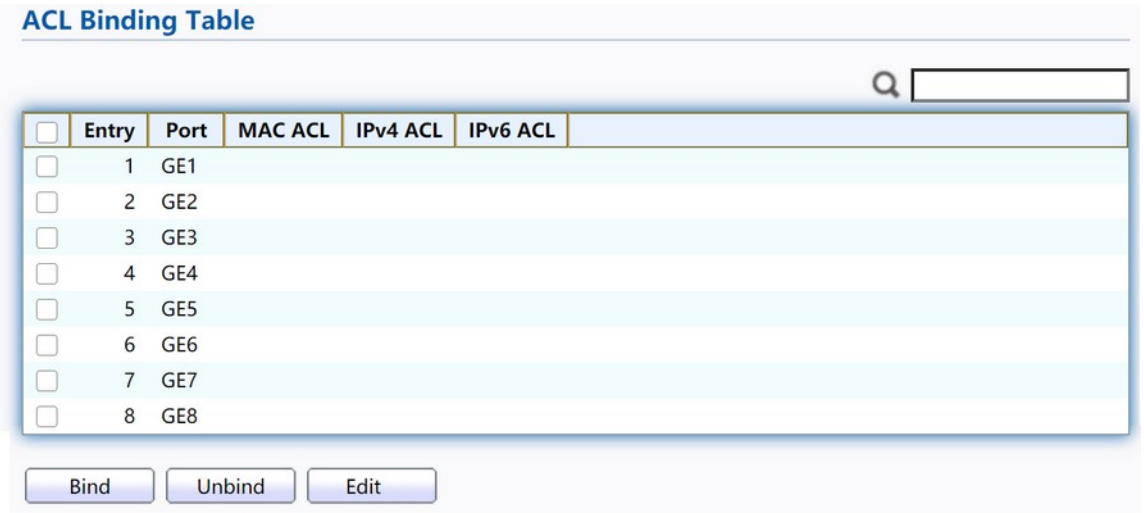


Figure 175. ACL > ACL Binding.

Item	Description
Port	Display port entry ID.
MAC ACL	Display mac ACL name that bound of interface. Empty means no rule bound.

IPv4 ACL	Display ipv4 ACL name that bound of interface. Empty means no rule bound.
IPv6 ACL	Display ipv6 ACL name that bound of interface. Empty means no rule bound.

Click “Edit” button to view the Edit ACL Binding menu.

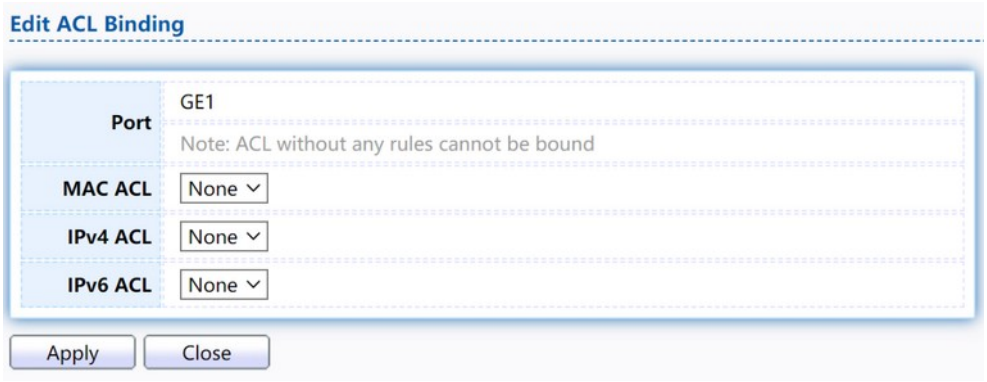


Figure 176. ACL > Edit ACL Binding.

Item	Description
Port	Display port entry ID.
MAC ACL	Select mac ACL name from list to bind.
IPv4 ACL	Select IPv4 ACL name from list to bind.
IPv6 ACL	Select IPv6 ACL name from list to bind.

2.14 QoS

Use the QoS pages to configure settings for the switch QoS interface.

2.14.1 General

Use the QoS general pages to configure settings for general purpose.

2.14.1.1 Property

To display Property web page, click QoS > General > Property.

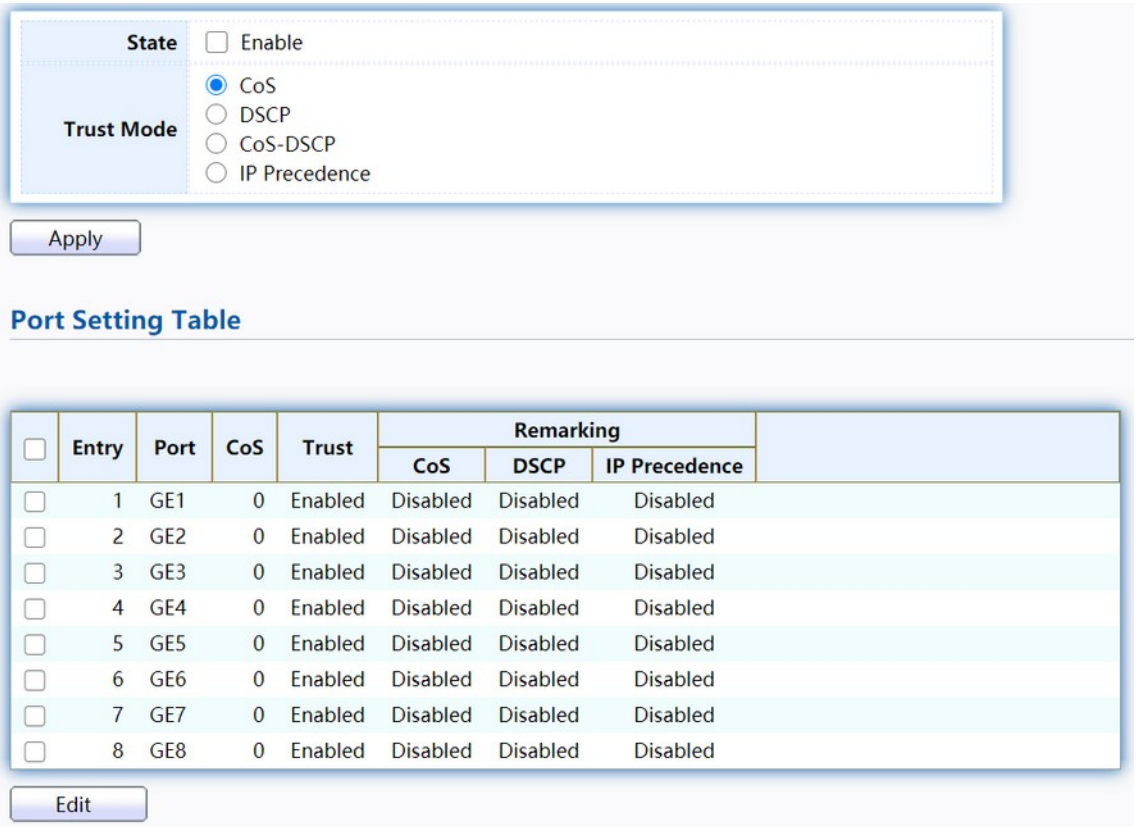


Figure 177. QoS > General > Property.

Item	Description
State	Set checkbox to enable/disable QoS.
Trust	Select QoS trust mode. • CoS: Traffic is mapped to queues based on the CoS field in the VLAN tag, or based on the per-port default CoS value (if there is no VLAN tag on the incoming packet), the actual mapping of the CoS to queue can be configured on port setting dialog. • CoS-DSCP: Uses the trust CoS mode for non-IP traffic and trust DSCP mode for IP traffic. • IP Precedence: Traffic is mapped to queues based on the IP precedence. The actual mapping of the IP precedence to queue can be configured on the IP Precedence mapping page.
Port Setting Table	
Port	Port name.
CoS	Port default CoS priority value for the selected ports.
Trust	Port trust state. • Enabled: Traffic will follow trust mode in global setting. • Disabled: Traffic will always use best efforts.

Remarking (CoS)	Set checkbox to enable/disable port CoS remarking. • Enabled: CoS remarking is enabled. • Disabled: CoS remarking is disabled.
Remarking (DSCP)	Set checkbox to enable/disable port DSCP remarking. • Enabled: DSCP remarking is enabled. • Disabled: DSCP remarking is disabled.
Remarking (IP Precedence)	Set checkbox to enable/disable port IP Precedence remarking. • Enabled: IP Precedence remarking is enabled. • Disabled: IP Precedence remarking is disabled.

Click "Edit" button to view the Edit Port Setting menu.

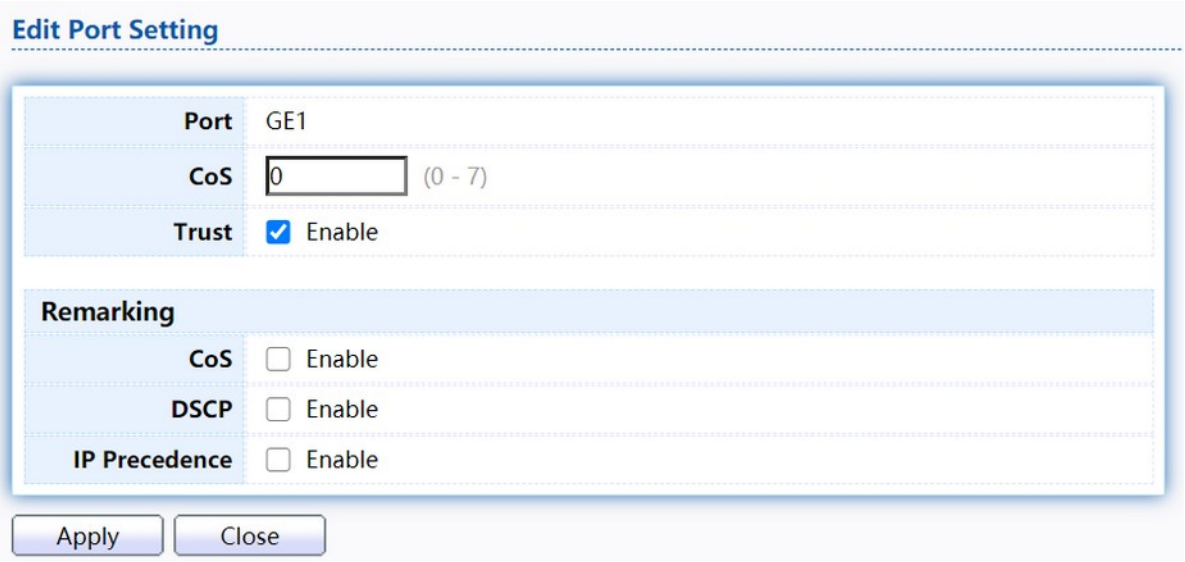


Figure 178. Qos > General > Property.

Item	Description
Port	Selected port list.
CoS	Set default CoS/802.1p priority value for the selected.
Trust	Set checkbox to enable/disable port trust state.
Remarking (CoS)	Set checkbox to enable/disable port CoS remarking.
Remarking (IP PRecedence)	Set checkbox to enable/disable port IP Precedence remarking.

2.14.1.2 Queue Scheduling

The switch supports eight queues for each interface. Queue number 8 is the highest priority queue.

Queue number 1 is the lowest priority queue. There are two ways of determining how traffic in queues is handled, Strict Priority (SP) and Weighted Round Robin (WRR).
Strict Priority (SP)—Egress traffic from the highest priority queue is transmitted first. Traffic from the lower queues is processed only after the highest queue has been transmitted, which provide the highest level of priority of traffic to the highest numbered queue.

Weighted Round Robin (WRR)—In WRR mode the number of packets sent from the queue is proportional to the weight of the queue (the higher the weight, the more frames are sent).
The queuing modes can be selected on the Queue page. When the queuing mode is by Strict Priority, the priority sets the order in which queues are serviced, starting with queue_8 (the highest priority queue) and going to the next lower queue when each queue is completed.

When the queuing mode is Weighted Round Robin, queues are serviced until their quota has been used up and then another queue is serviced. It is also possible to assign some of the lower queues to WRR, while keeping some of the higher queues in Strict Priority. In this case traffic for the SP queues is always sent before traffic from the WRR queues. After the SP queues have been emptied, traffic from the WRR queues is forwarded. (The relative portion from each WRR queue depends on its weight).
To display Queue Scheduling web page, click QoS > General > Queue Scheduling.

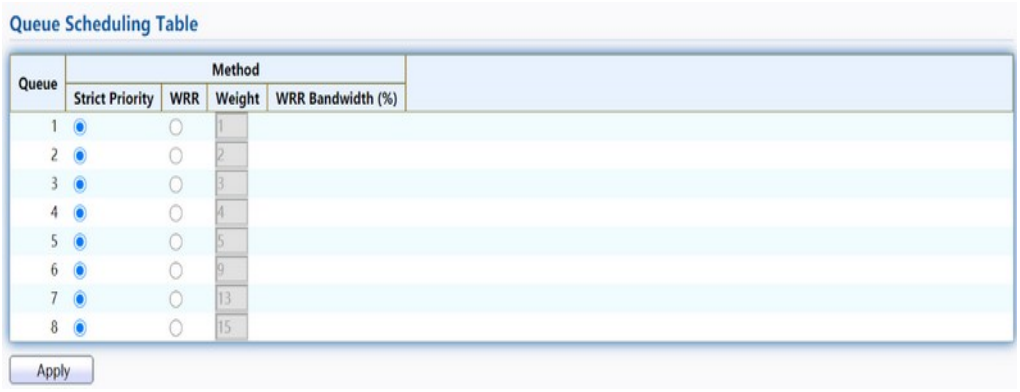


Figure 179. QoS > General > Queue Scheduling.

Item	Description
Queue	Queue ID to configure.
Strict Priority	Set queue to strict priority type.
WRR	Set queue to Weight round robin type.
Weight	If the queue type is WRR, set the queue weight for the queue.
WRR Bandwidth	Percentage of WRR queue bandwidth.

2.14.1.3 CoS Mapping

The CoS to Queue table determines the egress queues of the incoming packets based on the 802.1p priority in their VLAN tags. For incoming untagged packets, the 802.1p priority will be the default CoS/802.1p priority assigned to the ingress ports. Use the Queues to CoS table to remark the CoS/802.1p priority for egress traffic from each queue.

To display CoS Mapping web page, click QoS > General > CoS Mapping.

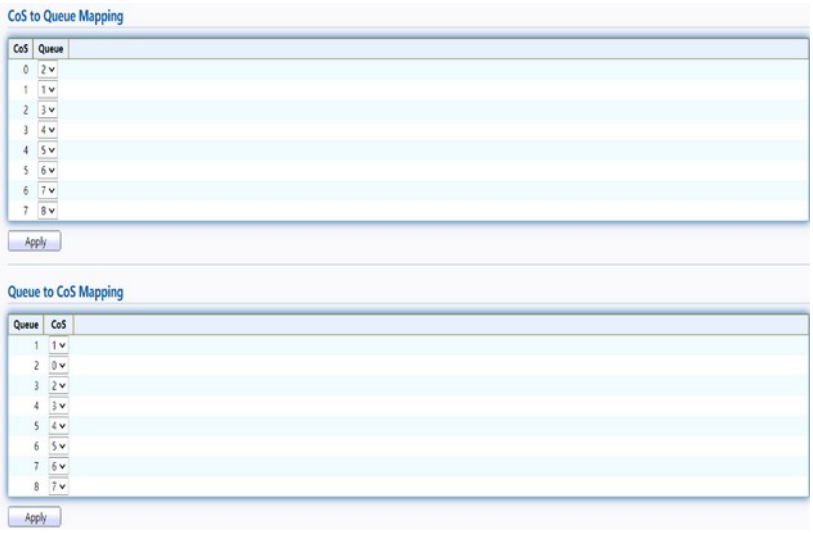


Figure 180. QoS > General > Cos Mapping.

Item	Description
CoS to Queue Mapping	
CoS	CoS value.
Queue	Select queue id for the CoS value.
Queue to CoS Mapping	
Queue	Queue ID.
CoS	Select CoS value for the queue id.

2.14.1.4 DSCP Mapping

The DSCP to Queue table determines the egress queues of the incoming IP packets based on their DSCP values. The original VLAN Priority Tag (VPT) of the packet is unchanged. Use the Queues to DSCP page to remark DSCP value for egress traffic from each queue.

To display DSCP Mapping web page, click QoS > General > DSCP Mapping.

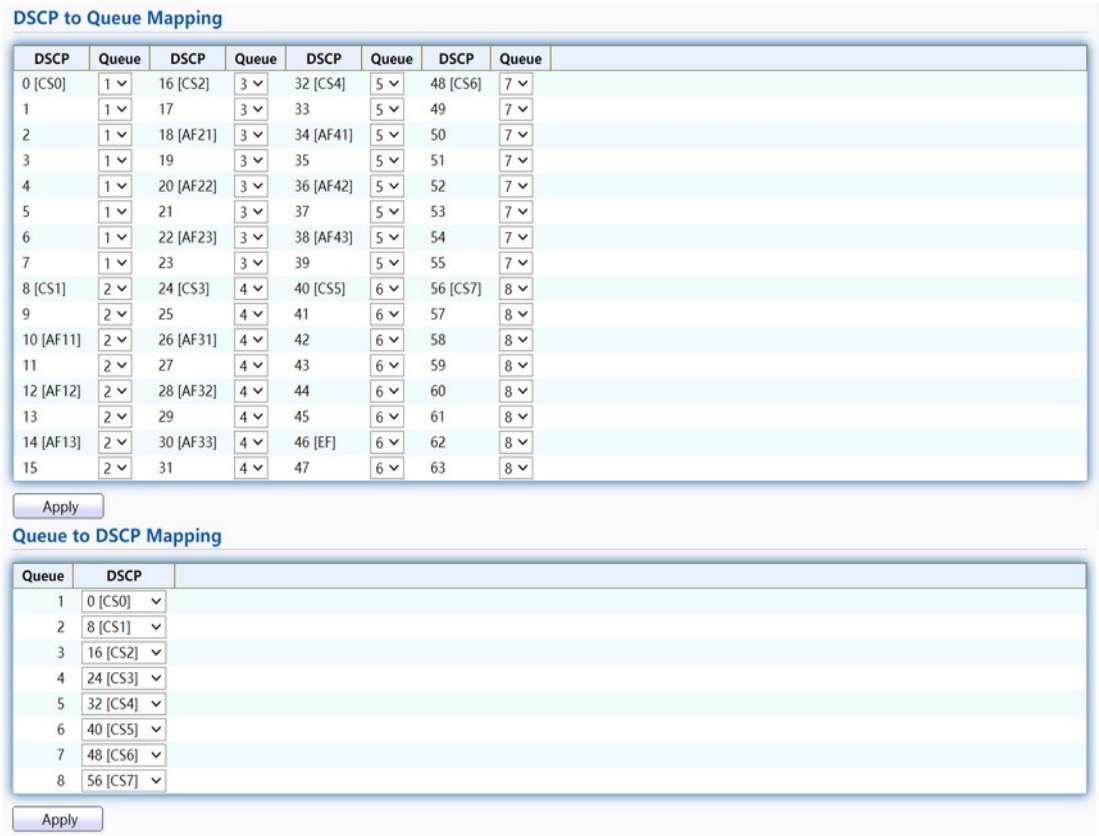


Figure 181. QoS > General > DSCP Mapping.

