Web User Interface

Managed Switch Software

USER GUIDE

Rev. 1.0

USING THIS DOCUMENT

This document is intended for the software engineer’s general information on the usage of switch source files for the chip development of the switch team.

Though every effort has been made to ensure that this document is current and accurate, more information may have become available subsequent to the production of this guide.

REVISION HISTORY

Revision	Release Date	Summary
1.0	-	First release

Table of Contents

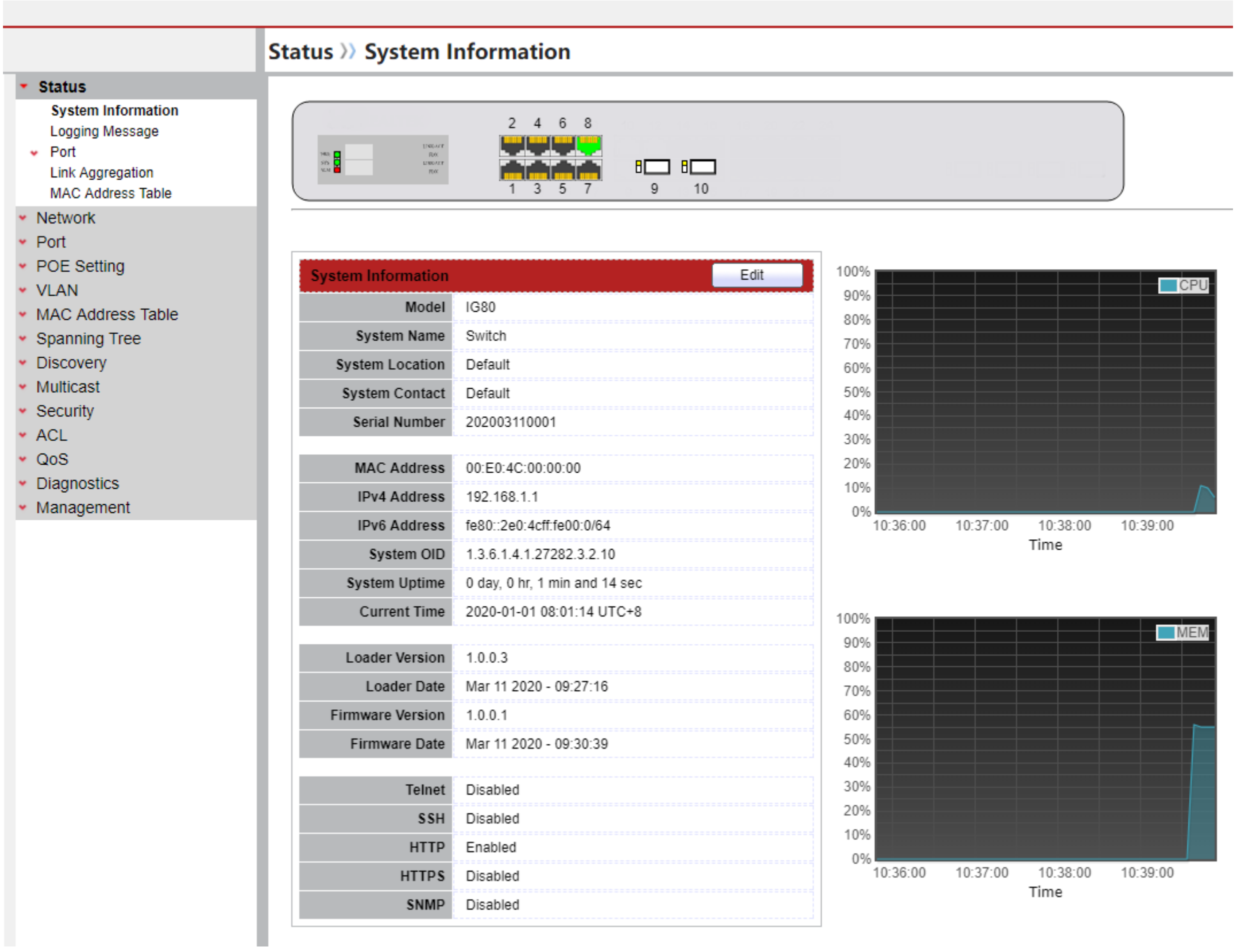
1. Introduction

managed switch software provides rich functionality for switches in your networks. This guide describes how to use Web-based management interface (Web UI) to configure managed switch software features.

The Web UI supports all frequently used web browsers listed below:

- Internet Explorer 8 and above
- Firefox 20.0 and above
- Chrome 23.0 and above
- Safari 5.1.7 and above

In the Web UI, the left column shows the configuration menu. The top row shows the switch's current link status. Green squares indicate the port link is up, while black squares indicate the port link is down. Below the switch panel, you can find a common toolbar to provide useful functions for users. The rest of the screen area displays the configuration settings.



System Information

Model	IG80
System Name	Switch
System Location	Default
System Contact	Default
Serial Number	202003110001
MAC Address	00:E0:4C:00:00:00
IPv4 Address	192.168.1.1
IPv6 Address	fe80::2e0:4cff:fe00:0/64
System OID	1.3.6.1.4.1.27282.3.2.10
System Uptime	0 day, 0 hr, 1 min and 14 sec
Current Time	2020-01-01 08:01:14 UTC+8
Loader Version	1.0.0.3
Loader Date	Mar 11 2020 - 09:27:16
Firmware Version	1.0.0.1
Firmware Date	Mar 11 2020 - 09:30:39
Telnet	Disabled
SSH	Disabled
HTTP	Enabled
HTTPS	Disabled
SNMP	Disabled

Figure 1-1 Web User Interface

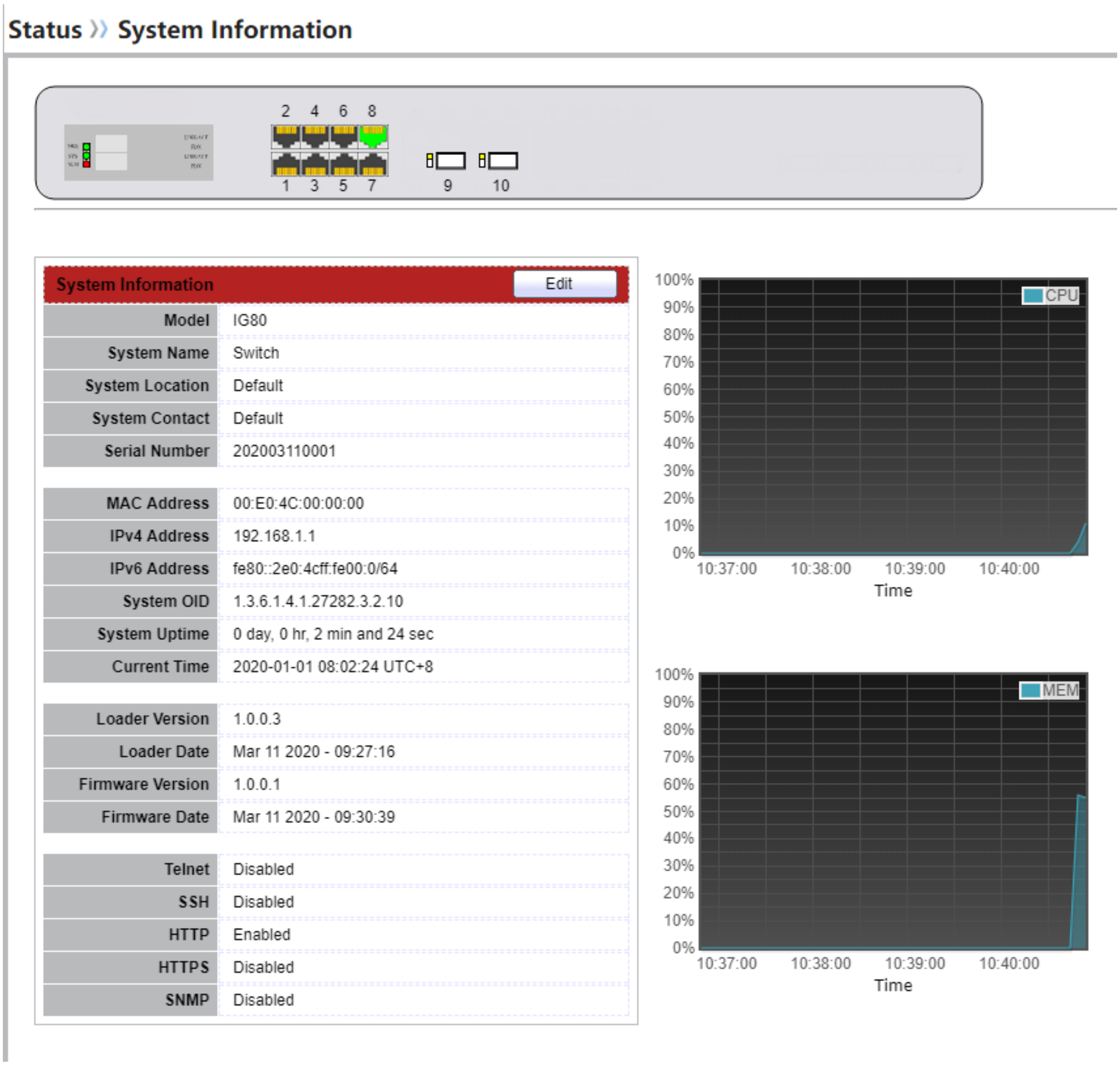
2. Status

Use the Status pages to view system information and status.