Item	Description
DSCP to Queue Mapping	
DSCP	DSCP value.
Queue	Select queue id for the DSCP value.
Queue to DSCP	
Queue	Queue ID.
DSCP	Select DSCP value for the queue id.

2.14.1.5 IP Precedence Mapping

This page allow user to configure IP Precedence to Queue mapping and Queue to IP Precedence mapping.

To display IP Precedence Mapping web page, click QoS > General > IP Precedence Mapping.

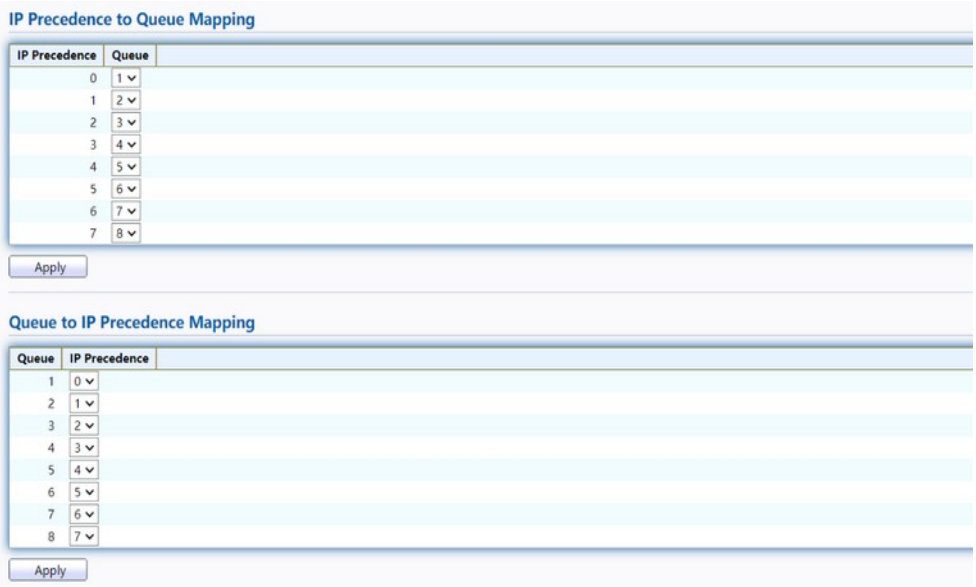


Figure 182. QoS > General > IP Precedence Mapping.

Item	Description
IP Precedence to Queue Mapping	
IP Precedence	IP Precedence value.
Queue	Queue value which IP Precedence is mapped.
Queue to IP Precedence Mapping	
Queue	Queue ID.
IP Precedence	IP Precedence value which queue is mapped.

2.14.2 Rate Limit

Use the Rate Limit pages to define values that determine how much traffic the switch can receive and send on specific port or queue.

2.14.2.1 Ingress/Egress Port

This page allow user to configure ingress port rate limit and egress port rate limit. The ingress rate limit is the number of bits per second that can be received from the ingress interface. Excess bandwidth above this limit is discarded.

To display Ingress / Egress Port web page, click QoS > Rate Limit > Ingress / Egress Port.

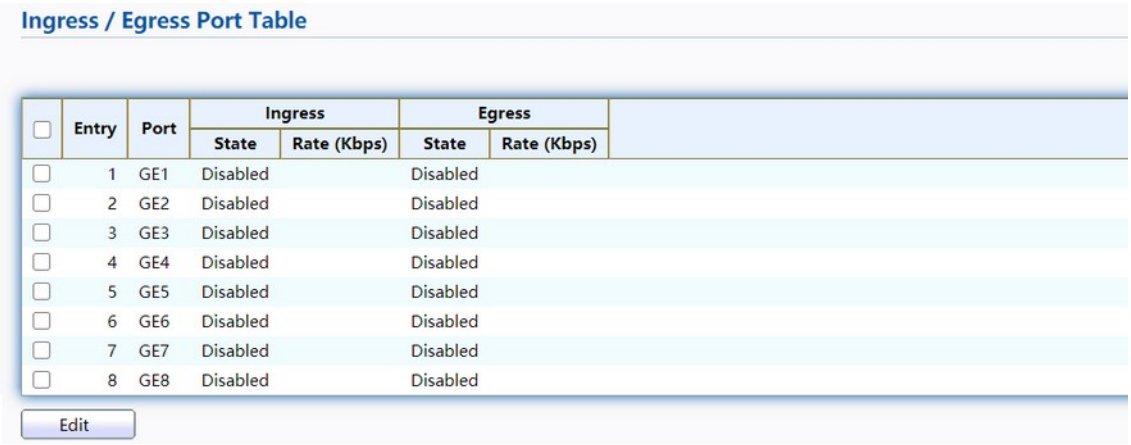


Figure 183. QoS > Rate Limit > Ingress / Egress Port.

Item	Description
Port	Port name.
Ingress (State)	Port ingress rate limit state. • Enabled: Ingress rate limit is enabled. • Disabled: Ingress rate limit is disabled.
Ingress (Rate)	Port ingress rate limit value if ingress rate state is enabled.
IP Precedence	IP Precedence value which queue is mapped.
Egress (State)	Port egress rate limit state. • Enabled: Egress rate limit is enabled. • Disabled: Egress rate limit is disabled.
Egress (Rate)	Port egress rate limit value if egress rate state is enabled.

Click "Edit" button to view the Ingress / Egress Port menu.

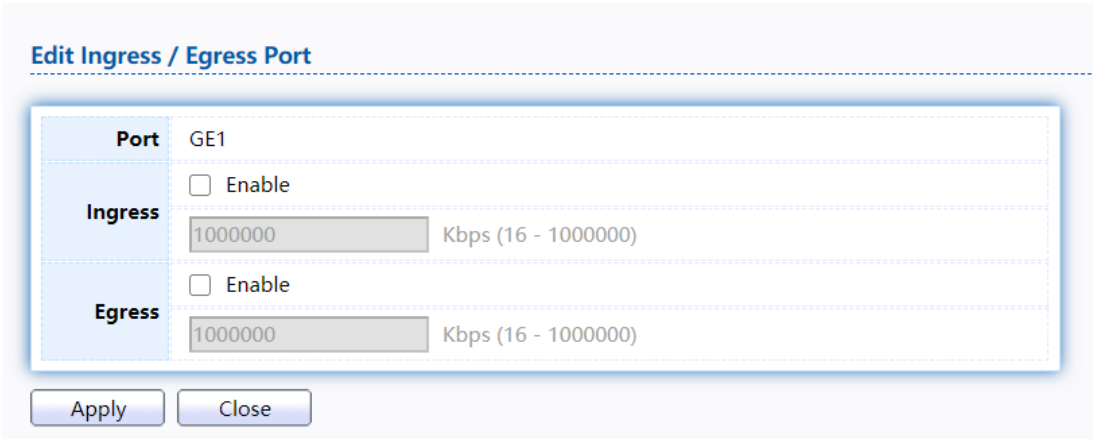


Figure 184. QoS > Rate Limit > Ingress / Egress Port.

Item	Description
Port	Select port list.
Ingress	Set checkbox to enable/disable ingress rate limit. If ingress rate limit is enabled, rate limit value need to be assigned.
Egress	Set checkbox to enable/disable egress rate limit. If egress rate limit is enabled, rate limit value need to be assigned.

2.14.2.2 Egress Queue

Egress rate limiting is performed by shaping the output load.

To display Egress Queue web page, click QoS > Rate Limit > Egress Queue.

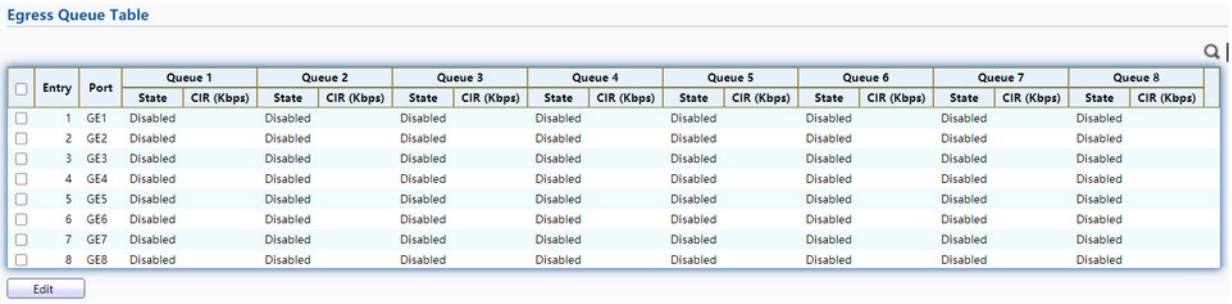


Figure 185. QoS > Rate Limit > Egress Queue.

Item	Description
Port	Port name.
Queue 1 (State)	Port egress queue 1 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 1 (CIR)	Queue 1 egress committed information rate.
Queue 2 (State)	Port egress queue 2 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 2 (CIR)	Queue 2 egress committed information rate.
Queue 3 (State)	Port egress queue 3 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 3 (CIR)	Queue 3 egress committed information rate.
Queue 4 (State)	Port egress queue 4 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 4 (CIR)	Queue 4 egress committed information rate.

Queue 5 (State)	Port egress queue 5 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 5 (CIR)	Queue 5 egress committed information rate.
Queue 6 (State)	Port egress queue 6 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 6 (CIR)	Queue 6 egress committed information rate.
Queue 7 (State)	Port egress queue 7 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 7 (CIR)	Queue 7 egress committed information rate.
Queue 8 (State)	Port egress queue 8 rate limit state. • Enabled: Egress queue rate limit is enabled. • Disabled: Egress queue rate limit is disabled.
Queue 8 (CIR)	Queue 8 egress committed information rate.

Click "Edit" button to view the Edit Egress Queue menu.

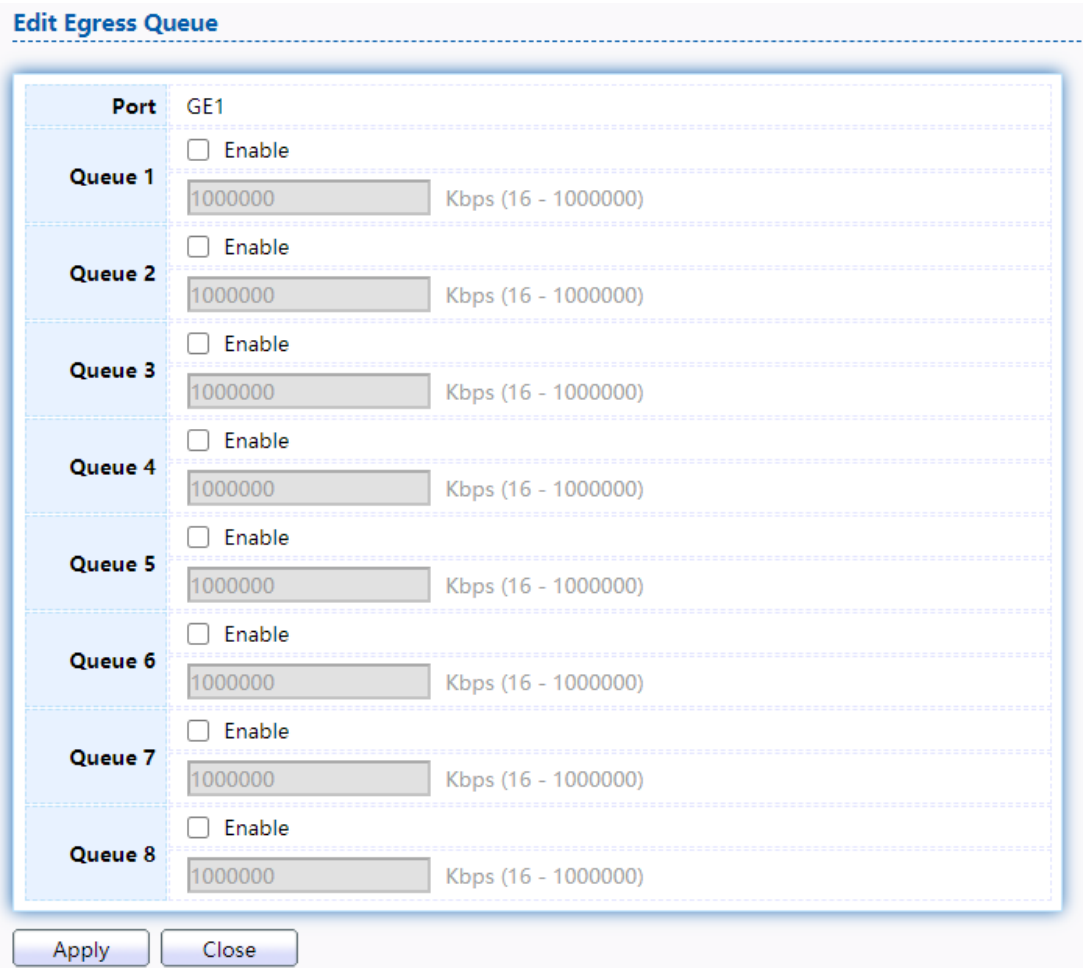


Figure 186. QoS > Rate Limit > Edit Egress Queue.

Item	Description
Queue 1	Set checkbox to enable/disable egress queue 1 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 2	Set checkbox to enable/disable egress queue 2 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 3	Set checkbox to enable/disable egress queue 3 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 4	Set checkbox to enable/disable egress queue 4 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 5	Set checkbox to enable/disable egress queue 5 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 6	Set checkbox to enable/disable egress queue 6 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.
Queue 7	Set checkbox to enable/disable egress queue 7 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.

Queue 8	Set checkbox to enable/disable egress queue 8 rate limit. If egress rate limit is enabled, rate limit value need to be assigned.

2.15 Diagnostics

Use the Diagnostics pages to configure settings for the switch diagnostics feature or operating diagnostic utilities.

2.15.1 Logging

2.15.1.1 Property

To enable/disable the logging service, click Diagnostic > Logging > Property.

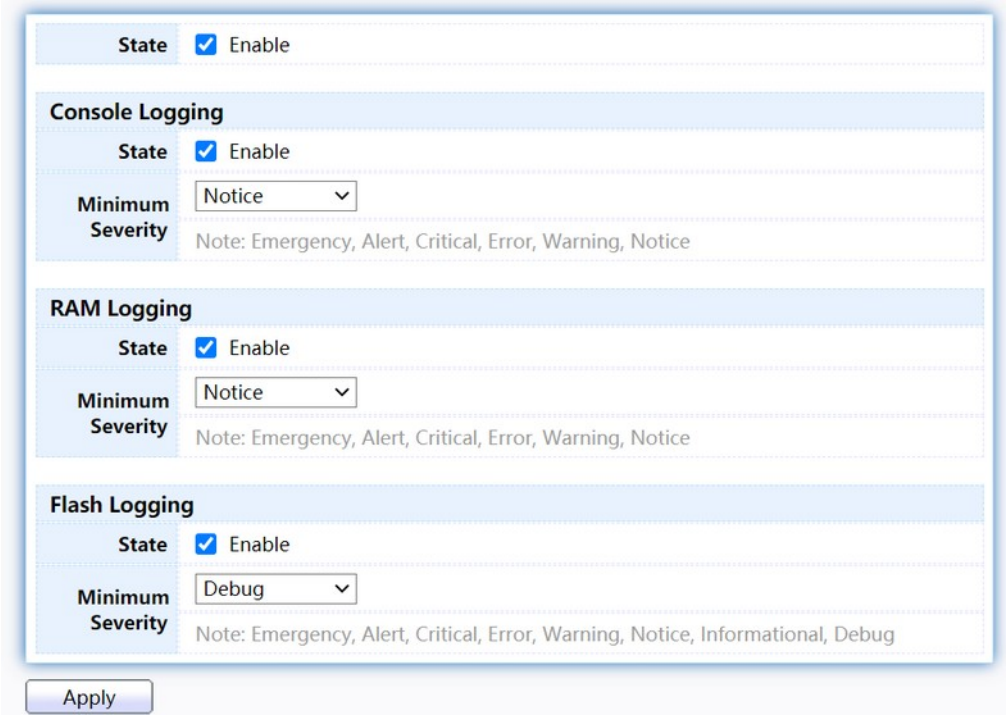


Figure 187. Diagnostics > Logging > Property.

Item	Description
State	Enable/Disable the global logging services. When the logging service is enabled, logging configuration of each destination rule can be individually configured. If the logging service is disabled, no messages will be sent to these destinations.
Console Logging	
State	Enable/Disable the console logging service.
Minimum Severity	The minimum severity for the console logging.
RAM Logging	
State	Enable/Disable the RAM logging service.
Minimum	The minimum severity for the RAM logging.

Flash Logging	
State	Enable/Disable the flash logging service.
Minimum Severity	The minimum severity for the flash logging.

2.15.1.2 Remote Server

To configure the remote logging server, click Diagnostic > Logging > Remote.

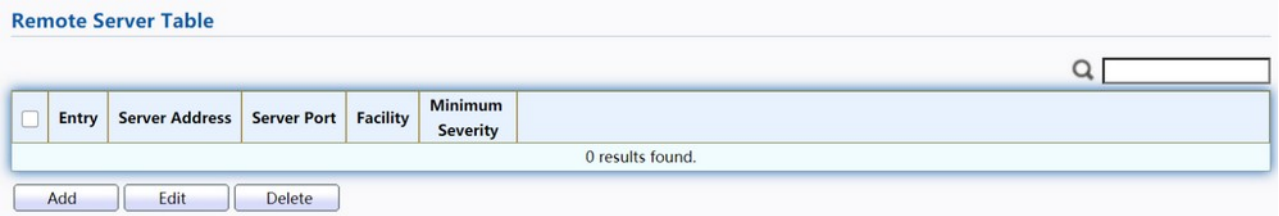


Figure 188. Diagnostics > Logging > Remote Server.