2.1. System Information

To display System Information web page, click **Status > System Information**

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



Status » System Information

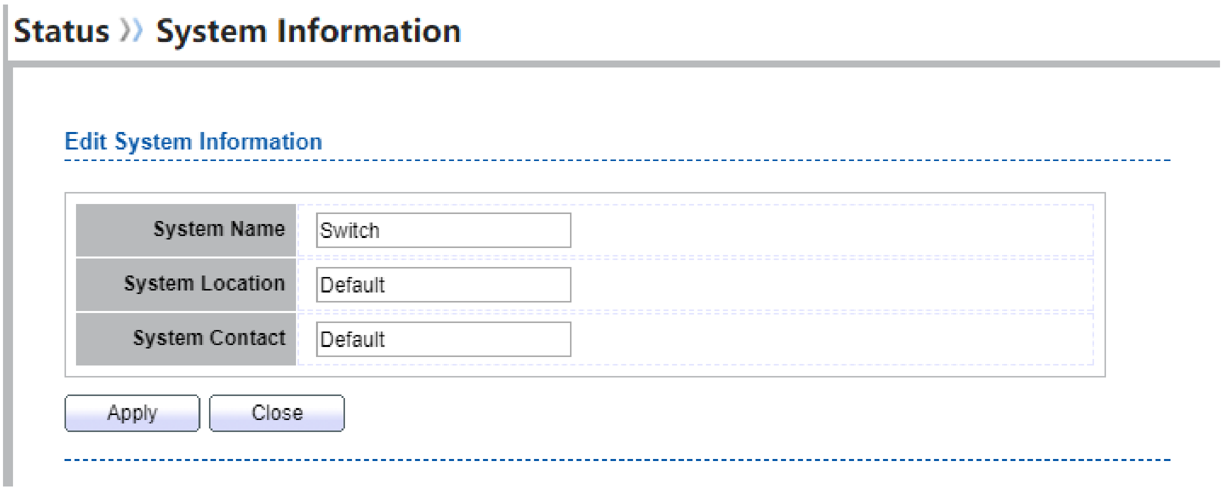
System Information	Edit
Model	IG80
System Name	Switch
System Location	Default
System Contact	Default
Serial Number	202003110001
MAC Address	00:E0:4C:00:00:00
IPv4 Address	192.168.1.1
IPv6 Address	fe80::2e0:4cff:fe00:0/64
System OID	1.3.6.1.4.1.27282.3.2.10
System Uptime	0 day, 0 hr, 2 min and 24 sec
Current Time	2020-01-01 08:02:24 UTC+8
Loader Version	1.0.0.3
Loader Date	Mar 11 2020 - 09:27:16
Firmware Version	1.0.0.1
Firmware Date	Mar 11 2020 - 09:30:39
Telnet	Disabled
SSH	Disabled
HTTP	Enabled
HTTPS	Disabled
SNMP	Disabled

Figure 2-1 System Information Page

Field	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
MAC Address	Base MAC address 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

Table 2-1 Current System Information

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



System Name	Switch
System Location	Default
System Contact	Default

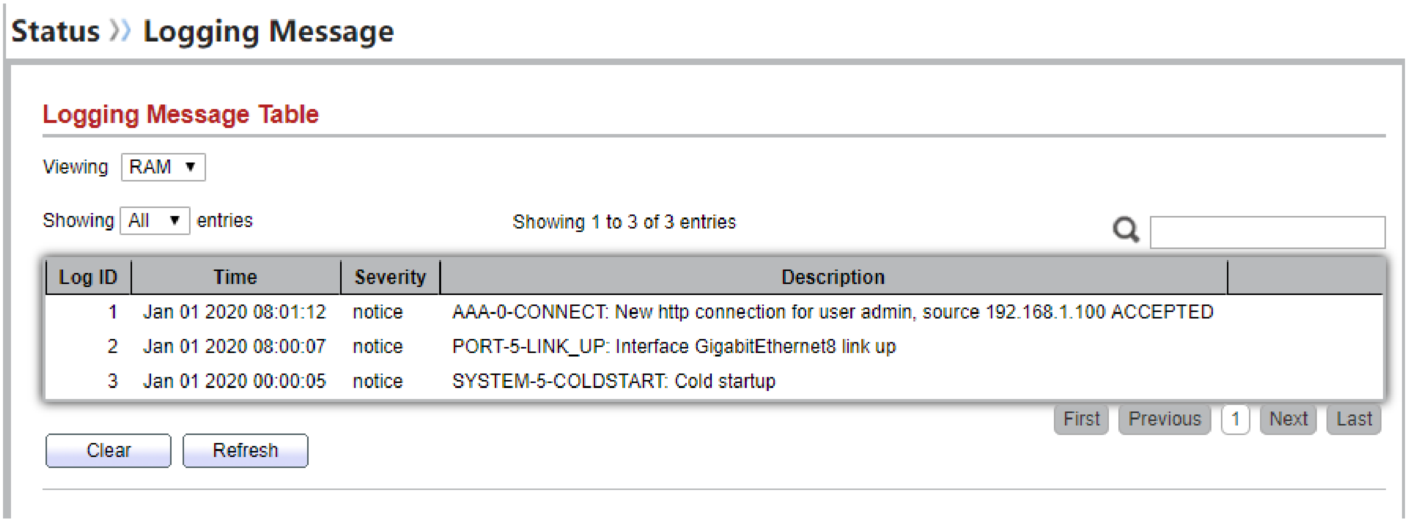
Figure 2-2 Edit System Information dialog

Field	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

Table 2-2 System Information Fields

2.2. Logging Message

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



Showing 1 to 3 of 3 entries

Log ID	Time	Severity	Description
1	Jan 01 2020 08:01:12	notice	AAA-0-CONNECT: New http connection for user admin, source 192.168.1.100 ACCEPTED
2	Jan 01 2020 08:00:07	notice	PORT-5-LINK_UP: Interface GigabitEthernet8 link up
3	Jan 01 2020 00:00:05	notice	SYSTEM-5-COLDSTART: Cold startup

Figure 2-3: Logging Message page.

Field	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.

Table 2-3: Logging Message fields.

Field	Description
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.

Table 2-4: Logging Message buttons.

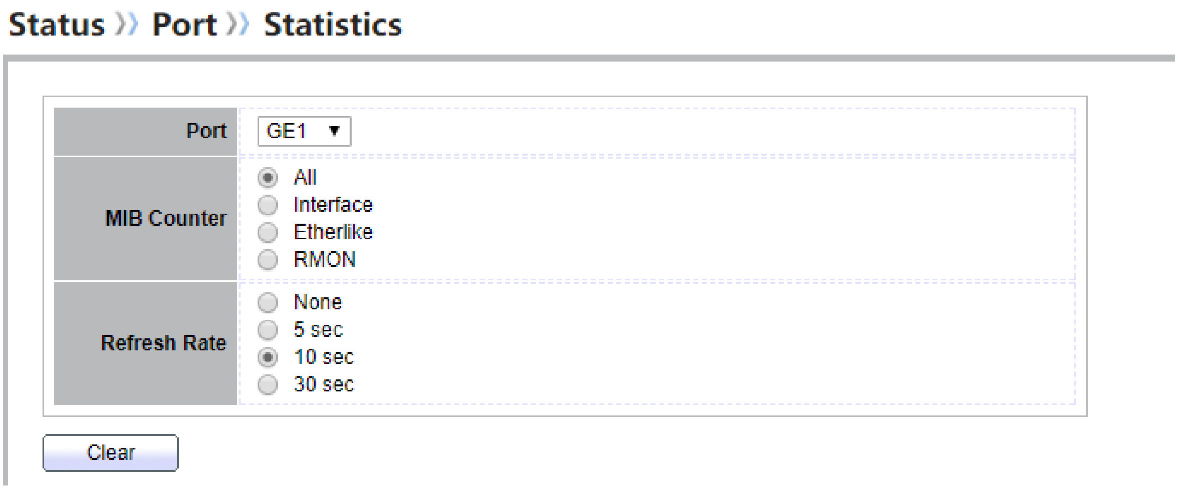
2.3. Port

The Port configuration page displays port summary and status information.

2.3.1. Statistics

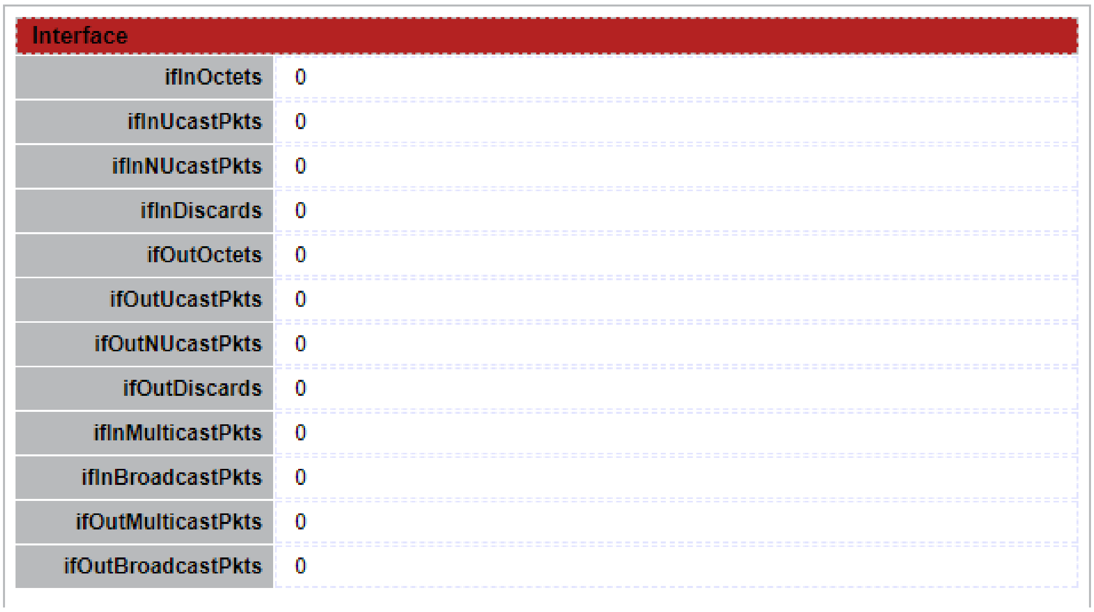
To display Port Counters web page, click **Status > Port > Statistics**

This page displays standard counters on network traffic form the Interfaces, Ethernet-like and RMON MIB. 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.