Item	Description
Server Address	The IP address of the remote logging server.
Server Ports	The port number of the remote logging server.
Facility	The facility of the logging messages. It can be one of the following values: local0,local1, local2, local3, local4, local5, local6, and local7.
Severity	The minimum severity. • Emergence: System is not usable. • Alert: Immediate action is needed. • Critical: System is in the critical condition. • Error: System is in error condition. • Warning: System warning has occurred. • Notice: System is functioning properly, but a system notice has occurred. • Informational: Device information. • Debug: Provides detailed information about an event.

Click “Add” or "Edit" button to view the Remote Server menu.

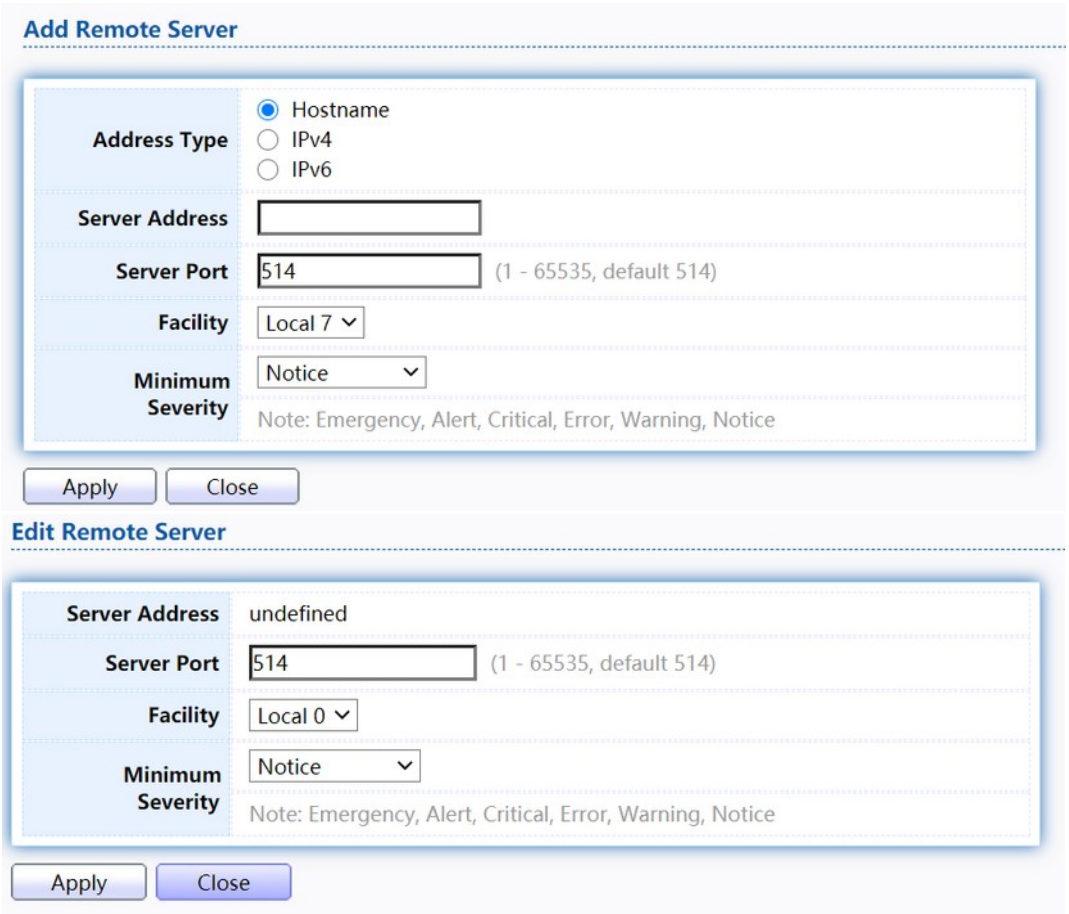


Figure 189. Diagnostics > Logging > Remote Server.

Item	Description
Server Address	The IP address of the remote logging server.
Server Ports	The port number of the remote logging server.
Facility	The facility of the logging messages. It can be one of the following values: local0,local1, local2, local3, local4, local5, local6, and local7.
Severity	The minimum severity. • Emergence: System is not usable. • Alert: Immediate action is needed. • Critical: System is in the critical condition. • Error: System is in error condition. • Warning: System warning has occurred. • Notice: System is functioning properly, but a system notice has occurred. • Informational: Device information. • Debug: Provides detailed information about an event.

2.15.2 Mirroring

To display Port Mirroring web page, click Diagnostics > Mirroring.

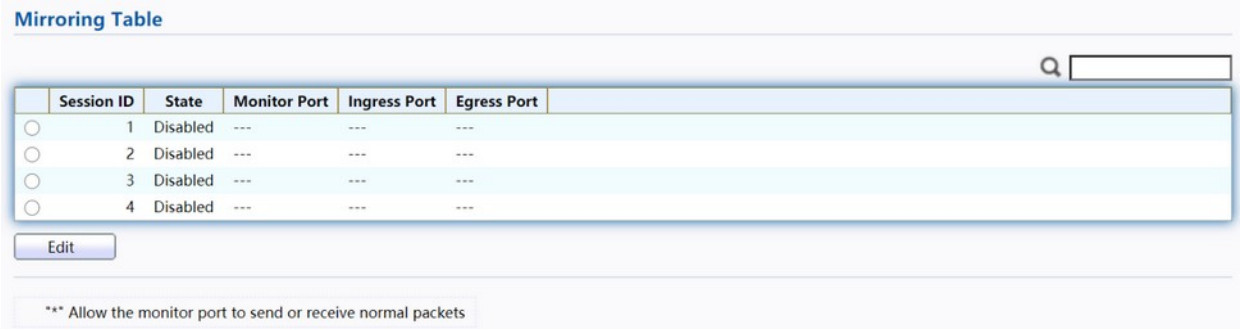


Figure 190. Diagnostics > Mirroring.

Item	Description
Session ID	Select mirror session ID.
State	Select mirror session state : port-base mirror or disable. • Enabled: Enable port based mirror. • Disabled: Disable mirror.
Monitor Port	Select mirror session monitor port, and select whether normal packet could be sent or received by monitor port.
Ingress port	Select mirror session source rx ports.
Egress port	Select mirror session source tx ports.

Click "Edit" button to view the Edit Mirroring menu.

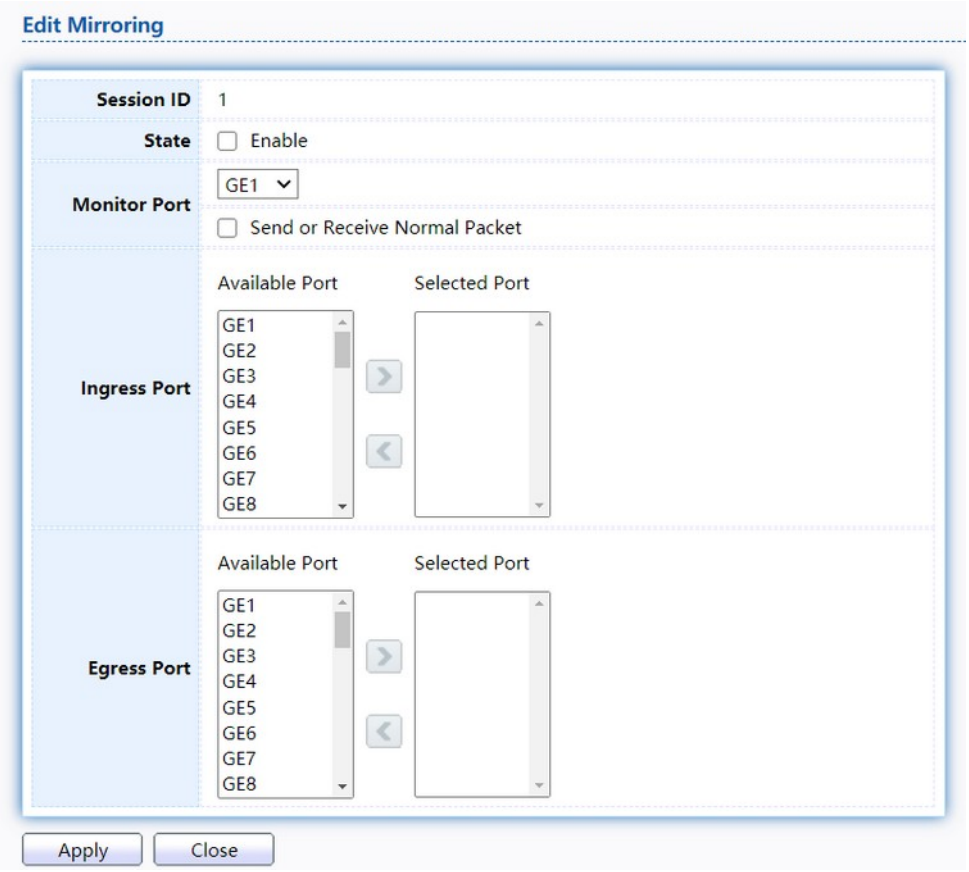


Figure 191. Diagnostics > Mirroring > Edit Mirroring.

Item	Description
Session ID	Selected mirror session ID.
State	Select mirror session state : port-base mirror or disable. • Enabled: Enable port based mirror. • Disabled: Disable mirror.
Monitor Port	Select mirror session monitor port, and select whether normal packet could be sent or received by monitor port.
Ingress port	Select mirror session source rx ports.
Egress port	Select mirror session source tx ports.

2.15.3 Ping

For the ping functionality, click Diagnostic > Ping.

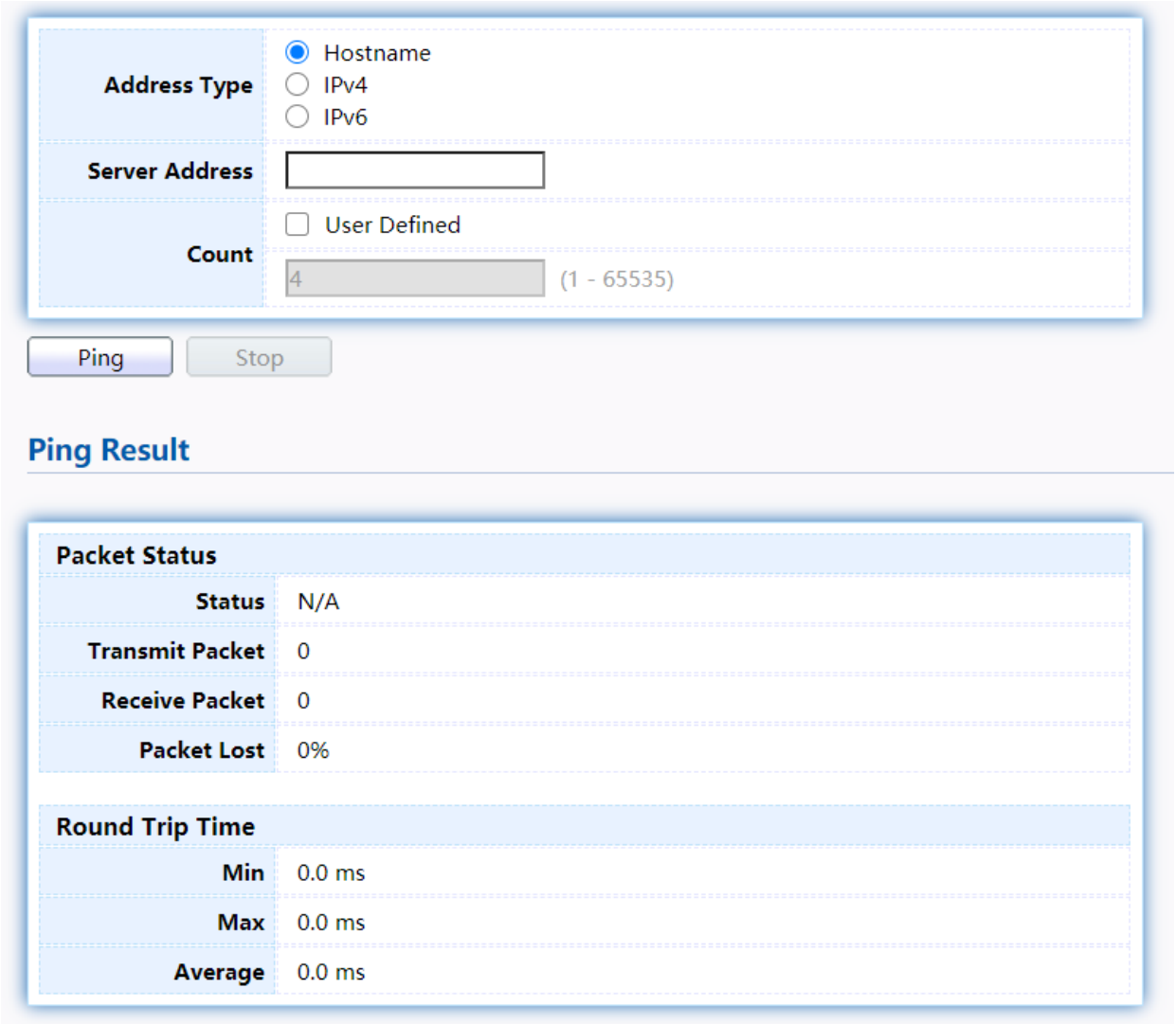


Figure 192. Diagnostics > Ping.

Item	Description
Address Type	Specify the address type to “Hostname”or “IPv4”.
Server Address	Specify the Hostname/IPv4 address for the remote logging server.
Count	Specify the numbers of each ICMP ping request.

2.15.4 Traceroute

For trace route functionality, click Diagnostic > Traceroute.

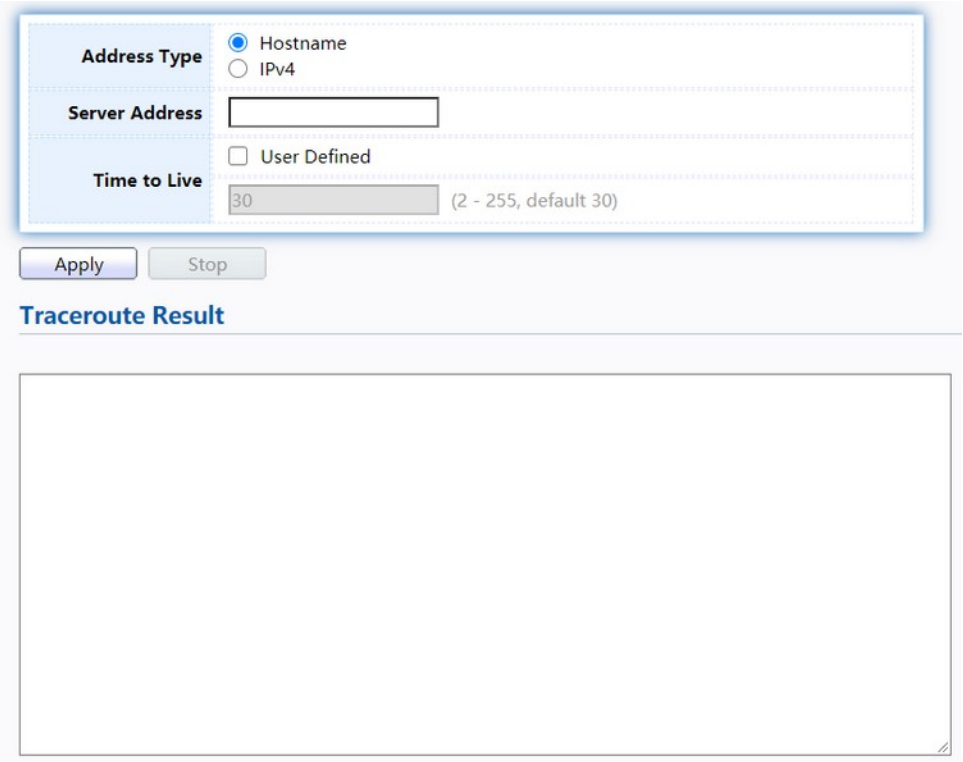


Figure 193. Diagnostics > Traceroute.

Item	Description
Address Type	Specify the address type to “Hostname”or “IPv4”.
Server Address	Specify the Hostname/IPv4 address for the remote logging server.
Time to Live	Specify the max hops of hosts for traceroute.

2.15.5 Copper Test

For copper length diagnostic, click Diagnostic > Copper Test.

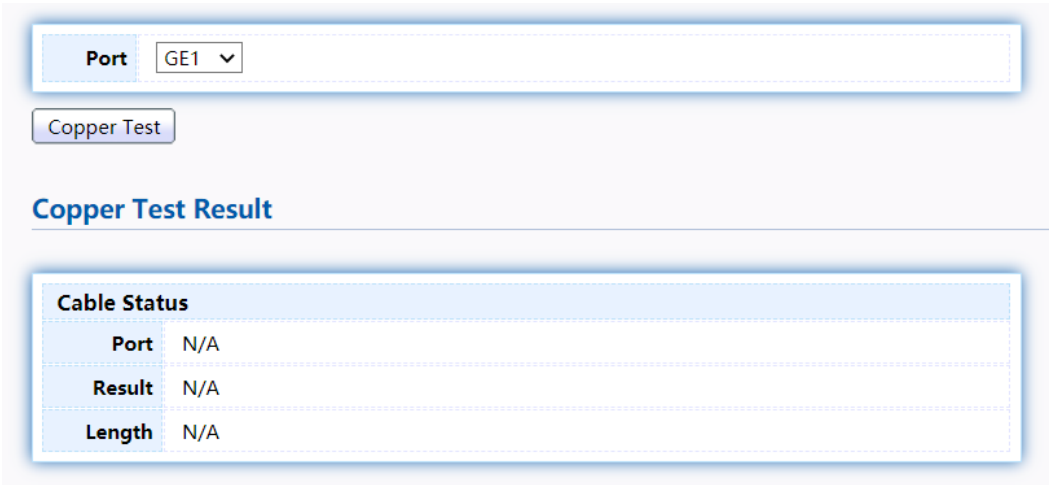


Figure 194. Diagnostics > Logging>Copper Test.

Item	Description
Port	Specify the interface for the copper test.
Copper Test Result	
Port	The interface for the copper test.
Result	The status of copper test. It include: □ OK: Correctly terminated pair. □ Short Cable: Shorted pair. □ Open Cable: Open pair, no link partner. □ Impedance Mismatch: Terminating impedance is not in the reference range. □ Line Drive:
Length	Distance in meter from the port to the location on the cable where the fault was discovered.

2.15.6 Fiber Module

The Optical Module Status page displays the operational information reported by the Small Form-factor Pluggable (SFP) transceiver. Some information may not be available for SFPs without the supports of digital diagnostic monitoring standard SFF-8472.

To display the Optical Module Diagnostic page, click Diagnostic > Fiber Module.

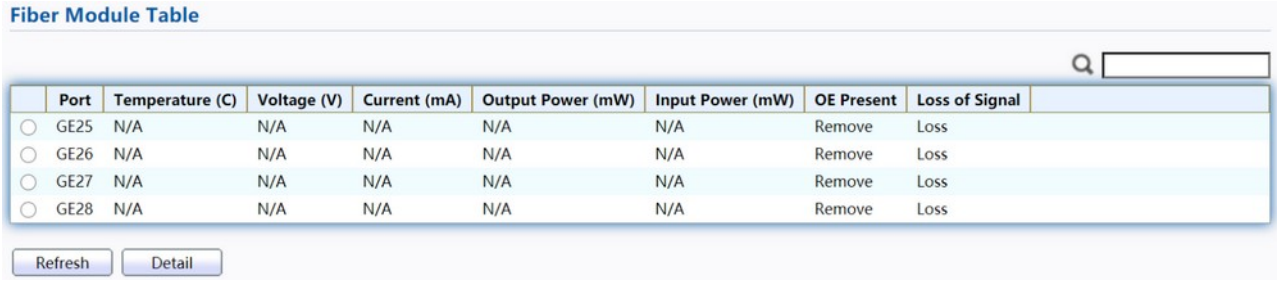


Figure 195. Diagnostics > Logging>Fiber Module.

Item	Description
Port	Interface or port number.
Temperature	Internally measured transceiver temperature.
Voltage	Internally measured supply voltage.
Current	Measured TX bias current.
Output Power	Measured TX output power in milliwatts.
Input Power	Measured RX received power in milliwatts.
Transmitter Fault	State of TX fault.

OE Present	Indicate transceiver has achieved power up.
Loss of Signal	Loss of signal.
Refresh	Refresh the page.
Detail	The detail information on the specified port.

Click "Detail" button to view the Fiber Module Status menu.

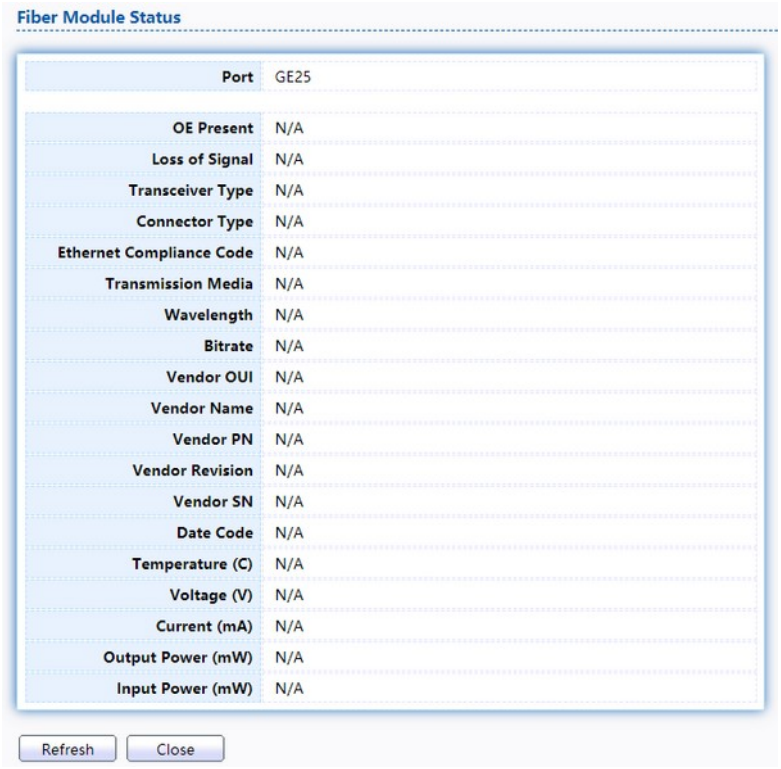


Figure 196. Diagnostics > Logging>Fiber Module>Fiber Module Status.

2.15.7 UDLD

Use the UDLD pages to configure settings of UDLD function.

2.15.7.1 Property

This page allow user to configure global and per interface settings of UDLD. To display Property page, click Diagnostics > UDLD > Property.

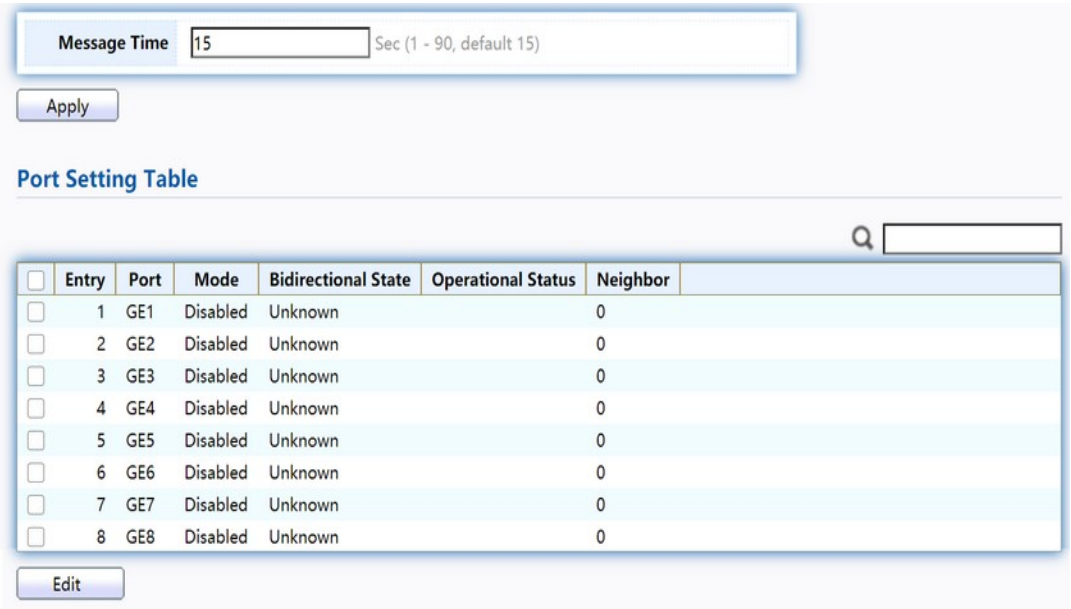


Figure 197. Diagnostics > UDLD>Property.

Item	Description
Message Time	Input the interval for sending message. Range is 1 – 90 seconds.
Port	Display port ID of entry.
Mode	Display UDLD running mode of interface.
Bidirectional State	Display bidirectional state of interface.
Operational Status	Display operational status of interface.
Neighbor	Display the number of neighbor of interface.

Click "Edit" button to view the Fiber Module Status menu.

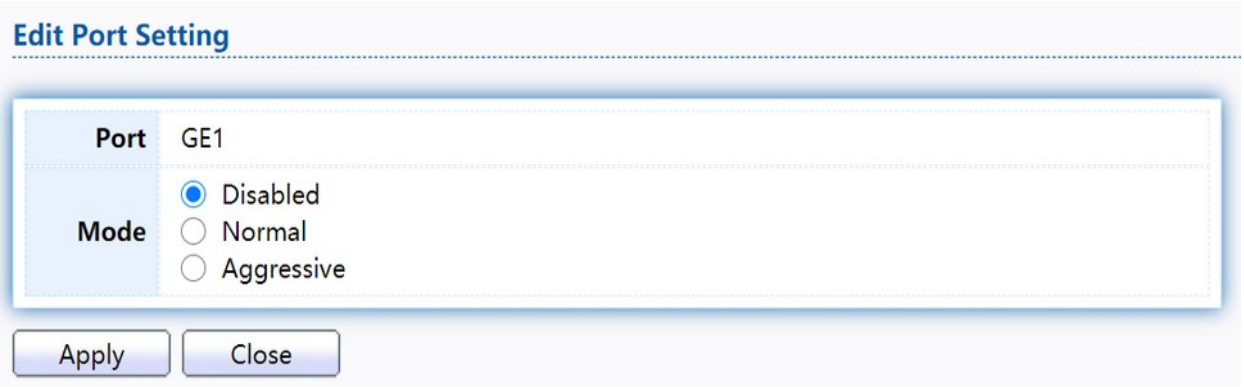


Figure 198. Diagnostics > UDLD>Property>Edit.

Item	Description
Port	Display selected port to be edited.

Mode	Select UDLD running mode of interface. • Disabled: Disable UDLD function. • Normal: Running on normal mode that port goes to Link Up One phase after last neighbor ages out. • Aggressive: Running on aggressive mode that port goes to Re-Establish phase after last neighbor ages out.

2.15.7.2 Neighbor

To display Neighbor page, click Diagnostics > UDLD > Neighbor.

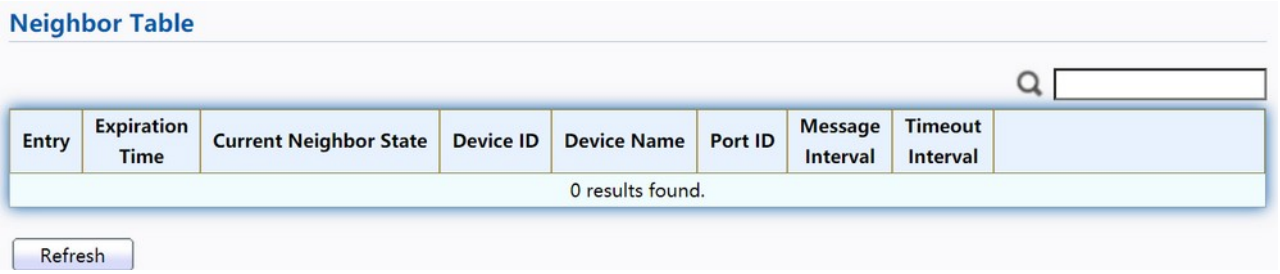


Figure 199. Diagnostics > UDLD> Neighbor.

Item	Description
Entry	Display entry index.
Expiration Time	Display expiration time before age out.
Current Neighbor	Display neighbor current state.
Device ID	Display neighbor device ID.
Device Name	Display neighbor device name.
Port ID	Display neighbor port ID that connected.
Message Interval	Display neighbor message interval.
Timeout Interval	Display neighbor timeout interval.

2.16 Management

Use the Management pages to configure settings for the switch management features.

2.16.1 User Account

The default username/password is admin/admin. And default account is not able to be deleted.

Use this page to add additional users that are permitted to manage the switch or to change the passwords of existing users.

To display User Account web page, click Management > User Account.

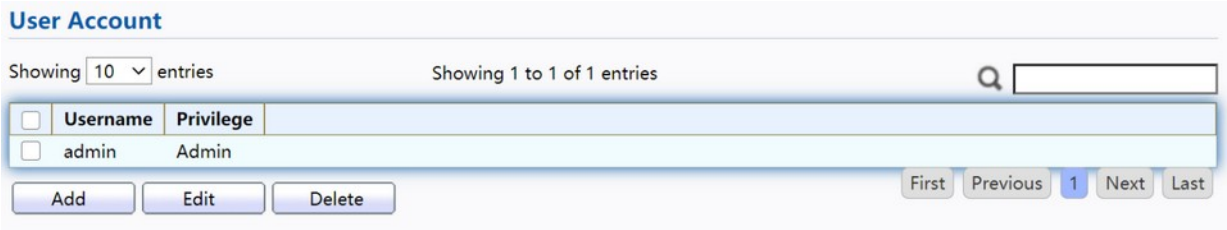


Figure 200. Management > User Account.

Item	Description
Username	User name of the account.
Privilege	Select privilege level for new account. • Admin: Allow to change switch settings. Privilege value equals to 15. • User: See switch settings only. Not allow to change it.Privilege level equals to 1.

Click "Add" or “Edit” button to view the Add/Edit User Account menu.

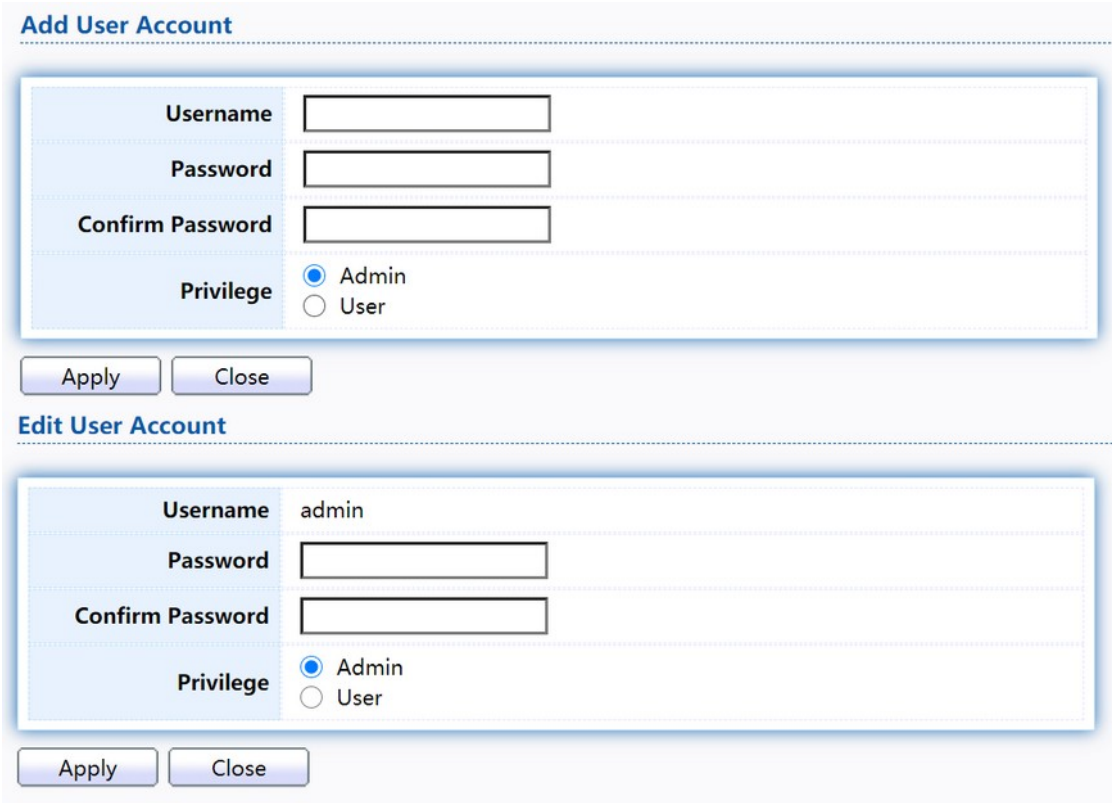


Figure 201. Management > User Account > Add/Edit User Account.

Item	Description
Username	User name of the account.
Password	Set password of the account.

Confirm Password	Set the same password of the account as in “Password” field.
Privilege	Select privilege level for new account. • Admin: Allow to change switch settings. Privilege value equals to 15. • User: See switch settings only. Not allow to change it.Privilege level equals to 1.

2.16.2 Firmware

2.16.2.1 Upgrade / Backup

This page allow user to upgrade or backup firmware image through HTTP or TFTP server.

To display firmware upgrade or backup web page, click Management > Firmware > Upgrade/Backup.

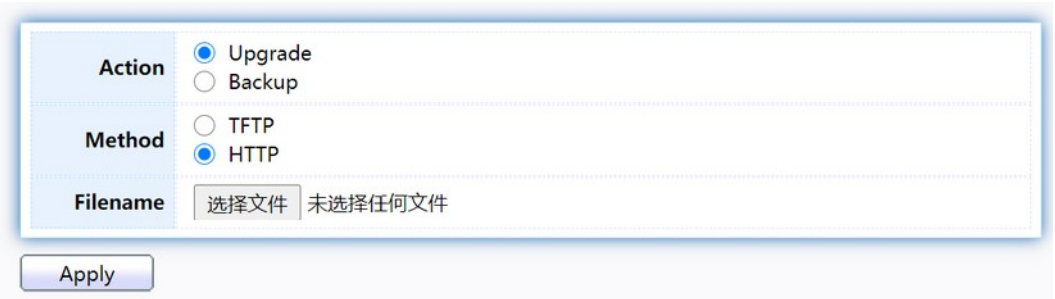


Figure 202. Management > Firmware > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Filename	Use browser to upgrade firmware, you should select firmware image file on your host PC.

To display firmware upgrade or backup web page, click Management > Firmware > Upgrade/Backup.

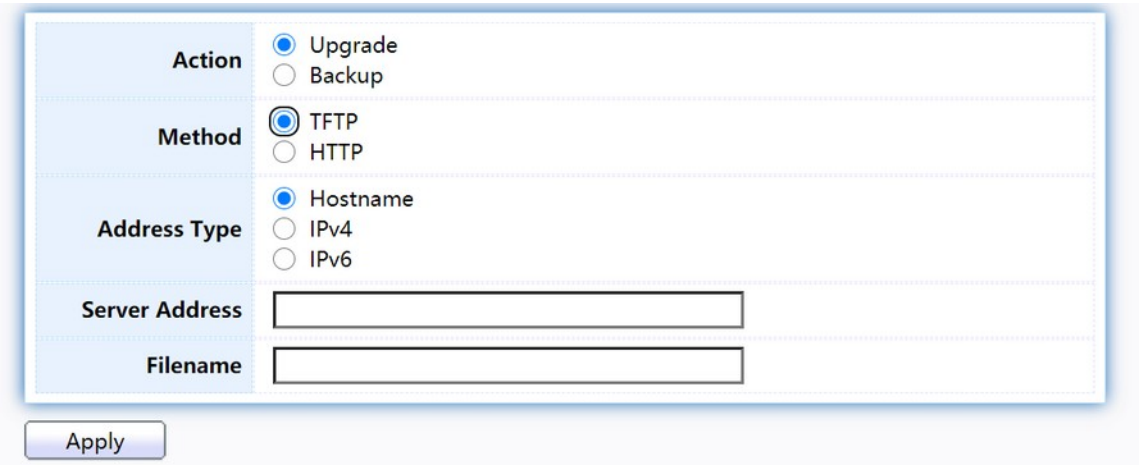


Figure 203. Management > Firmware > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Address Type	Specify TFTP server address type. • Hostname: Use domain name as server address. • IPv4: Use IPv4 as server address. • IPv6: Use IPv6 as server address.
Server Address	Specify TFTP server address.
Filename	Firmware image file name on remote TFTP server.