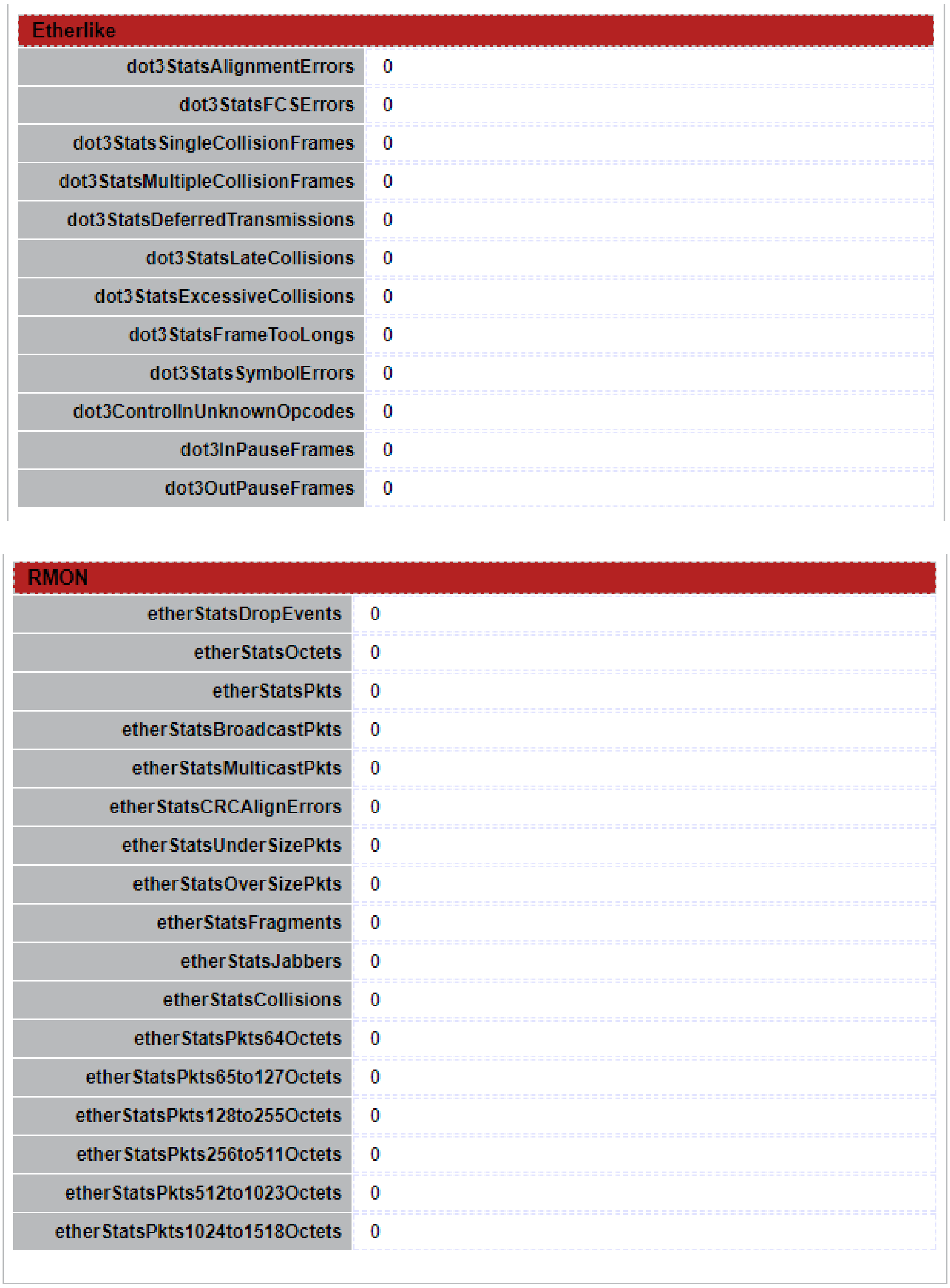


Status » Port » Statistics

Port	GE1 ▼
MIB Counter	● All ○ Interface ○ Etherlike ○ RMON
Refresh Rate	○ None ○ 5 sec ● 10 sec ○ 30 sec



Interface	
ifInOctets	0
ifInUcastPkts	0
ifInNUcastPkts	0
ifInDiscards	0
ifOutOctets	0
ifOutUcastPkts	0
ifOutNUcastPkts	0
ifOutDiscards	0
ifInMulticastPkts	0
ifInBroadcastPkts	0
ifOutMulticastPkts	0
ifOutBroadcastPkts	0



Etherlike	
dot3StatsAlignmentErrors	0
dot3StatsFCSErrors	0
dot3StatsSingleCollisionFrames	0
dot3StatsMultipleCollisionFrames	0
dot3StatsDeferredTransmissions	0
dot3StatsLateCollisions	0
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

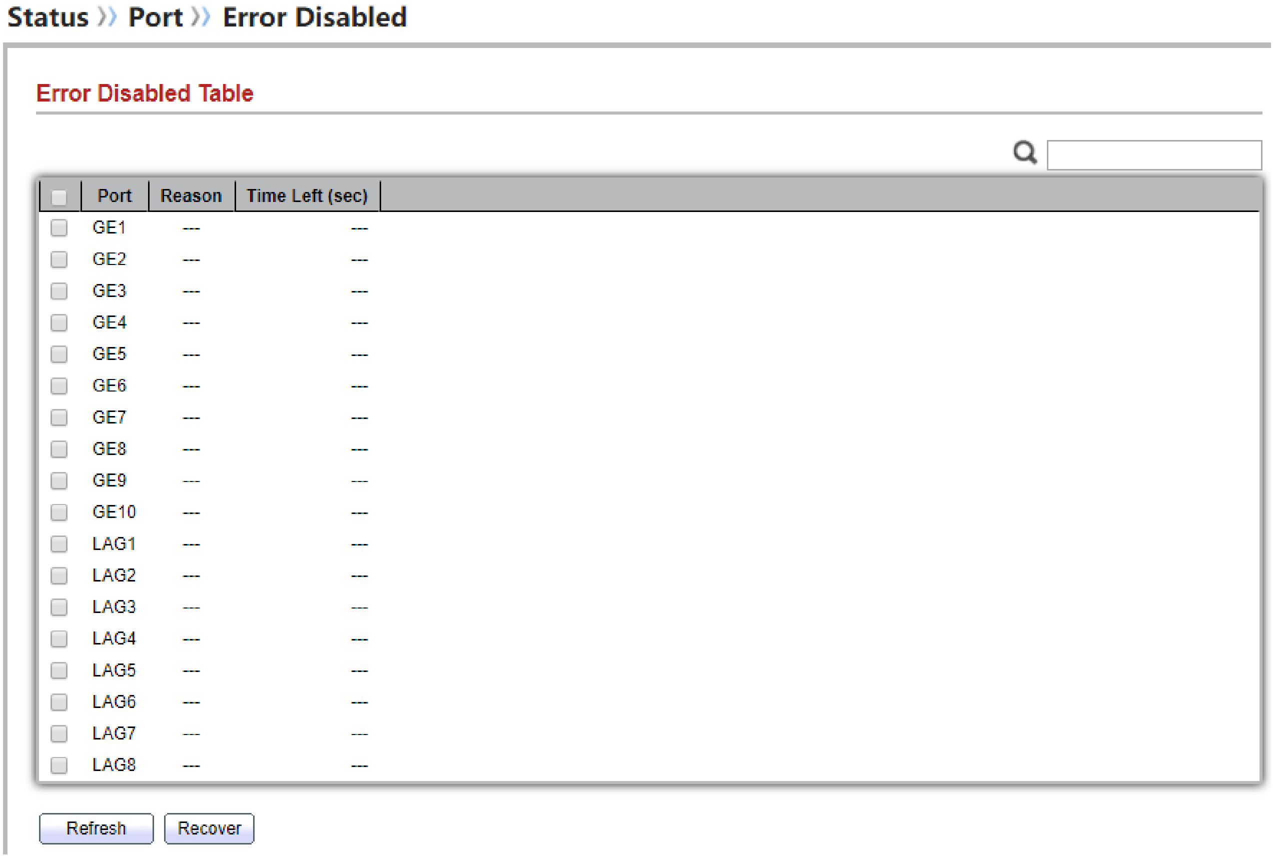
Figure 2-4 Port Counters Page

Field	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

Table 2-5 Port Counters Fields

2.3.2. Error Disabled

To display the status of port error disabled, click **Status** > **Port** > **Error Disabled**.



Status ›› Port ›› Error Disabled

Error Disabled Table

□	Port	Reason	Time Left (sec)
□	GE1	---	---
□	GE2	---	---
□	GE3	---	---
□	GE4	---	---
□	GE5	---	---
□	GE6	---	---
□	GE7	---	---
□	GE8	---	---
□	GE9	---	---
□	GE10	---	---
□	LAG1	---	---
□	LAG2	---	---
□	LAG3	---	---
□	LAG4	---	---
□	LAG5	---	---
□	LAG6	---	---
□	LAG7	---	---
□	LAG8	---	---

Figure 2-5: Error Disabled Status page.

Field	Description

Port	Interface or port number.
Reason	Port will be disabled by one of the following error reason: • **BPDU Guard**

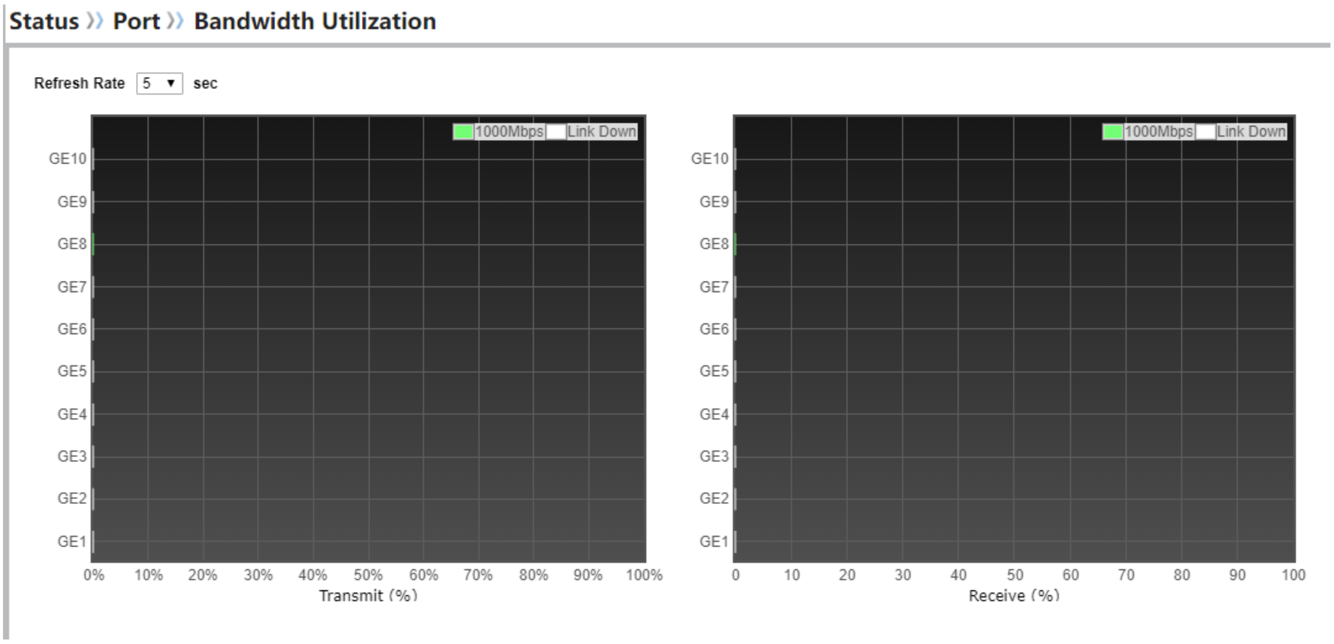
	• **UDLD** • **Self Loop** • **Broadcast Flood** • **Unknown Multicast Flood** • **Unicast Flood** • **ACL** • **Port Security Violation** • **DHCP rate limit** • **ARP rate limit**
Time Left (sec)	The time left in second for the error recovery.

Table 2-6: Error Disabled Status fields.

2.3.3. Bandwidth Utilization

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

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



Status » Port » Bandwidth Utilization

Refresh Rate 5 ▾ sec

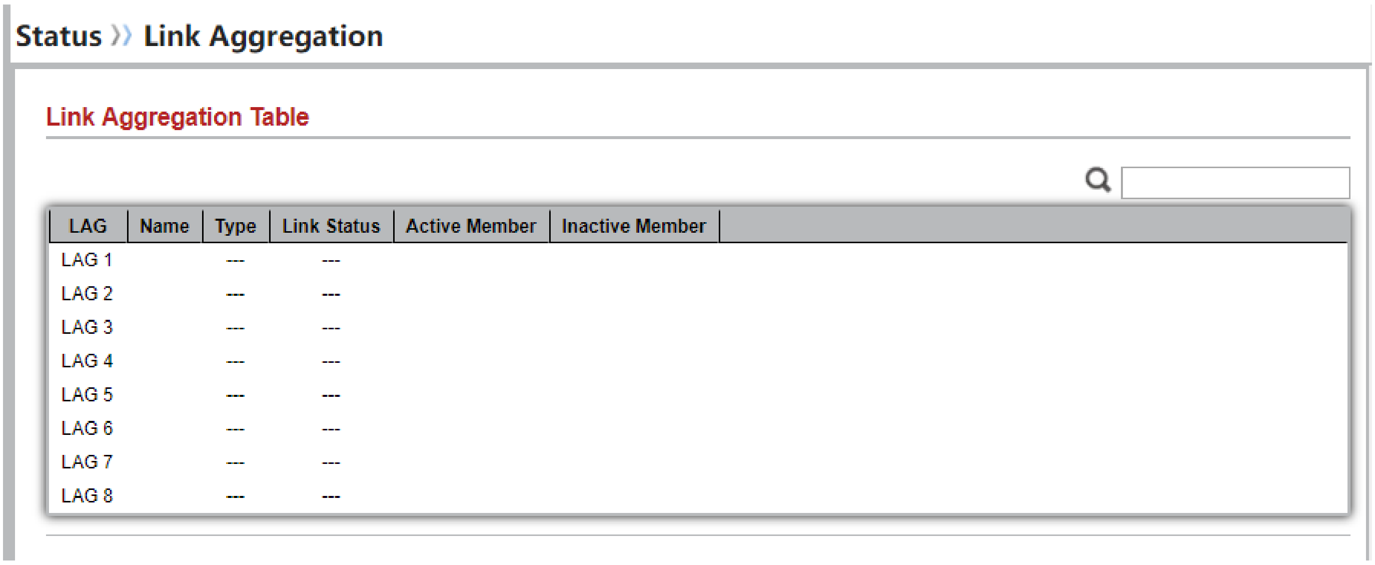
Figure 2-6 Port Bandwidth Utilization Page

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

Table 2-7 Bandwidth Utilization Fields

2.4. Link Aggregation

To display Link Aggregation status web page, click **Status > Link Aggregation**



LAG	Name	Type	Link Status	Active Member	Inactive Member
LAG 1		---	---		
LAG 2		---	---		
LAG 3		---	---		
LAG 4		---	---		
LAG 5		---	---		
LAG 6		---	---		
LAG 7		---	---		
LAG 8		---	---		

Figure 2-7 Link Aggregation Status Page

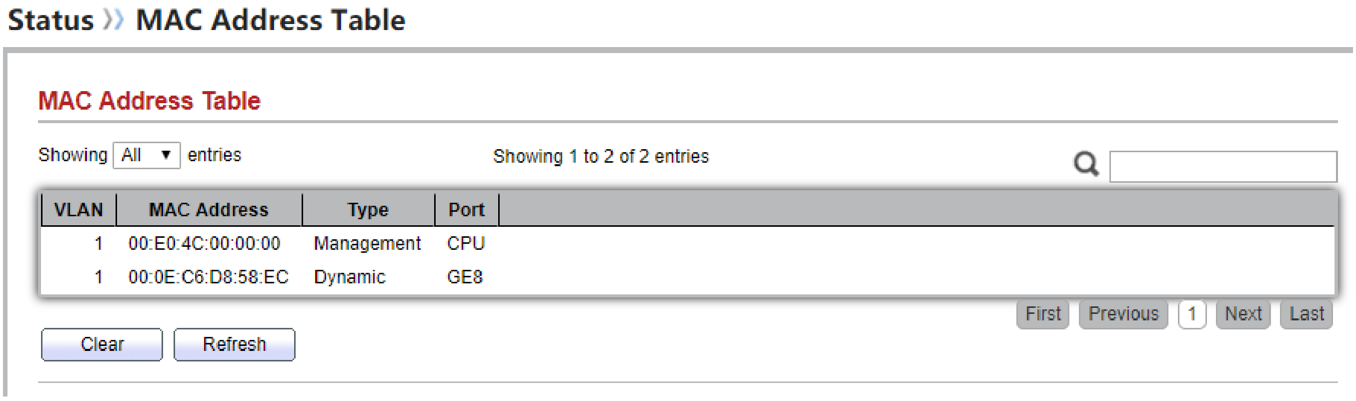
Field	Description
LAG	LAG Name
Name	LAG port description
Type	The type of the LAG • **Static:** The group of ports assigned to a static LAG are always active members. • **LACP:** The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active member ports.
Link Status	LAG port link status
Active Member	Active member ports of the LAG
Inactive Member	Inactive member ports of the LAG

Table 2-8 LAG Status Fields

2.5. MAC Address Table

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



Status » MAC Address Table

MAC Address Table

Showing All entries — Showing 1 to 2 of 2 entries

VLAN	MAC Address	Type	Port
1	00:E0:4C:00:00:00	Management	CPU
1	00:0E:C6:D8:58:EC	Dynamic	GE8

Figure 2-8 MAC Address Status Page

Field	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

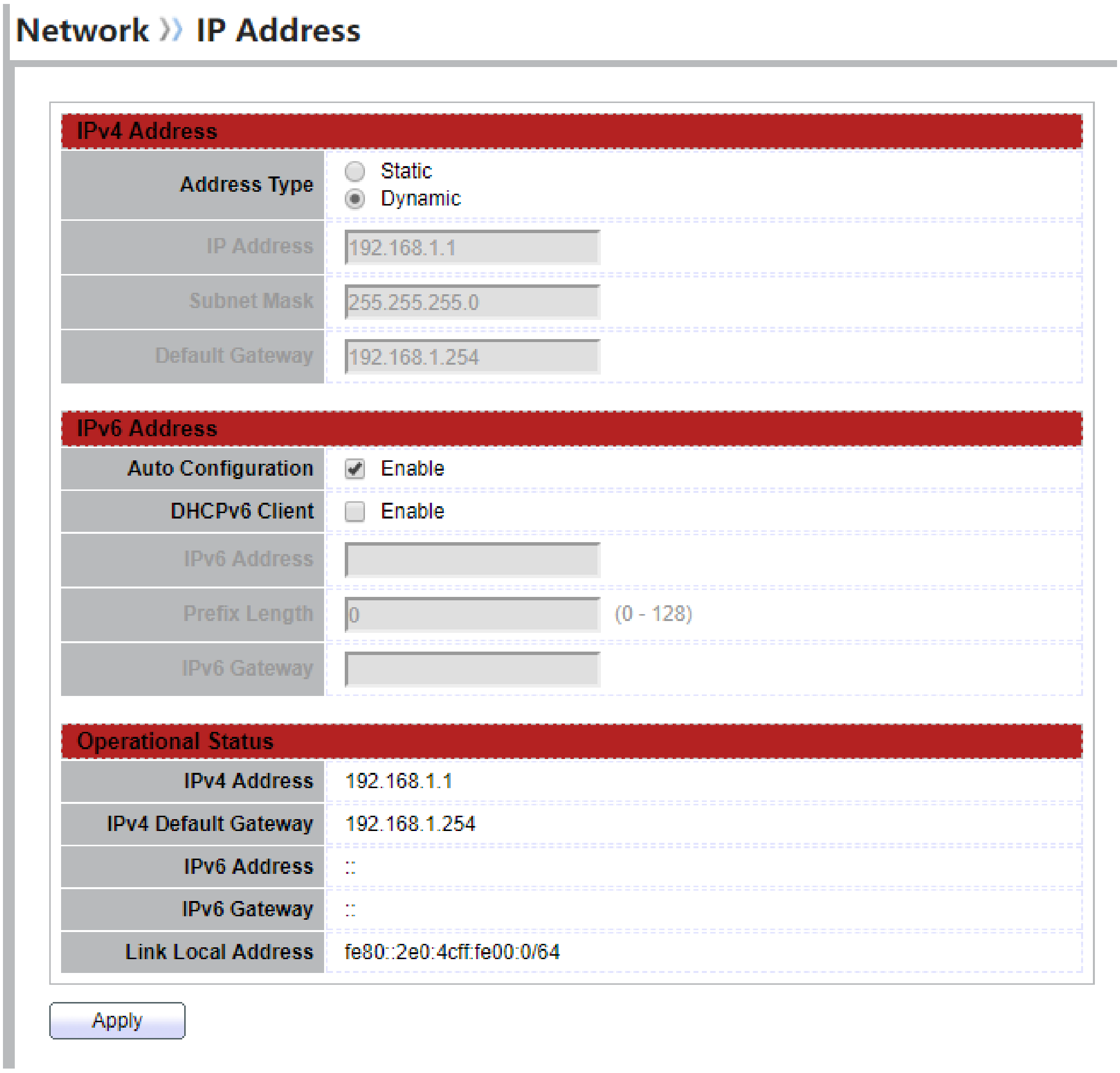
Table 2-9 MAC Address Status Fields

3. 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.

3.1. IP Address

To configure the Switch IP/IPv6 address and DNS configuration, click **Network** > **IP Address**.



Network » IP Address

IPv4 Address	
Address Type	○ Static ● Dynamic
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254

IPv6 Address	
Auto Configuration	☑ Enable
DHCPv6 Client	□ Enable
IPv6 Address	
Prefix Length	0 (0 - 128)
IPv6 Gateway	

Operational Status	
IPv4 Address	192.168.1.1
IPv4 Default Gateway	192.168.1.254
IPv6 Address	::
IPv6 Gateway	::
Link Local Address	fe80::2e0:4cff:fe00:0/64

Figure 3-1: IP Address page.