To display firmware upgrade or backup web page, click Management > Firmware > Upgrade/Backup.

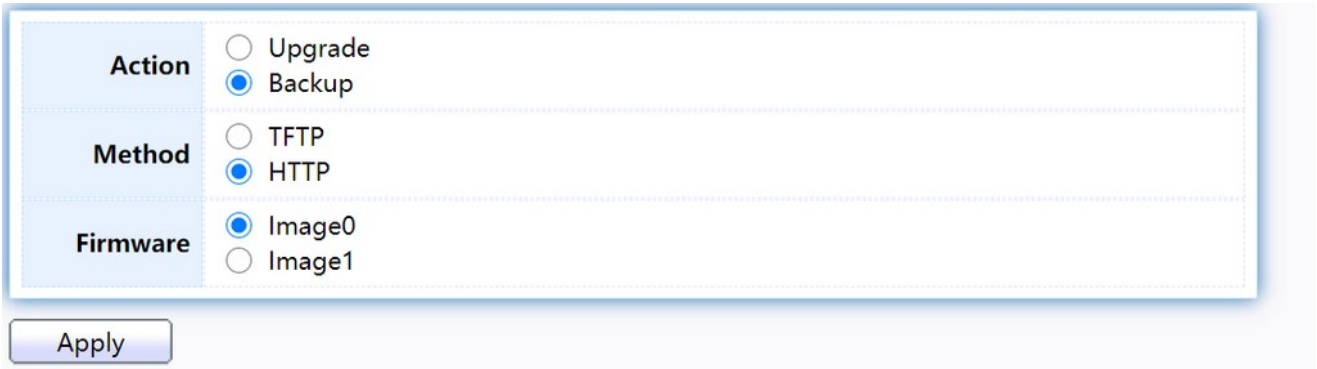


Figure 204. Management > Firmware > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Firmware	Firmware partition need to backup. • Image0: Firmware image in flash partition 0. • Image1: Firmware image in flash partition 1.

To display the Firmware Upgrade/Backup menu, navigate to Management > Firmware > Upgrade/Backup.

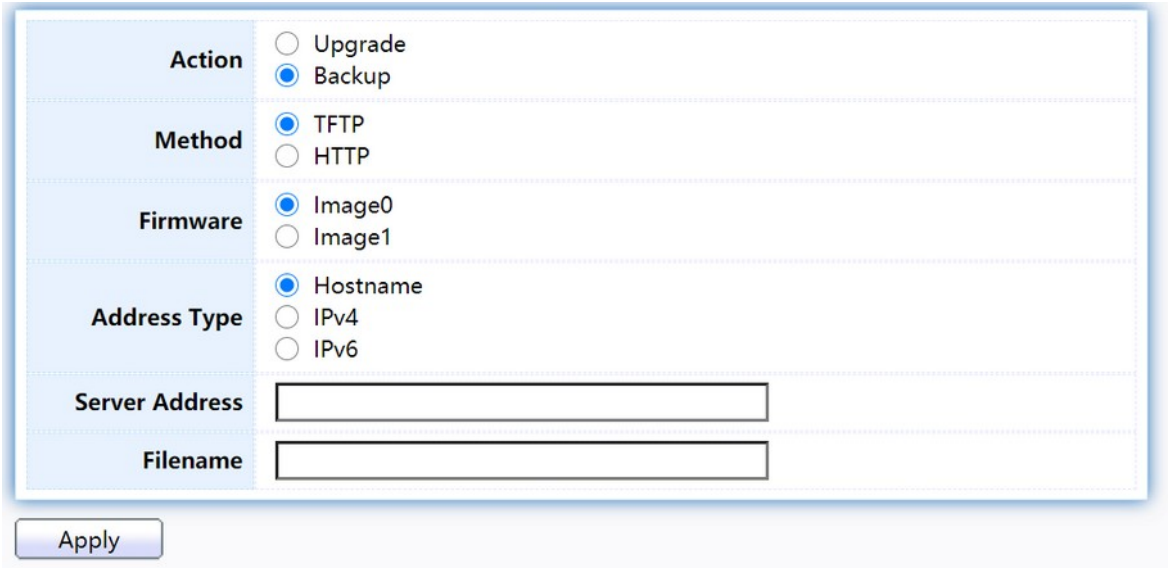


Figure 205. Management > Firmware > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Firmware	Firmware partition need to backup. • Image0: Firmware image in flash partition 0. • Image1: Firmware image in flash partition 1.

Address Type	Specify TFTP server address type. • Hostname: Use domain name as server address. • IPv4: Use IPv4 as server address. • IPv6: Use IPv6 as server address.
Server Address	Specify TFTP server address.
Filename	File name saved on remote TFTP server.

2.16.2.2 Active Image

This page allow user to select firmware image on next booting and show firmware information on both flash partitions.

To display the Active Image web page, click Management > Firmware > Active Image.

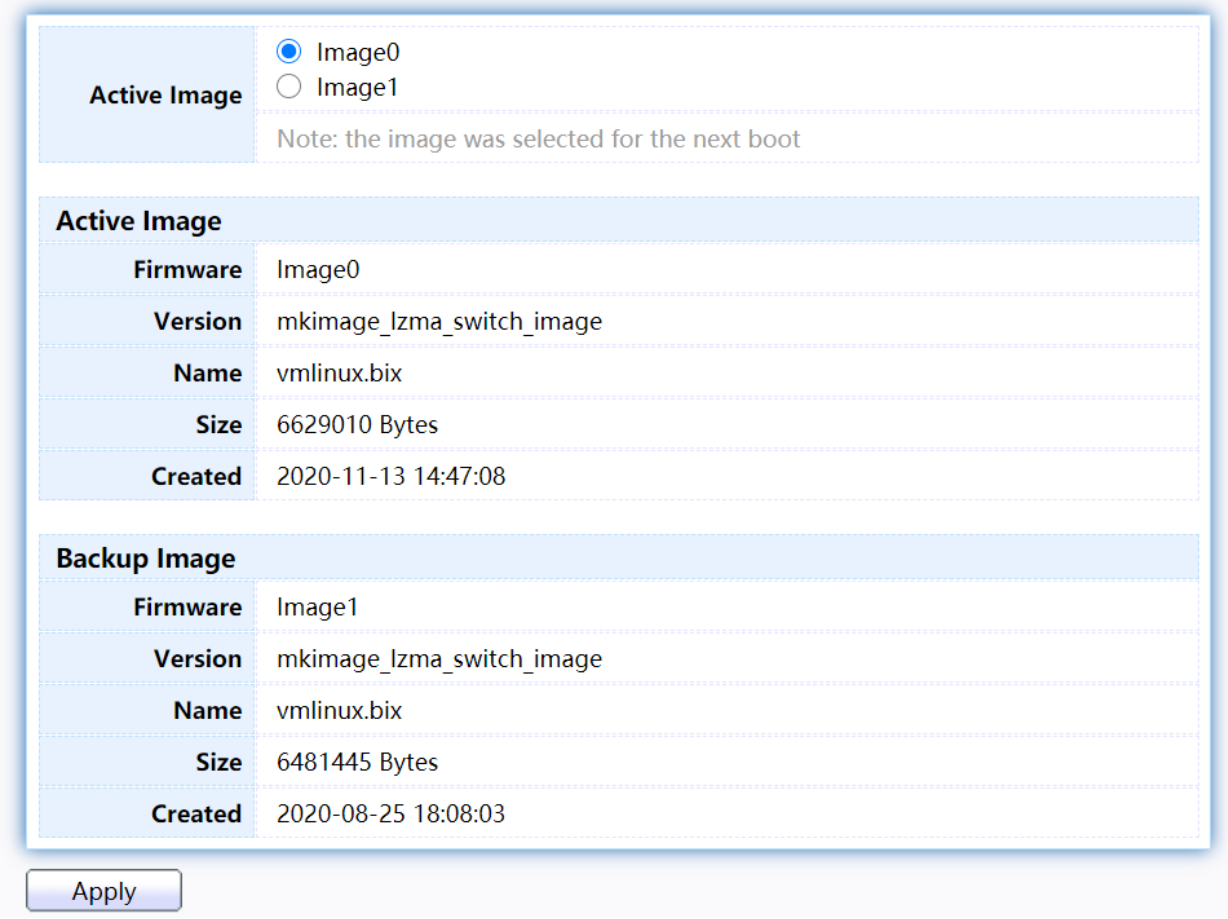


Figure 206. Management > Firmware > Active Image.

Item	Description
Active Image	Select firmware image to use on next booting.
Firmware	Firmware flash partition name.
Version	Firmware version.

Name	Firmware name.
Size	Firmware image size.
Created	Firmware image created date.

Click "Edit" button to view the Fiber Module Status menu.

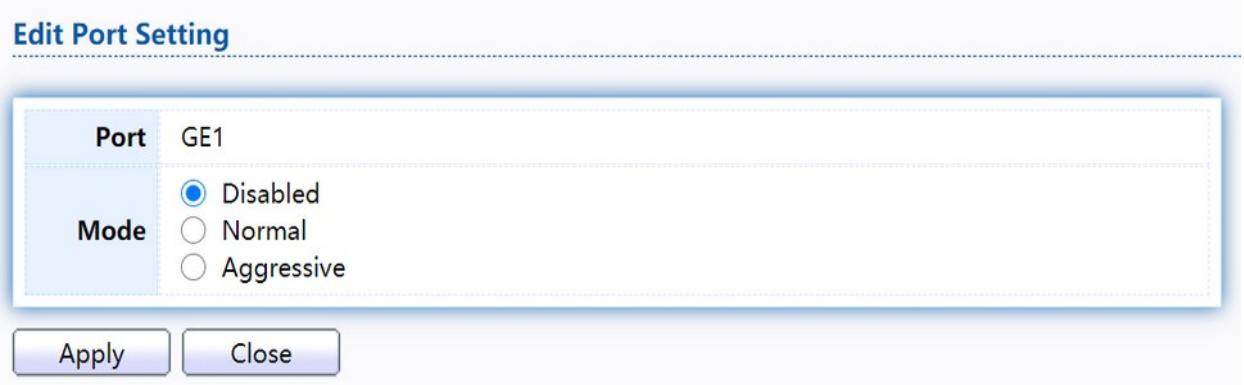


Figure 198. Diagnostics > UDLD>Property>Edit.

Item	Description
Port	Display selected port to be edited.
Mode	Select UDLD running mode of interface. • Disabled: Disable UDLD function. • Normal: Running on normal mode that port goes to Link Up One phase after last neighbor ages out. • Aggressive: Running on aggressive mode that port goes to Re-Establish phase after last neighbor ages out.

2.16.3 Configuration

2.16.3.1 Upgrade / Backup

This page allow user to upgrade or backup configuration file through HTTP or TFTP server.

To display firmware upgrade or backup web page, click Management > Configuration > Upgrade/Backup.

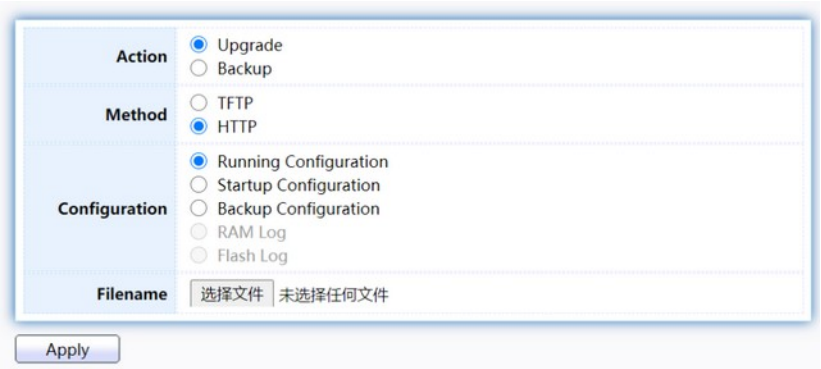


Figure 207. Management > Configuration > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Configuration	Configuration types. • Running Configuration: Merge to current running configuration file. • Startup Configuration: Replace startup configuration file. • Backup Configuration: Replace backup configuration file.
Filename	Use browser to upgrade configuration, you should select configuration file on your host PC.

To display firmware upgrade or backup web page, click Management > Configuration > Upgrade/Backup.

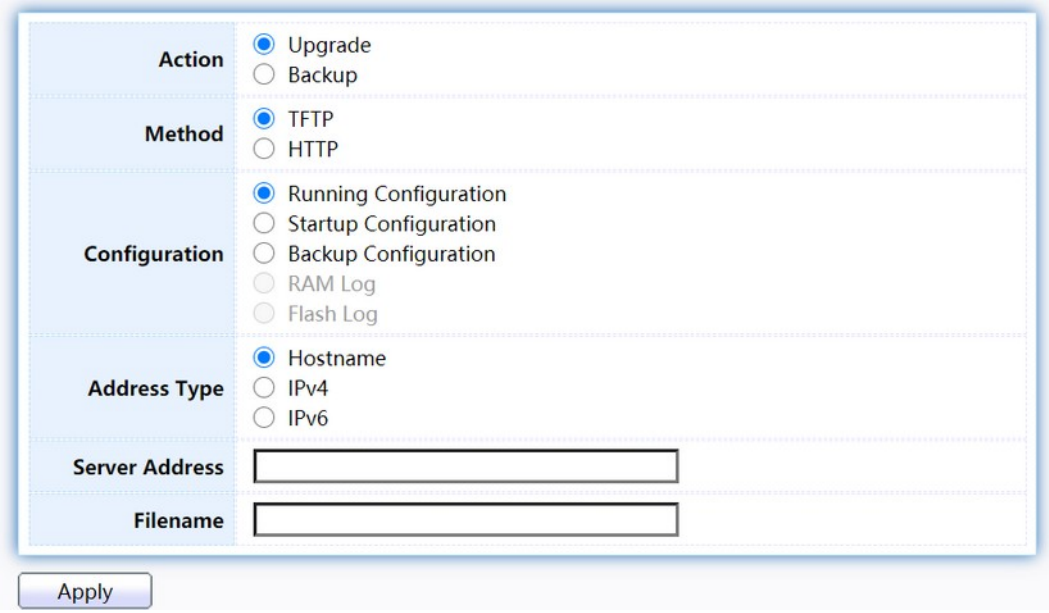


Figure 208. Management > Configuration > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.

Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Configuration	Configuration types. • Running Configuration: Merge to current running configuration file. • Startup Configuration: Replace startup configuration file. • Backup Configuration: Replace backup configuration file.
Address Type	Specify TFTP server address type. • Hostname: Use domain name as server address. • IPv4: Use IPv4 as server address.
Server Address	Specify TFTP server address.
Filename	File name saved on remote TFTP server.

To display firmware upgrade or backup web page, click Management > Configuration > Upgrade/Backup.

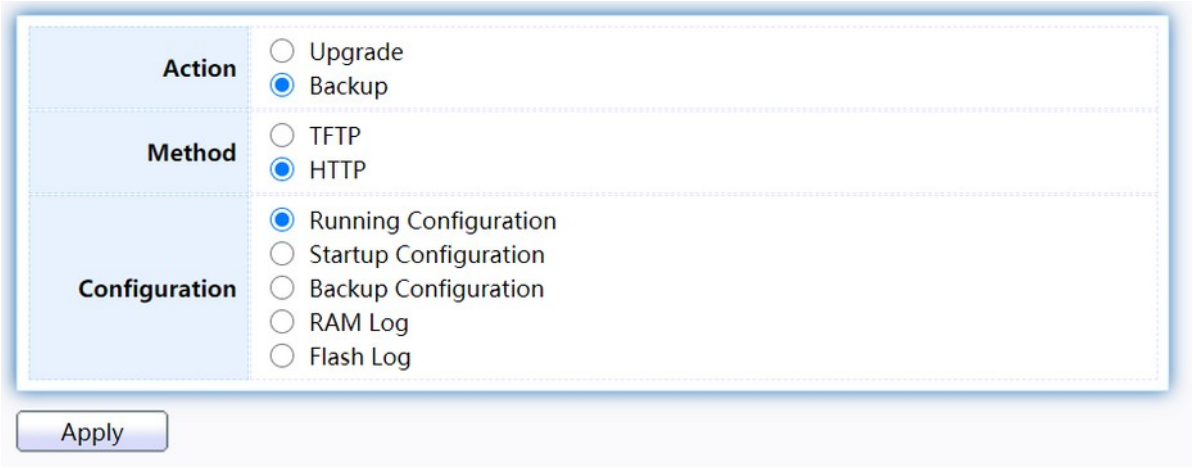


Figure 209. Management > Configuration > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Configuration	Configuration types. • Running Configuration: Backup running configuration file. • Startup Configuration: Backup start configuration file.

	• Backup Configuration: Backup backup configuration file. • RAM Log: Backup log file stored in RAM. • Flash Log: Backup log files store in Flash.

To display firmware upgrade or backup web page, click Management > Configuration > Upgrade/Backup.