Field	Description
Address Type	The address ype 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

Table 3-1: IPv4 Address fields.

Field	Description
Auto Configuration	Enable/Disable the IPv6 auto configuration.
DHCPv6 Client	Enable/Disable the DHCPv6 client.
IPv6 Address	Specify the IPv6 address, when the IPv6 auto configuration and DHCPv6 client are disabled.
IPv6 Prefix	Specify the prefix for the IPv6 address, when the IPv6 auto configuration and DHCPv6 client are disabled.
Gateway	Specify the IPv6 default gateway, when the IPv6 auto configuration and DHCPv4 client are disabled.
DNS Server 1	Specify the primary user-defined IPv6 DNS server configuration.
DNS Server 2	Specify the secondary user-defined IPv6 DNS server configuration.

Table 3-2: IPv6 Address fields.

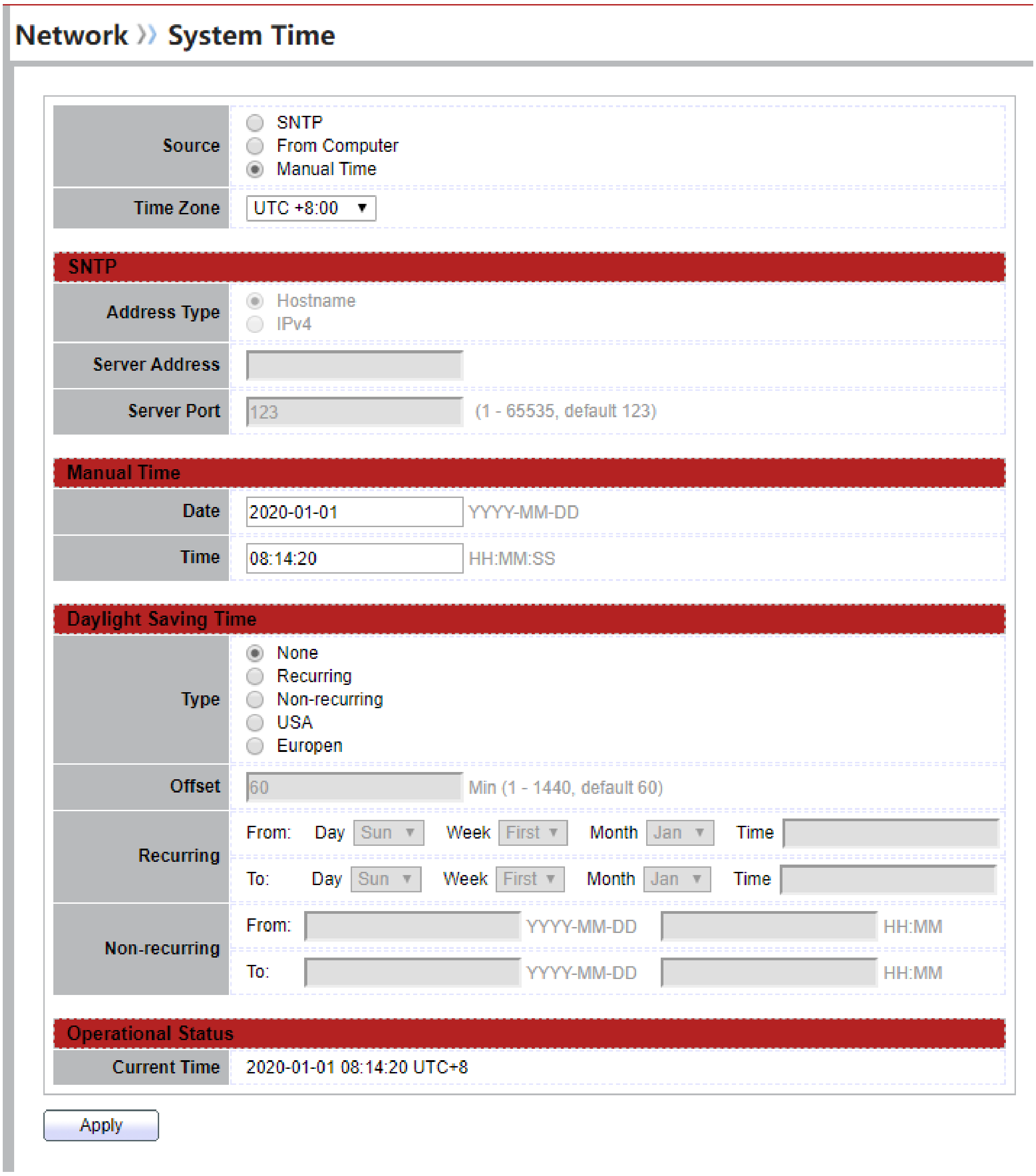
Field	Description
IPv4 Address	The operational IPv4 address of the switch.
IPv4 Gateway	The operational IPv4 gateway of the switch.
IPv6 Address	The operational IPv6 address of the switch.
IPv6 Gateway	The operational IPv6 gateway of the switch.
Link Local Address	The IPv6 link local address for the switch.

Table 3-3: Operational Status fields.

3.2. System Time

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

This page allow 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.



Network ›› System Time

Source: ○ SNTP ○ From Computer ● Manual Time

Time Zone: UTC +8:00 ▼

SNTP

Address Type: ● Hostname ○ IPv4

Server Address:

Server Port: 123 (1 - 65535, default 123)

Manual Time

Date: 2020-01-01 YYYY-MM-DD

Time: 08:14:20 HH:MM:SS

Daylight Saving Time

Type: ● None ○ Recurring ○ Non-recurring ○ USA ○ Europen

Offset: 60 Min (1 - 1440, default 60)

Recurring:
From: Day Sun ▼ Week First ▼ Month Jan ▼ Time
To: Day Sun ▼ Week First ▼ Month Jan ▼ Time

Non-recurring:
From: YYYY-MM-DD HH:MM
To: YYYY-MM-DD HH:MM

Operational Status

Current Time: 2020-01-01 08:14:20 UTC+8

Figure 3-2 System Time Page

Field	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	**Description**
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	**Description**
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	**Description**
Type	Select the mode of daylight saving time. • **Disable:** 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.

Table 3-4 System Time Fields

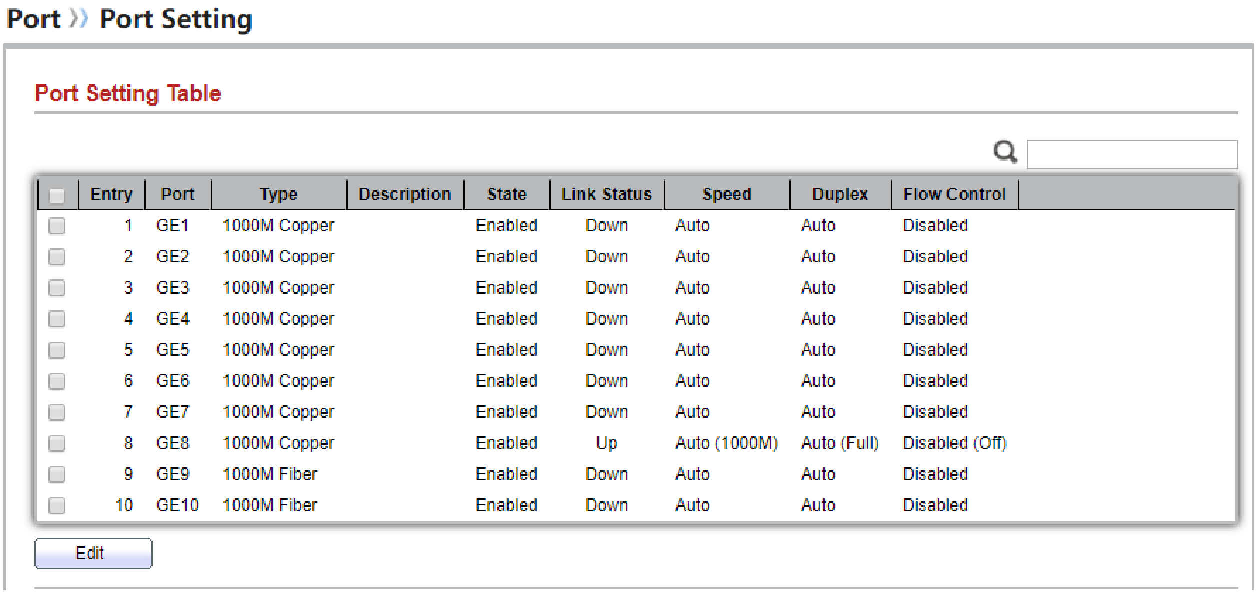
4. Port

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

4.1. Port Setting

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


Port » Port Setting

Port Setting Table

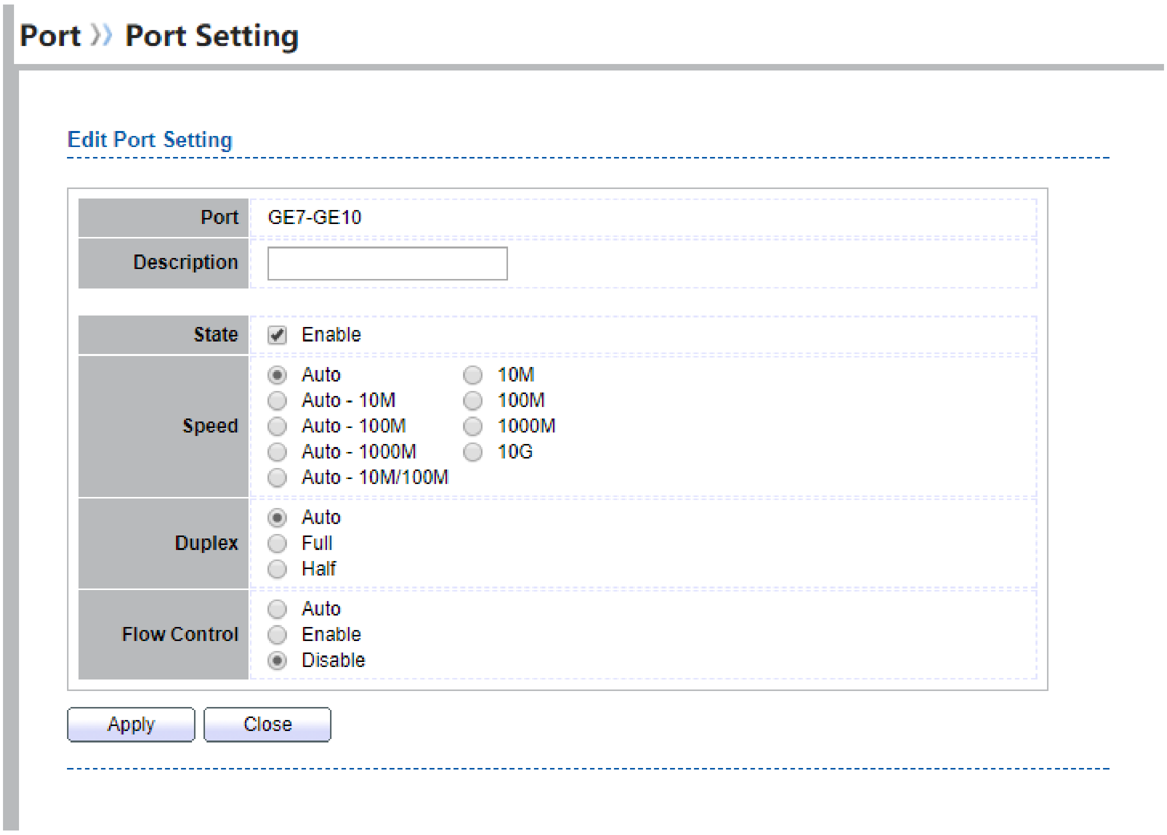
□	Entry	Port	Type	Description	State	Link Status	Speed	Duplex	Flow Control
□	1	GE1	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	2	GE2	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	3	GE3	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	4	GE4	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	5	GE5	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	6	GE6	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	7	GE7	1000M Copper		Enabled	Down	Auto	Auto	Disabled
□	8	GE8	1000M Copper		Enabled	Up	Auto (1000M)	Auto (Full)	Disabled (Off)
□	9	GE9	1000M Fiber		Enabled	Down	Auto	Auto	Disabled
□	10	GE10	1000M Fiber		Enabled	Down	Auto	Auto	Disabled