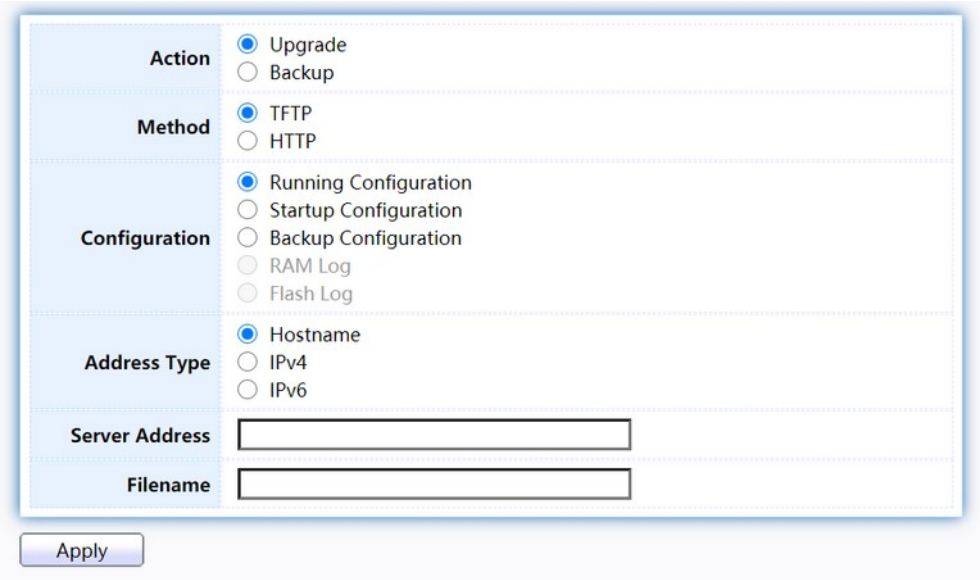


Figure 210. Management > Configuration > Upgrade/Backup.

Item	Description
Action	Firmware operations. • Upgrade: Upgrade firmware from remote host to DUT. • Backup: Backup firmware image from DUT to remote host.
Method	Firmware upgrade / backup method. • TFTP: Using TFTP to upgrade/backup firmware. • HTTP: Using WEB browser to upgrade/backup firmware.
Configuration	Configuration types. • Running Configuration: Merge to current running configuration file. • Startup Configuration: Replace startup configuration file. • Backup Configuration: Replace backup configuration file. • RAM Log: Backup log file stored in RAM. • Flash Log: Backup log files store in Flash.
Address Type	Specify TFTP server address type. • Hostname: Use domain name as server address. • IPv4: Use IPv4 as server address. • IPv6: Use IPv6 as server address.

Server Address	Specify TFTP server address.
Filename	File name saved on remote TFTP server.

2.16.3.2 Save Configuration

This page allow user to manage configuration file saved on DUT and click “Restore Factory Default” button to restore factory defaults.

To display the Save Configuration web page, click Management > Configuration > Save Configuration.

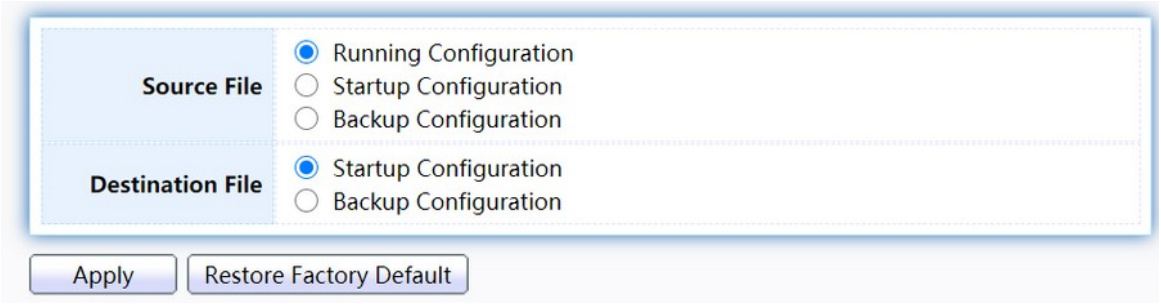


Figure 211. Management > Configuration > Save Configuration.

Item	Description
Source File	Source file types. • Running Configuration: Copy running configuration file to destination. • Startup Configuration: Copy startup configuration file to destination.
Destination File	Destination file. • Startup Configuration: Save file as startup configuration. • Backup Configuration: Save file as backup configuration.

2.16.4 SNMP

2.16.4.1 View

To configure and display the SNMP view table, click Management > SNMP > View.

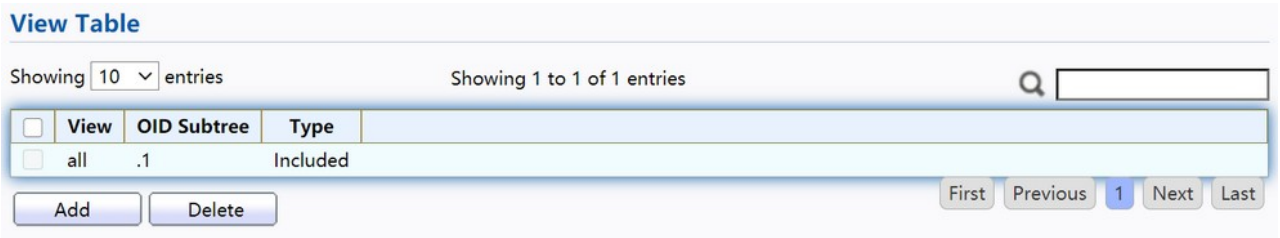


Figure 212. Management > SNMP > View.

Item	Description
View	The SNMP view name. Its maximum length is 30 characters.

OID Subtree	Specify the ASN.1 subtree object identifier (OID) to be included or excluded from the SNMP view.
Type	Include or exclude the selected MIBs.

2.16.4.2 Group

To configure and display the SNMP group settings, click Management > SNMP > Group.

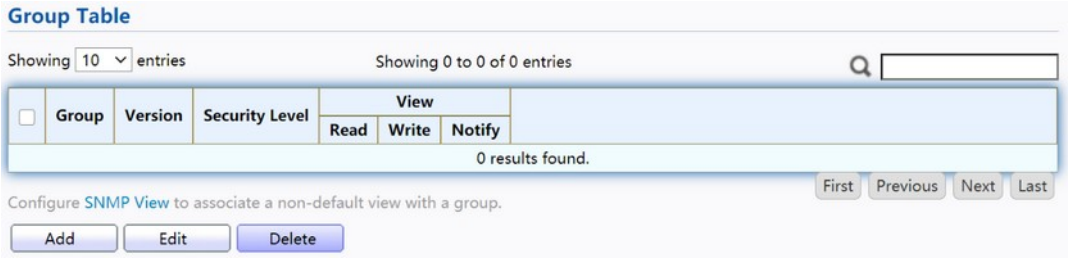


Figure 213. Management > SNMP > Group.

Item	Description
Group	Specify SNMP group name, and the maximum length is 30 characters.
Version	Specify SNMP version. • SNMPv1: SNMP Version 1. • SNMPv2: Community-based SNMP Version 2. • SNMPv3: User security model SNMP version 3.
Security Level	Specify SNMP security level. • No Security : Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.
View	
Read	Group read view name.
Write	Group write view name.
Notify	The view name that sends only traps with contents that is included in SNMP view selected for notification.

Click "Add" or “Edit” button to view the Add/Edit Group menu.

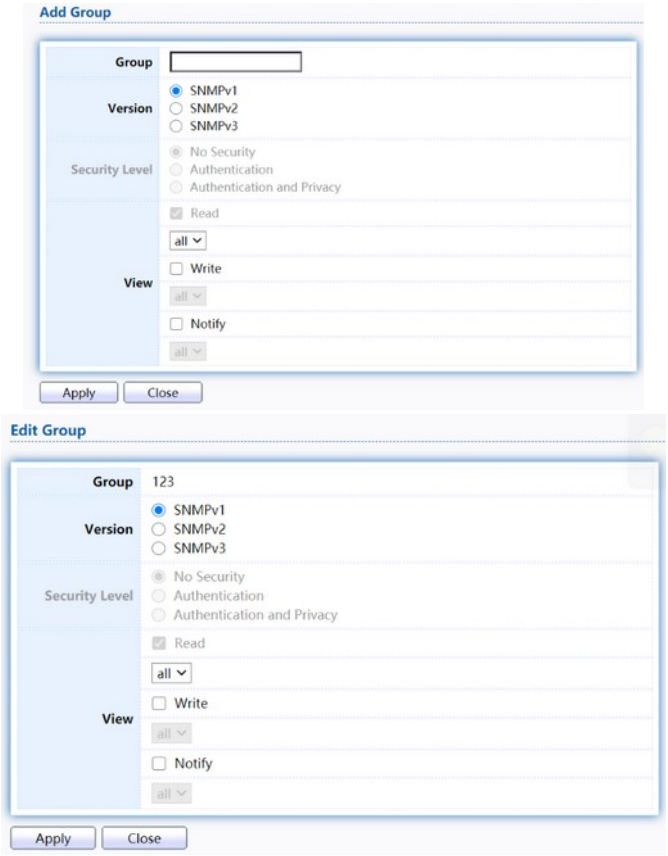


Figure 214. Management > SNMP > Group > Add/Edit Group.

Item	Description
Group	Specify SNMP group name, and the maximum length is 30 characters.
Version	Specify SNMP version. • SNMPv1: SNMP Version 1.
Security Level	Specify SNMP security level. • No Security : Specify that no packet authentication is performed.
View	
Read	Select read view name if Read is checked.
Write	Select write view name, if Write is checked.
Notify	Select notify view name, if Notify is checked.

2.16.4.3 Community

To configure and display the SNMP community settings, click Management > SNMP > Community.

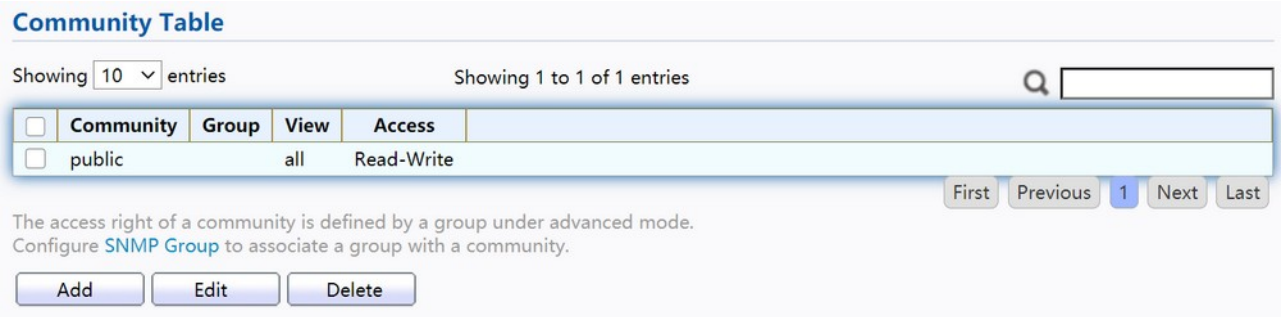


Figure 215. Management > SNMP > Community.

Item	Description
Community	The SNMP community name. Its maximum length is 20 characters.
Group	Specify the SNMP group configured by the command snmp group to define the object available to the community.
View	Specify the SNMP view to define the object available to the community.
Access	SNMP access mode. • Read-Only: Read only. • Read-Write: Read and write.

Click "Add" or “Edit” button to view the Add/Edit Community menu.

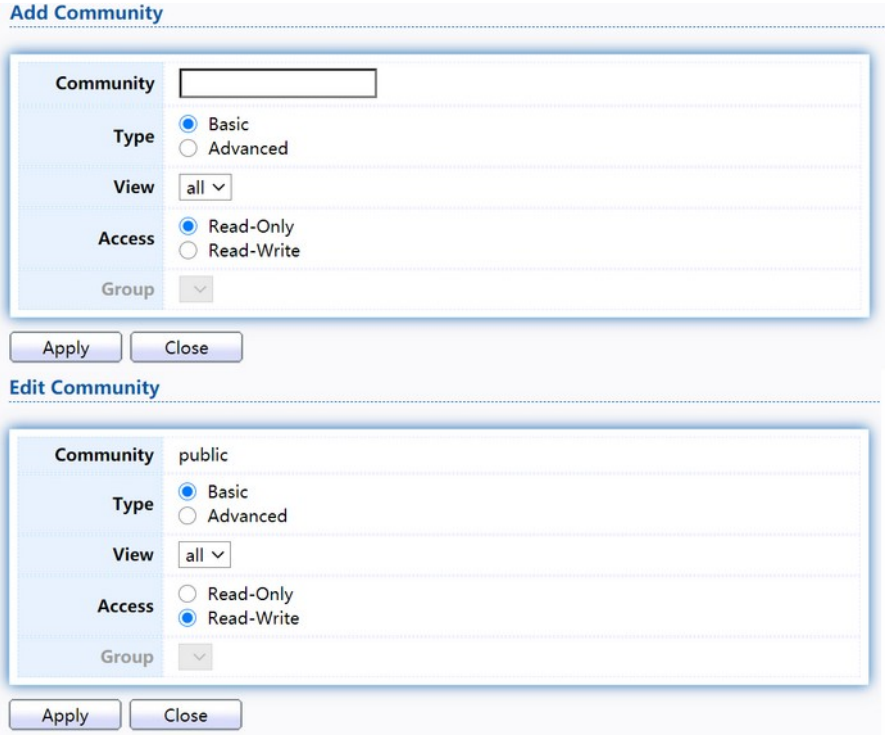


Figure 216. Management > SNMP > Group > Add/Edit Community.

Item	Description
Community	The SNMP community name. Its maximum length is 20 characters.
Type	SNMP Community mode. • Basic: SNMP community specifies view and access right. • Advanced: SNMP community specifies group.
View	Specify the SNMP view to define the object available to the community.
Access	SNMP access mode. • Read-Only: Read only. • Read-Write: Read and write.
Group	Specify the SNMP group configured by the command snmp group to define the object available to the community.

2.16.4.4 User

To configure and display the SNMP users, click Management > SNMP > User.

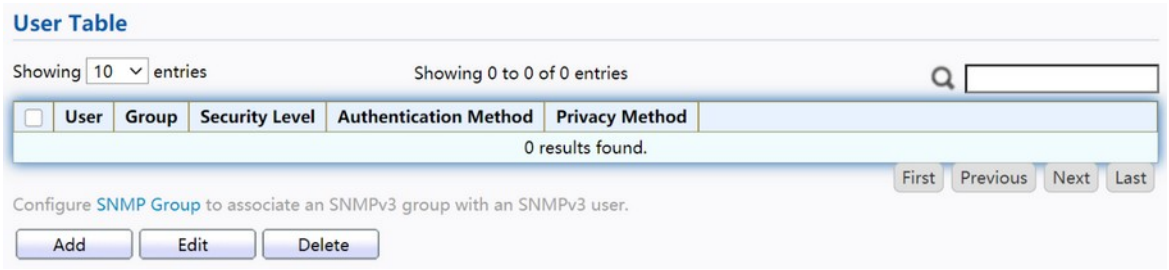


Figure 217. Management > SNMP > User.

Item	Description
User	Specify the SNMP user name on the host that connects to the SNMP agent. The max character is 30 characters. For the SNMP v1 or v2c, the user name must match the community name.
Group	Specify the SNMP group to which the SNMP user belongs.
Security Level	SNMP privilege mode. • No Security : Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.
Authentication Method	Authentication Protocol which is available when Privilege Mode is Authentication or Authentication and Privacy. • None: No authentication required. • MD5: Specify the HMAC-MD5-96 authentication protocol.

	• SHA: Specify the HMAC-SHA-96 authentication protocol.
Privacy Method	Encryption Protocol. • None: No privacy required. • DES: DES algorithm.

Click "Add" or “Edit” button to view Add/Edit User menu.

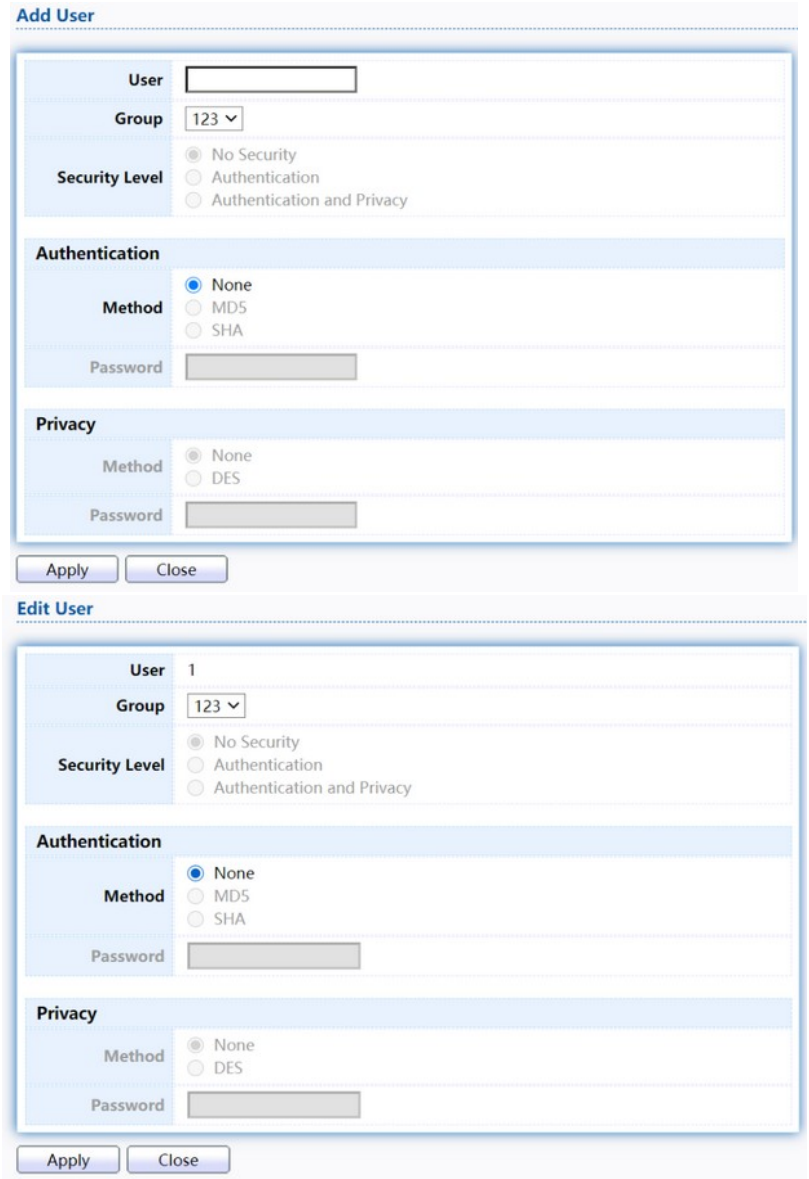


Figure 218. Management > SNMP > User > Add/Edit User.

Item	Description
User	Specify the SNMP user name on the host that connects to the SNMP agent. The max character is 30 characters.
Group	Specify the SNMP group to which the SNMP user belongs.

Security Level	SNMP privilege mode. • No Security : Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.
Authentication	
Method	Authentication Protocol which is available when Privilege Mode is Authentication or Authentication and Privacy. • None: No authentication required. • MD5: Specify the HMAC-MD5-96 authentication protocol. • SHA: Specify the HMAC-SHA-96 authentication protocol.
Password	The authentication password, The number of character range is 8 to 32 characters.
Privacy	
Method	Encryption Protocol. • None: No privacy required. • DES: DES algorithm.
Password	The privacy password, The number of character range is 8 to 64 characters.

2.16.4.5 Engine ID

To configure and display SNMP local and remote engine ID, click Management > SNMP > Engine ID.

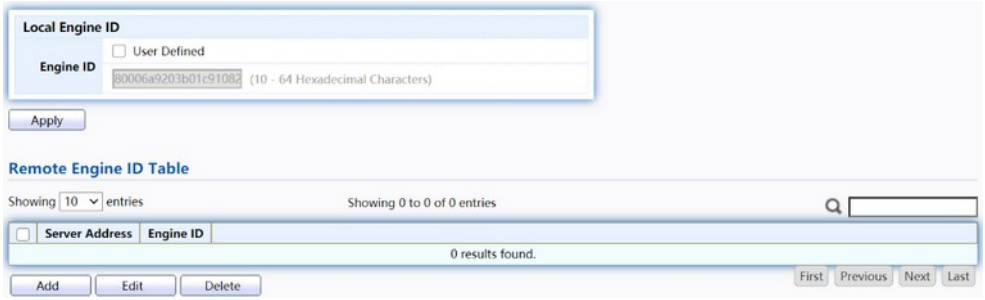


Figure 219. Management > SNMP > Engine ID.

Item	Description
Local Engine ID	
Engine ID	If checked “User Defined”, the local engine ID is configure by user, else use the default Engine ID which is made up of MAC and Enterprise ID. The user defined engine ID is range 10 to 64 hexadecimal characters,

	and the hexadecimal number must be divided by 2.
Remote Engine ID Table	
Server Address	Remote host.
Engine ID	Specify Remote SNMP engine ID. The engine ID is range10 to 64 hexadecimal characters, and the hexadecimal number must be divided by 2.

Click "Add" button to view Add Remote Engine ID menu.

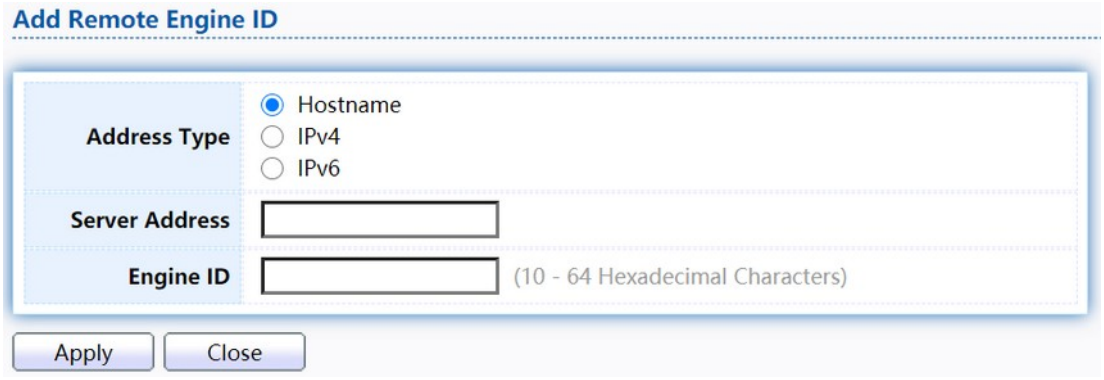


Figure 220. Management > SNMP > Add Engine ID.

Item	Description
Address Type	Remote host address type for Hostname/IPv4/IPv6.
Server Address	Remote host.
Engine ID	Specify Remote SNMP engine ID. The engine ID is range 10 to 64 hexadecimal characters, and the hexadecimal number must be divided by 2.

Click “Edit” button to view Edit Remote Engine ID menu.

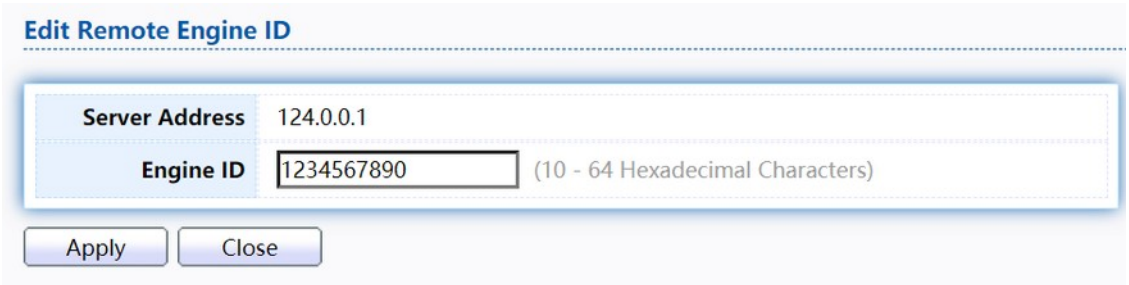


Figure 221. Management > SNMP > Edit Engine ID.

Item	Description
Server Address	Edit Remote host address.

Engine ID	Specify Remote SNMP engine ID. The engine ID is range 10 to 64 hexadecimal characters, and the hexadecimal number must be divided by 2.

2.16.4.6 Trap Event

To configure and display SNMP trap event, click Management > SNMP > Trap Event.

Figure 222. Management > SNMP > Trap Event.

Item	Description
Authentication Failure	SNMP authentication failure trap, when community not match or user authentication password not match.
Link Up/Down	Port link up or down trap.
Cold Start	Device reboot configure by user trap.
Warm Start	Device reboot by power down trap.

2.16.4.7 Notification

To configure the hosts to receive SNMPv1/v2/v3 notification, click Management > SNMP > Notification.

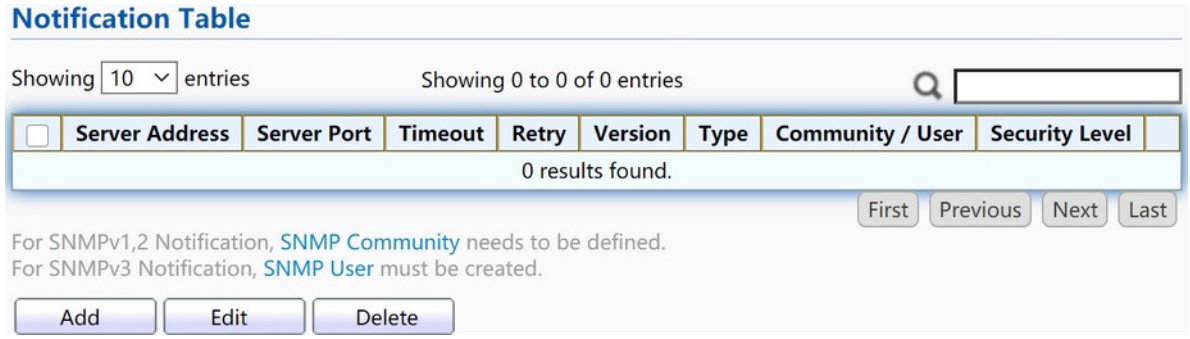


Figure 223. Management > SNMP > Notification.

Item	Description
Server Address	IP address or the hostname of the SNMP trap recipients.
Server Port	Recipients server UDP port number.

Timeout	Specify the SNMP informs timeout.
Retry	Specify the retry counter of the SNMP informs.
Version	Specify SNMP notification version. • SNMPv1: SNMP Version 1 notification. • SNMPv2: SNMP Version 2 notification. • SNMPv3: SNMP Version 3 notification.
Type	Notification Type. • Trap: Send SNMP traps to the host. • Inform: Send SNMP informs to the host.
Community/User	SNMP community/user name for notification. If version is SNMPv3 the name is user name, else is community name.
UDP Port	Specify the UDP port number.
Timeout	Specify the SNMP informs timeout.
Security Level	SNMP trap packet security level. • No Security: Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.

Click "Add" button to view the Notification menu.

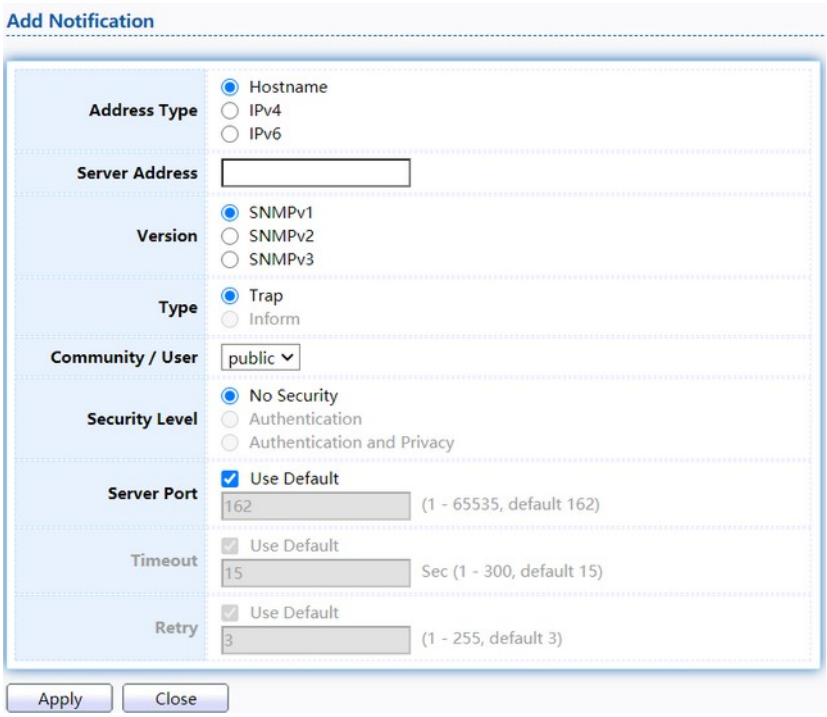


Figure 224. Management > SNMP > Notification > Add Notification.

Item	Description
Address Type	Notify recipients host address type.
Server Address	IP address or the hostname of the SNMP trap recipients.
Version	Specify SNMP notification version. • SNMPv1: SNMP Version 1 notification. • SNMPv2: SNMP Version 2 notification. • SNMPv3: SNMP Version 3 notification.
Type	Notification Type. • Trap: Send SNMP traps to the host. • Inform: Send SNMP informs to the host.
Community/User	SNMP community/user name for notification. If version is SNMPv3 the name is user name, else is community name.
Security Level	SNMP trap packet security level. • No Security: Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.
Server Port	Recipients server UDP port number, if “use default” checked the value is 162, else user configure.
Timeout	Specify the SNMP informs timeout, if “use default” checked the value is 15, else user configure.
Retry	Specify the SNMP informs retry count, if “use default” checked the value is 3, else user configure.

Click "Edit" button to view the Edit Notification menu.

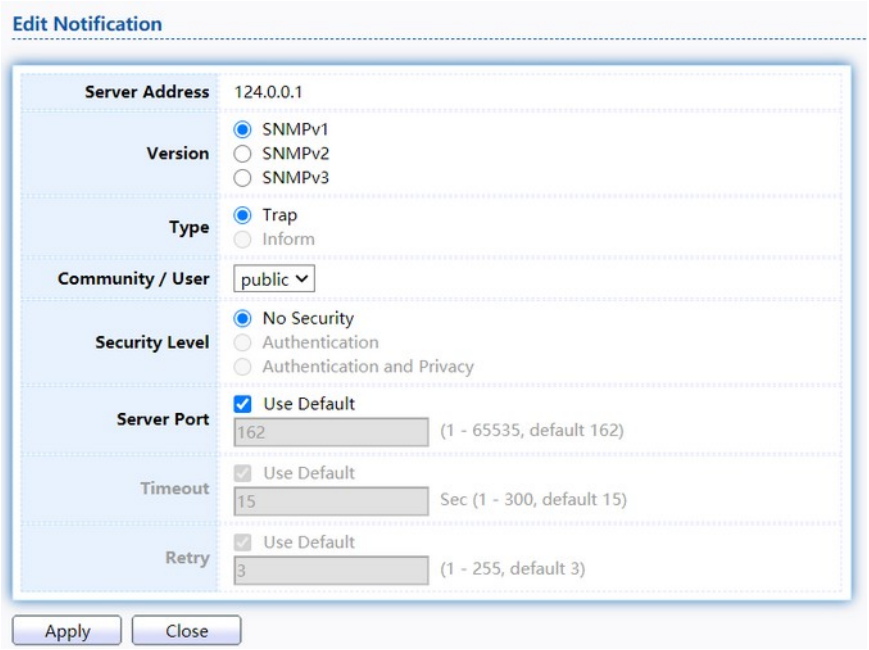


Figure 225. Management > SNMP > Notification > Edit Notification.

Item	Description
Server Address	Edit SNMP notify recipients address.
Version	Specify SNMP notification version. • SNMPv1: SNMP Version 1 notification. • SNMPv2: SNMP Version 2 notification. • SNMPv3: SNMP Version 3 notification.
Type	Notification Type. • Trap: Send SNMP traps to the host. • Inform: Send SNMP informs to the host. (Version 1 have no inform).
Community/User	SNMP community/user name for notification. If version is SNMPv3 the name is user name, else is community name.
Security Level	SNMP trap packet security level. • No Security: Specify that no packet authentication is performed. • Authentication: Specify that no packet authentication without encryption is performed. • Authentication and Privacy: Specify that no packet authentication with encryption is performed.
Server Port	Recipients server UDP port number, if “use default” checked the value is 162, else user configure.
Timeout	Specify the SNMP informs timeout, if “use default” checked the value is 15, else user configure.

Retry	Specify the SNMP informs retry count, if “use default” checked the value is 3, else user configure.

2.16.5 RMON

2.16.5.1 Statistics

To display RMON Statistics, click Management > RMON > Statistics.

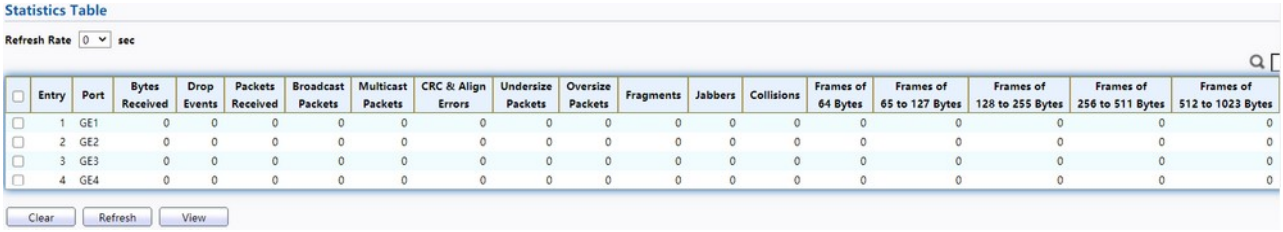


Figure 226. Management > RMON > Statistics.

Item	Description
Port	The port for the RMON statistics.
Bytes Received	Number of octets received, including bad packets and FCS octets, but excluding framing bits.
Drop Events	Number of packets that were dropped.
Packets Received	Number of packets received, including bad packets, Multicast packets, and Broadcast packets.
Broadcast Packets	Number of good Broadcast packets received. This number does not include Multicast packets.
Multicast Packets	Number of good Multicast packets received.
CRC &Align Errors	Number of CRC and Align errors that have occurred.
Undersize Packets	Number received.
Oversize Packets	Number of oversized packets (over 1518 octets) received.
Fragments	Number of fragments (packets with less than 64 octets, excluding framing bits, but including FCS octets).
Jabbers	Number of received packets that were longer than 1632 octets. This number excludes frame bits, but includes FCS octets that had either a bad FCS (Frame Check Sequence) with an integral number of octets (FCS Error) or a bad FCS with a non-integral octet (Alignment Error) number. A Jabber packet is defined as an Ethernet frame that satisfies the following criteria: □ Packet data length is greater than MRU. □ Packet has an invalid CRC. □ RX error event has not been detected.

Collisions	Number of collisions received. If Jumbo Frames are enabled, the threshold of Jabber Frames is raised to the maximum size of Jumbo Frames.
Frames of 64 Bytes	Number received.
Frames of 65 to 127 Bytes	Number of frames, containing 65 to 127 bytes that were received.
Frames of 128 to 225 Bytes	Number of frames, containing 128 to 255 bytes that were received.
Frames of 256 to 511 Bytes	Number of frames, containing 256 to 511 bytes that were received.
Frames of 512 to 1023 Bytes	Number of frames, containing 512 to 1023 bytes that were received.
Frames Greater than 1024 Bytes	Number of frames, containing 1024 to 1518 bytes that were received.
Clear	Clear the statistics for the selected ports.
View	View the statistics on the specified port.

Click "View" button to view the view Port Statistics menu.

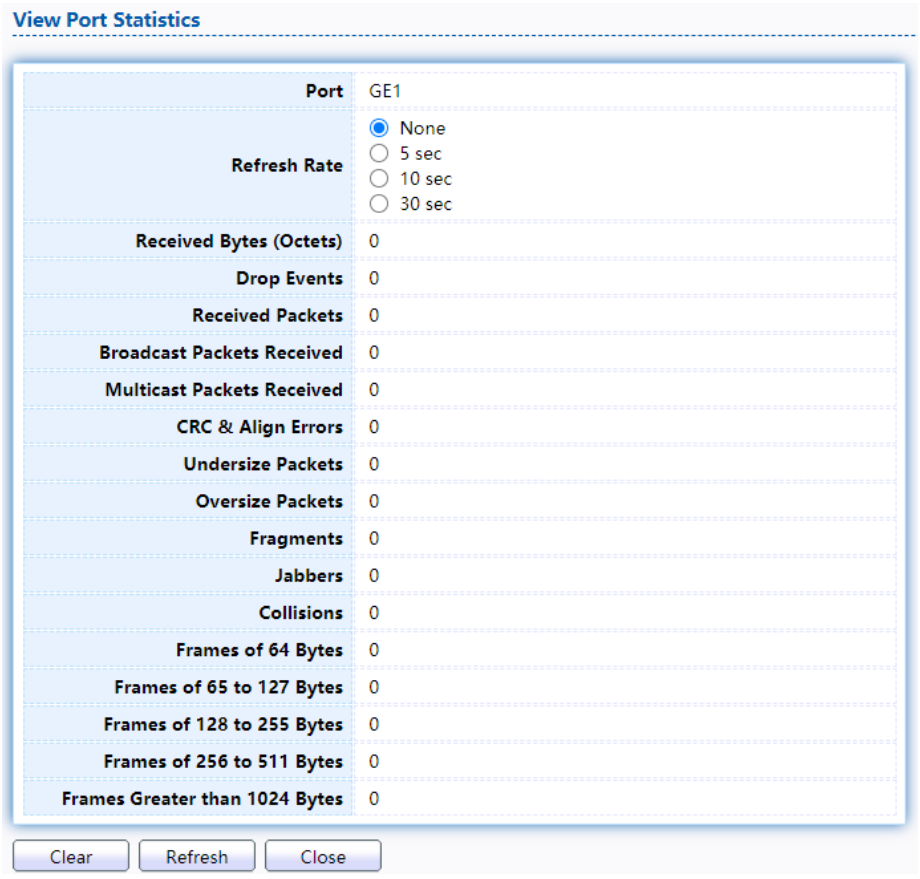


Figure 227. Management > RMON > Statistics.