Figure 4-1 Port Setting Table

Field	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

Table 4-1 Port Setting Table Fields



Port » Port Setting

Edit Port Setting

Port	GE7-GE10
Description	
State	☑ Enable
Speed	● Auto ○ 10M ○ Auto - 10M ○ 100M ○ Auto - 100M ○ 1000M ○ Auto - 1000M ○ 10G ○ Auto - 10M/100M
Duplex	● Auto ○ Full ○ Half
Flow Control	○ Auto ○ Enable ● Disable

Figure 4-2 Edit Port Setting Dialog

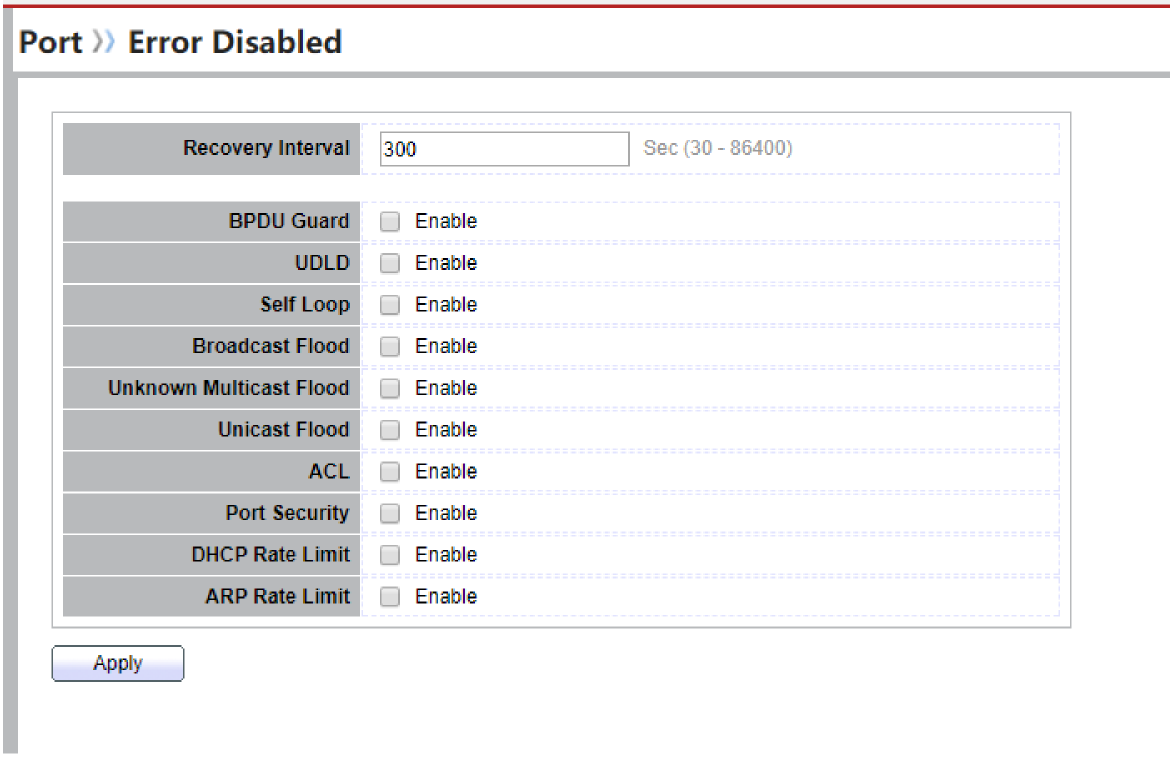
Field	Description
Port	Selected port list
Description	Port description
State	Port admin state. • **Enabled:** Enable the port. • **Disabled:** Disable the port.

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
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.

Table 4-2 Edit Port Setting Fields

4.2. Error Disabled

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



Port » Error Disabled

Recovery Interval	300 Sec (30 - 86400)
BPDU Guard	□ Enable
UDLD	□ Enable
Self Loop	□ Enable
Broadcast Flood	□ Enable
Unknown Multicast Flood	□ Enable
Unicast Flood	□ Enable
ACL	□ Enable
Port Security	□ Enable
DHCP Rate Limit	□ Enable
ARP Rate Limit	□ Enable

Figure 4-3 Error Disabled Page

Field	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.