2.16.5.2 History

For the RMON history, click Management > RMON > History.

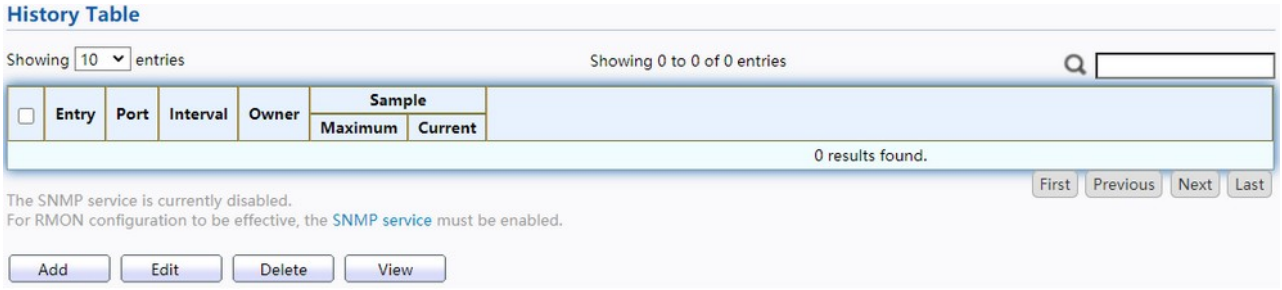


Figure 228. Management > RMON > History.

Item	Description
Port	The port for the RMON history.
Interval	The number of seconds for each sample.
Owner	The owner name of event (0~31 characters).
Sample Maximum	The maximum number of buckets.
Sample Current	The current number of buckets.
Add	Add the new RMON history entries.
Edit	Edit the RMON history.
Delete	Delete the RMON histories.
View	View the history log.

Click "Add/Edit" button to Add/Edit the History menu.

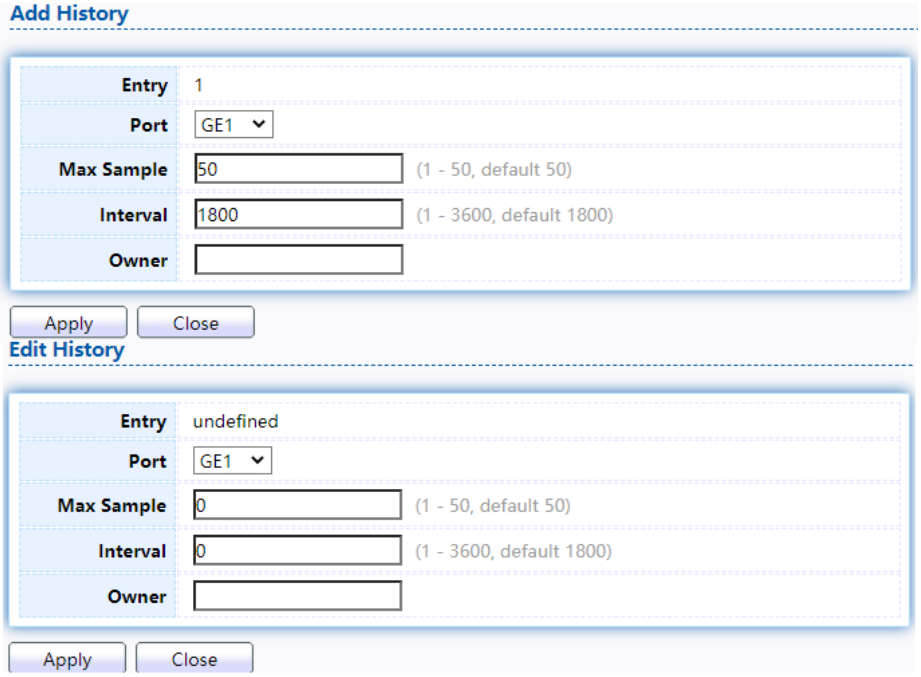


Figure 229. Management > RMON > Add /Edit History.

Item	Description
Port	Specify port for the RMON history.
Max Sample	Specify the maximum number of buckets.
Interval	Specify the number of seconds for each sample.
Owner	Specify the owner name of event (0~31 characters).

Click "View" button to view the History menu.

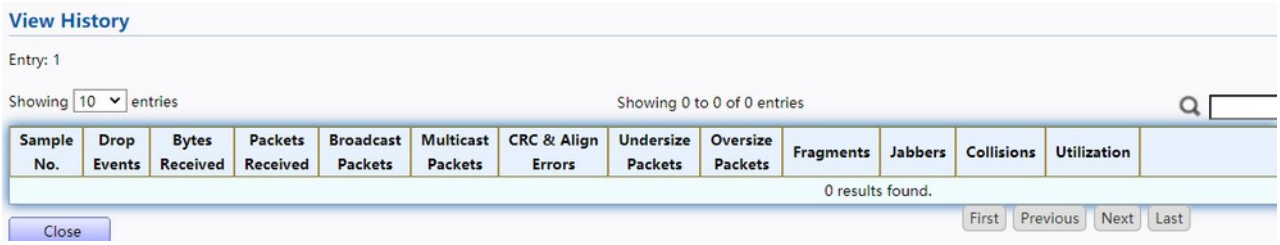


Figure 230. Management > RMON > View History.

Item	Description
Port	The port for the RMON statistics.
Bytes Received	Number of octets received, including bad packets.
Drop Events	Number of packets that were dropped.
Packets Received	Number of packets received, including bad packets, Multicast packets, and Broadcast packets.

Broadcast Packets	Number of good Broadcast packets received. This number does not include Multicast packets.
Multicast Packets	Number of good Multicast packets received.
CRC & Align Errors	Number of CRC and Align errors that have occurred.
Undersize Packages	Number of undersized packets (less than 64 octets) received.
Oversize Packages	Number of oversized packets (over 1518 octets) received.
Fragments	Number of fragments (packets with less than 64 octets, excluding framing bits, but including FCS octets).
Jabbers	Number of received packets that were longer than 1632 octets. This number excludes frame bits, but includes FCS octets that had either a bad FCS (Frame Check Sequence) with an integral number of octets (FCS Error) or a bad FCS with a non-integral octet (Alignment Error) number. A Jabber packet is defined as an Ethernet frame that satisfies the following criteria: □ Packet data length is greater than MRU. □ Packet has an invalid CRC. □ RX error event has not been detected.
Collision	Number of collisions received. If Jumbo Frames are enabled, the threshold of Jabber Frames is raised to the maximum size of Jumbo Frames.
Utilization	Percentage of current interface traffic compared to the maximum traffic that the interface can handle.

2.16.5.3 Event

For the RMON event, click Management > RMON > Event.

Figure 231. Management > RMON > Event.

Item	Description
Community	The SNMP community name.
Description	The description for the event.
Notification	The notification type for the event, and the possible value are: □ None: Nothing for notification.

	□ Event Log: Logging the event in the RMON Event Log table. □ Trap: Send a SNMP trap. □ Event Log and Trap: Logging the event and send the SNMP trap.
Time	The time that the event was triggered.
Owner	The owner for the event.

Click "Add/Edit" button to view the Add/Edit Event menu.

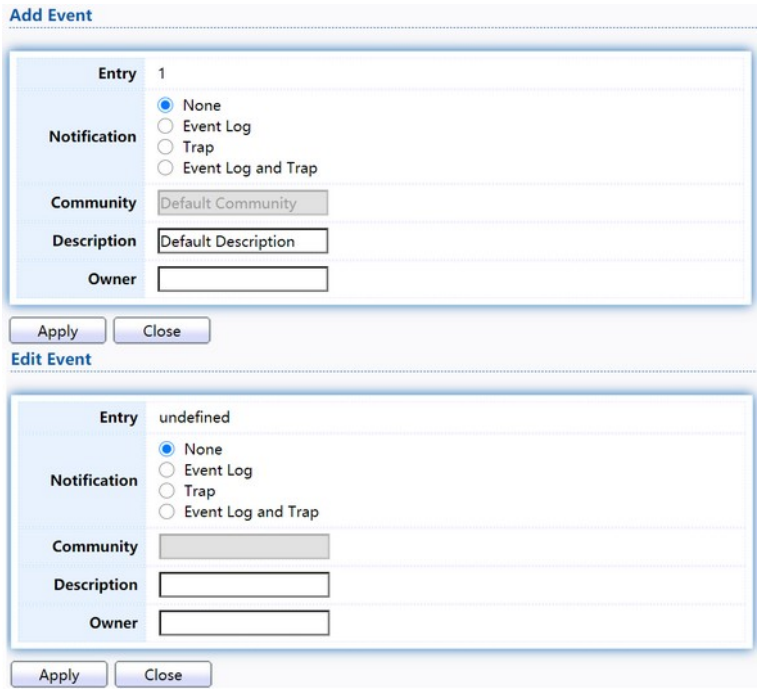


Figure 232. Management > RMON > Add/Edit Event.

Item	Description
Notification	The notification type for the event, and the possible value are: □ None: Nothing for notification. □ Event Log: Logging the event in the RMON Event Log table. □ Trap: Send a SNMP trap. □ Event Log and Trap: Logging the event and send the SNMP trap.
Community	The SNMP community name.
Description	Specify the description for the event.
Owner	Specify owner for the event.

Click "View" button to view the View Event Log menu.

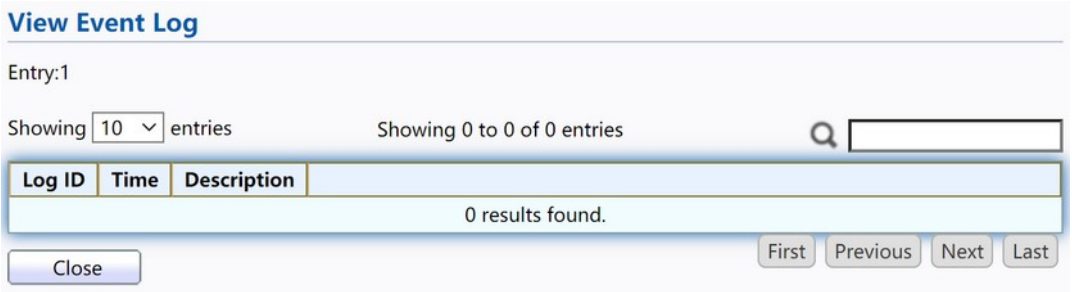


Figure 233. Management > RMON > View Event Log.

Item	Description
Log ID	The log identifier.
Time	The time that the event was triggered.
Description	Specify the description for the event.

2.16.5.4 Alarm

For the RMON Alarm menu, click Management > RMON > Alarm.

Figure 234. Management > RMON > Alarm.

Item	Description
Port	The port configuration for the RMON alarm.
Counter	The counter for sampling. □ DropEvents (Drop Event): Total number of events received in which the packets were dropped. □ Octes (Received Bytes): Octets. □ Pkts (Received Packets): Number of packets. □ BroadcastPkts (Broadcast Packets Received): Broadcast packets. □ MulticastPkts (Multicast Packets Received): Multicast packets. □ CRCAlignError (CRC and Align Error): CRC alignment error. □ UndersizePkts (Undersize Packets): Number of undersized packets. □ OversizePkts (Oversize Packets): Number of oversized packets. □ Fragments (Fragments): Total number of packet fragment. □ Jabbers (Jabbers): Total number of packet jabber.

	□ Collisions (Collisions): Collision. □ Pkts64Octetes (Frames of 64 Bytes): Number of packets size 64 octets. □ Pkts65to127Octetes (Frames of 65 to 127 Bytes): Number of packets size 65 to 127 octets. □ Pkts128to255Octetes (Frames of 128 to 255 Bytes): Number of packets size 128 to 255 octets. □ Pkts256to511Octetes (Frames of 256 to 511 Bytes): Number of packets size 256 to 511 octets. □ Pkts512to1023Octetes (Frames of 512 to 1023 Bytes): Number of packets size 512 to 1023 octets. □ Pkts1024to1518Octets (Frames Greater than 1024 Bytes): Number of packets size 1024 to 1518
Sampling	The sampling type including: □ Absolute: The selected variable value is compared directly with the thresholds at the end of the sampling interval. □ Delta: The selected variable value of the last sample is subtracted from the current value and the difference is compared with the thresholds.
Interval	The number of seconds for each sample.
Owner	The owner for the alarm entry.
Trigger	The type of event triggering.
Rising Threshold	The threshold for firing rising event.
Rising Event	The rising event when alarm was fired.
Falling Threshold	The threshold for firing falling event.
Falling Event	The falling event when alarm was fired.

Click "Add/Edit" button to view the Add/Edit menu.

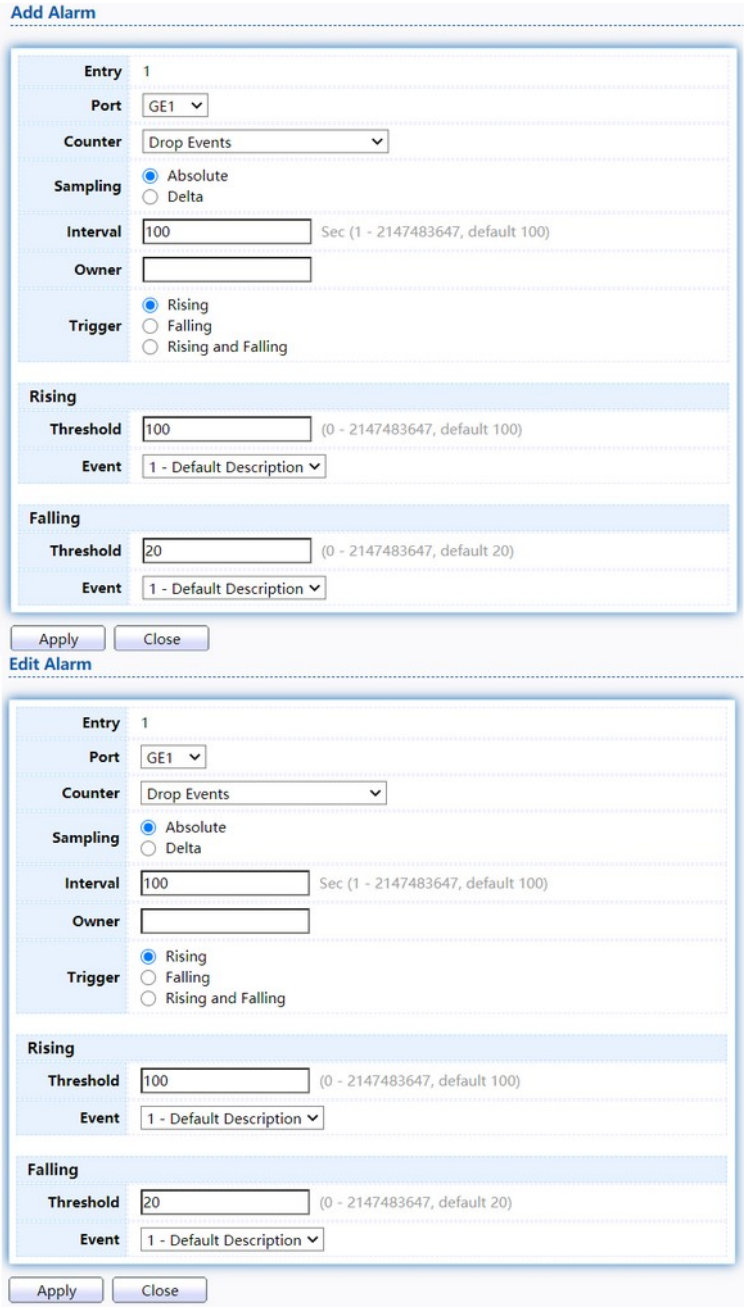


Figure 235. Management > RMON > Add/Edit Alarm.

Item	Description
Port	Specify the port for sampling.
Group	Specify the SNMP group to which the SNMP user belongs.
Counter	The counter for sampling. □ Drop Event: Total number of events received in which the packets were dropped. □ Octes (Received Bytes): Octets. □ Received Packets: Number of packets. □ Broadcast Packets Received: Broadcast packets.

	□ Multicast Packets Received: Multicast packets. □ CRC and Align Error: CRC alignment error. □ Undersize Packets: Number of undersized packets. □ Oversize Packets: Number of oversized packets. □ Fragments: Total number of packet fragment. □ Jabbers: Total number of packet jabber. □ Collisions: Collision. □ Frames of 64 Bytes: Number of packets size 64 octets. □ Frames of 65 to 127 Bytes: Number of packets size 65 to 127 octets. □ Frames of 128 to 255 Bytes: Number of packets size 128 to 255 octets. □ Frames of 256 to 511 Bytes: Number of packets size 256 to 511 octets. □ Frames of 512 to 1023 Bytes: Number of packets size 512 to 1023 octets. □ Frames Greater than 1024 Bytes: Number of packets size 1024 to 1518
Sampling	Specify the sampling type.
Interval	Specify the sampling interval.
Owner	Specify the owner for the sampling.
Trigger	Specify the type for the alarm trigger.
Rising Threshold	Specify the threshold for firing rising event.
Rising Event	Specify the index of rising event when alarm was fired.
Falling Threshold	Specify the threshold for firing falling event.
Falling Event	Specify the index of falling event when alarm was fired.