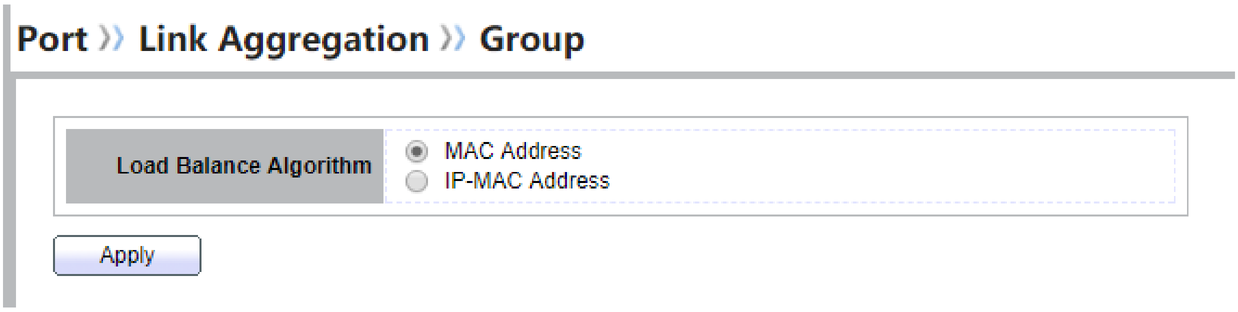
Table 4-3 Error Disabled Fields

4.3. Link Aggregation

4.3.1. Group

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

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



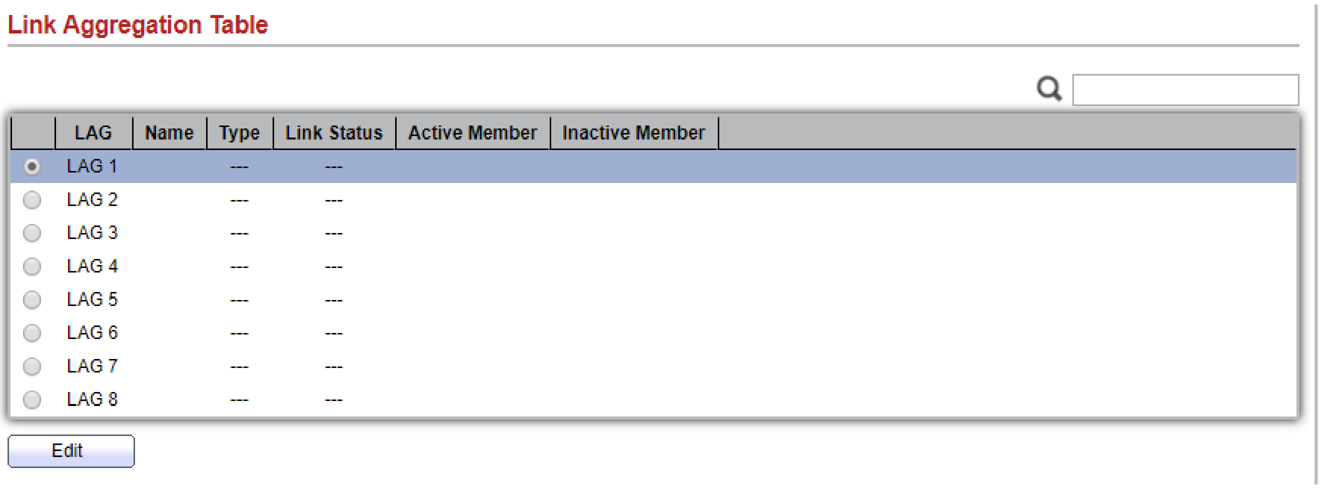
Port ›› Link Aggregation ›› Group

Load Balance Algorithm ● MAC Address ○ IP-MAC Address

Figure 4-4 LAG Global Setting

Field	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

Table 4-4 LAG Global Setting Fields



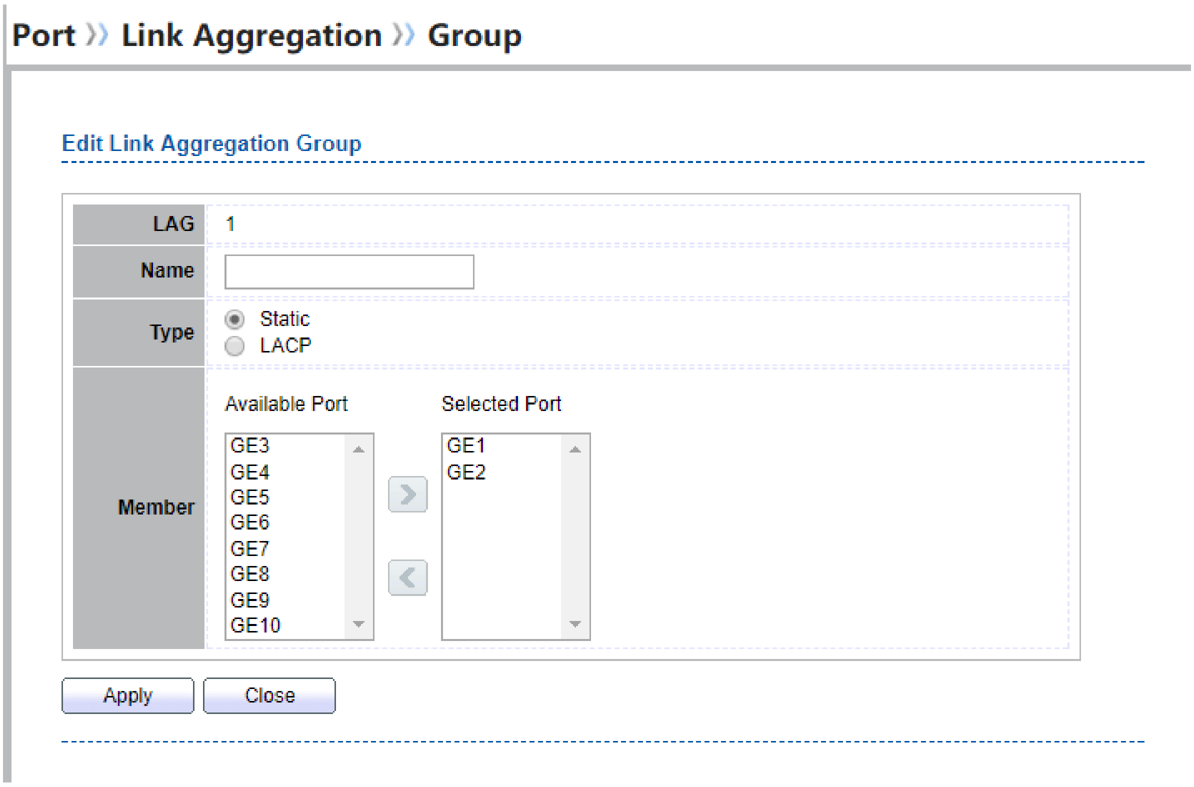
Link Aggregation Table

	LAG	Name	Type	Link Status	Active Member	Inactive Member
●	LAG 1		---	---		
○	LAG 2		---	---		
○	LAG 3		---	---		
○	LAG 4		---	---		
○	LAG 5		---	---		
○	LAG 6		---	---		
○	LAG 7		---	---		
○	LAG 8		---	---		

Figure 4-5 LAG Group Setting Table

Field	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

Table 4-5 LAG Group Setting Fields



Port » Link Aggregation » Group

Edit Link Aggregation Group

LAG	1
Name	
Type	● Static ○ LACP
Member	Available Port: GE3, GE4, GE5, GE6, GE7, GE8, GE9, GE10 Selected Port: GE1, GE2

Figure 4-6 Edit LAG Group Setting Dialog

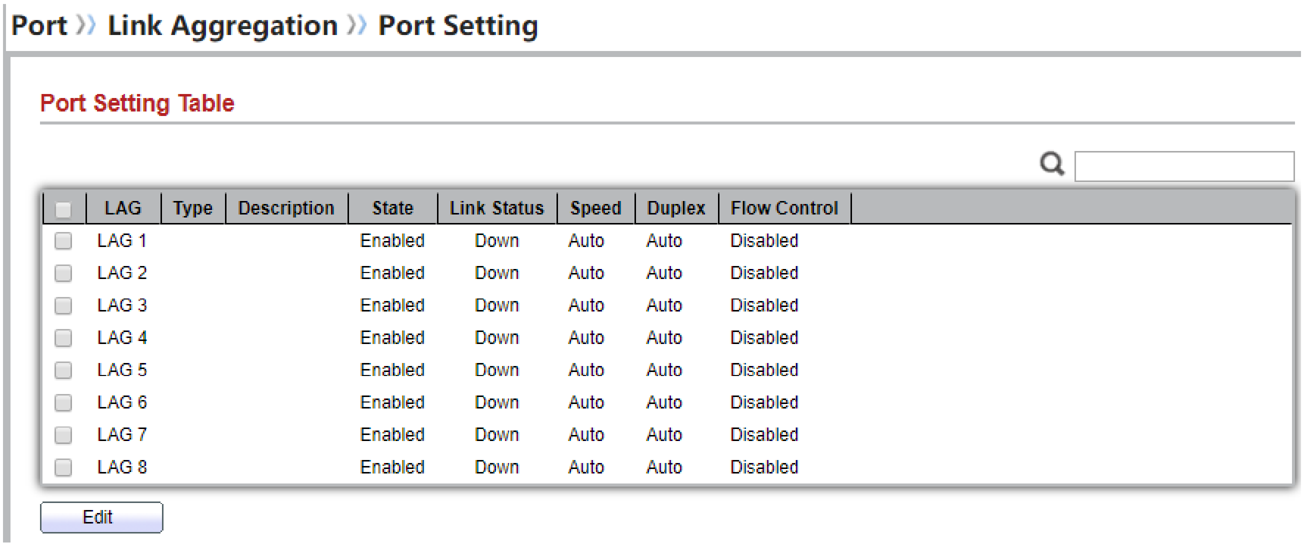
Field	Description
LAG	Selected LAG group ID
Name	LAG port description
Type	The type of the LAG • **Static:** The group of ports assigned to a static LAG are always active members. • **LACP:** The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active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

Table 4-6 Edit LAG Group Setting Field

4.3.2. Port Setting

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



Port ›› Link Aggregation ›› Port Setting

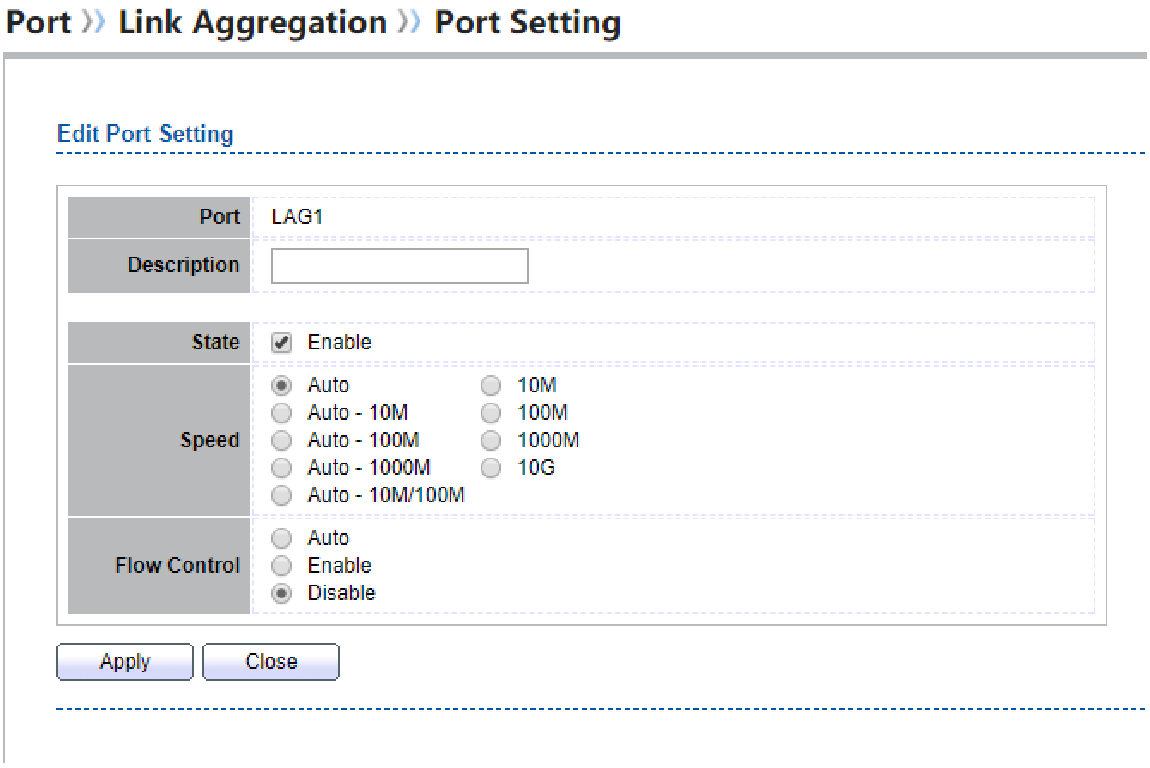
Port Setting Table

□	LAG	Type	Description	State	Link Status	Speed	Duplex	Flow Control
□	LAG 1			Enabled	Down	Auto	Auto	Disabled
□	LAG 2			Enabled	Down	Auto	Auto	Disabled
□	LAG 3			Enabled	Down	Auto	Auto	Disabled
□	LAG 4			Enabled	Down	Auto	Auto	Disabled
□	LAG 5			Enabled	Down	Auto	Auto	Disabled
□	LAG 6			Enabled	Down	Auto	Auto	Disabled
□	LAG 7			Enabled	Down	Auto	Auto	Disabled
□	LAG 8			Enabled	Down	Auto	Auto	Disabled

Figure 4-7 LAG Port Setting Table

Field	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

Table 4-7 Port Setting Status Fields



Port » Link Aggregation » Port Setting

Edit Port Setting

Port	LAG1
Description	
State	☑ Enable
Speed	● Auto ○ 10M ○ Auto - 10M ○ 100M ○ Auto - 100M ○ 1000M ○ Auto - 1000M ○ 10G ○ Auto - 10M/100M
Flow Control	○ Auto ○ Enable ● Disable

Figure 4-8 Edit LAG Port Setting Dialog

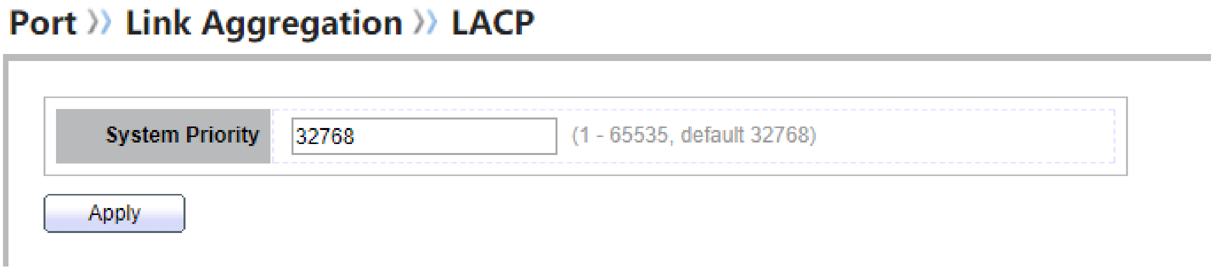
Field	Description
Port	Selected port list
Description	Port description
State	Port admin state. • **Enable:** Enable the port. • **Disable:** Disable the port.
Speed	Port speed capabilities. • **Auto:** Auto speed with all capabilities • **Auto-10M:** Auto speed with 10M ability only • **Auto-100M:** 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.

Table 4-8 Port Setting Status Fields

4.3.3. LACP

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

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

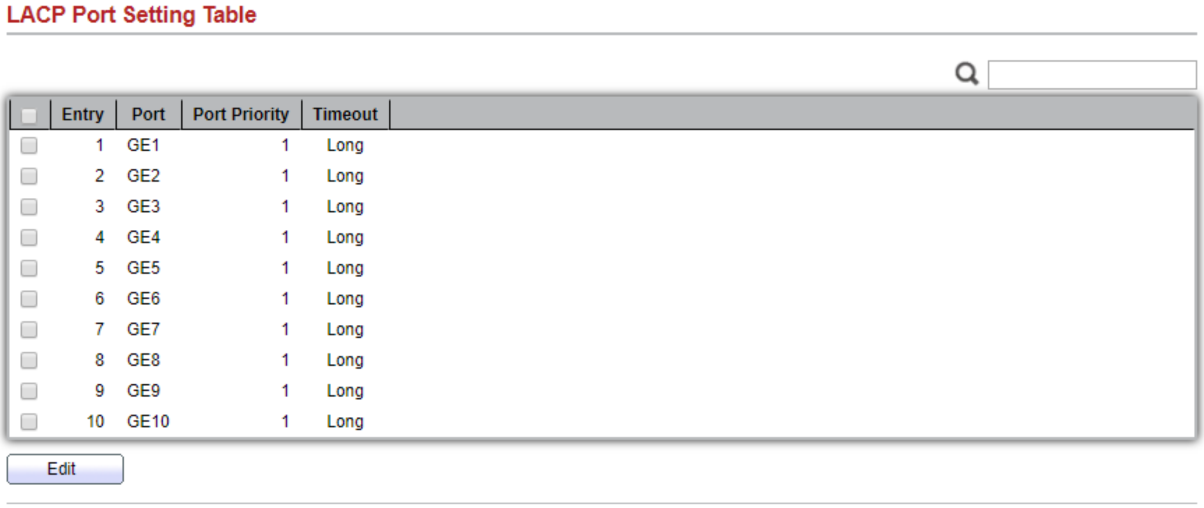

Port ›› Link Aggregation ›› LACP

System Priority	32768	(1 - 65535, default 32768)

Figure 4-9 LACP Global Setting

Field	Description
System Priority	Configure the system priority of LACP. This decides the system priority field in LACP PDU.

Table 4-9 LACP Global Setting Fields

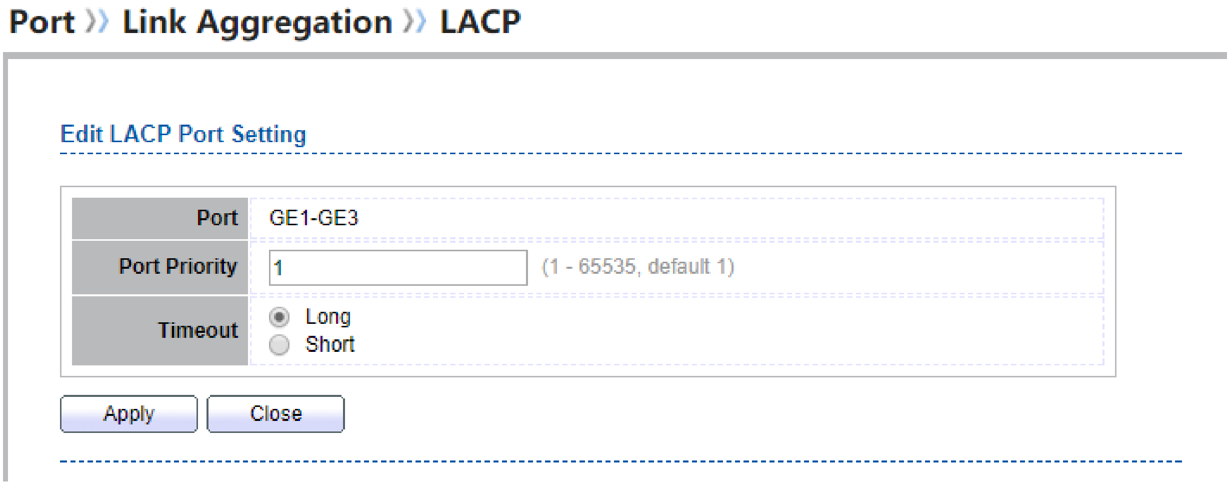

LACP Port Setting Table

□	Entry	Port	Port Priority	Timeout
□	1	GE1	1	Long
□	2	GE2	1	Long
□	3	GE3	1	Long
□	4	GE4	1	Long
□	5	GE5	1	Long
□	6	GE6	1	Long
□	7	GE7	1	Long
□	8	GE8	1	Long
□	9	GE9	1	Long
□	10	GE10	1	Long

Figure 4-10 LACP Port Setting Table

Field	Description
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 LACPP DU with fast periodic (1s).

Table 4-10 LACP Port Setting Table Fields



Port	GE1-GE3
Port Priority	1 (1 - 65535, default 1)
Timeout	● Long ○ Short

Figure 4-11 Edit LACP Port Setting

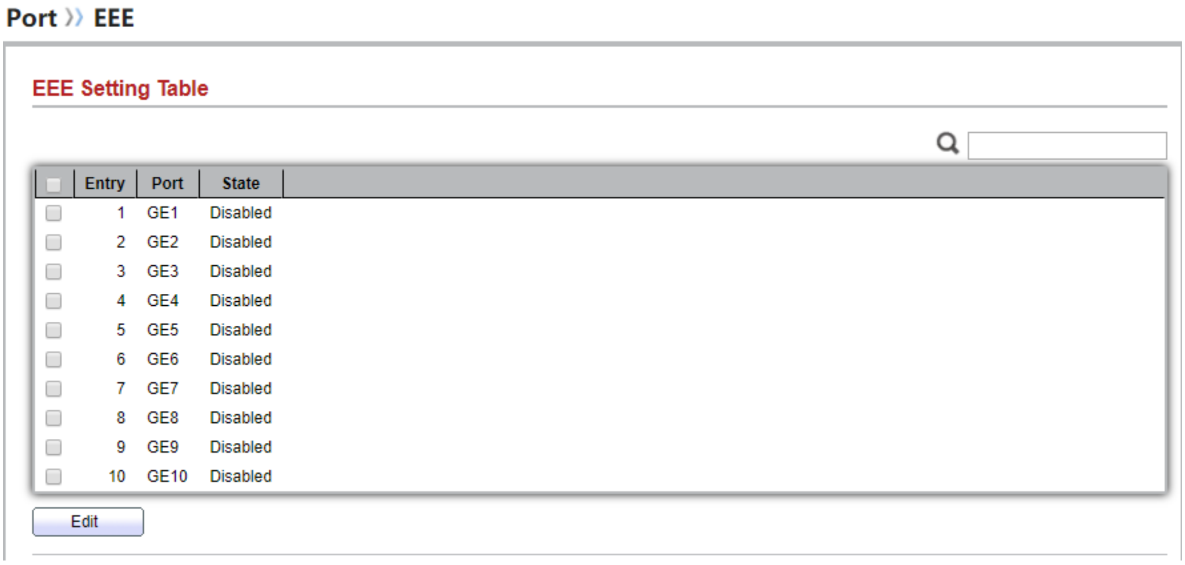
Field	Description
Port	Selected port list
Port Priority	Enter the LACP priority value of the port
Timeout	The periodic transmissions type of LACP PDUs. • **Long:** Transmit LACP PDU with slow periodic (30s). • **Short:** Transmit LACPP DU with fast periodic (1s).

Table 4-11 Edit LACP Port Setting Fields

4.4. EEE

To display EEE web page, click **Port > EEE**

This page allow user to configure Energy Efficient Ethernet settings.



Port » EEE

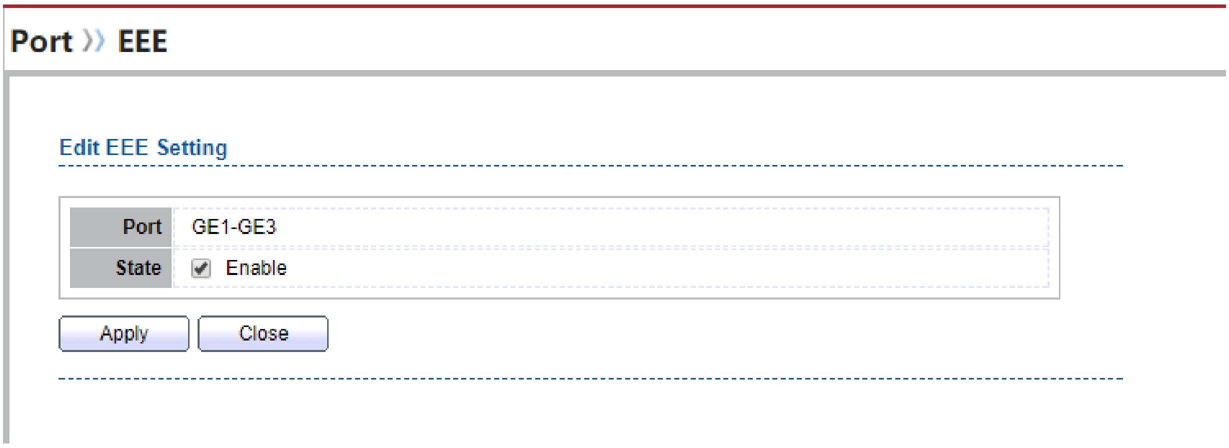
EEE Setting Table

□	Entry	Port	State
□	1	GE1	Disabled
□	2	GE2	Disabled
□	3	GE3	Disabled
□	4	GE4	Disabled
□	5	GE5	Disabled
□	6	GE6	Disabled
□	7	GE7	Disabled
□	8	GE8	Disabled
□	9	GE9	Disabled
□	10	GE10	Disabled

Figure 4-12 EEE Setting Table

Field	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

Table 4-12 EEE Setting Table Fields



Port » EEE

Edit EEE Setting

Port	GE1-GE3
State	☑ Enable

Figure 4-13 Edit EEE Setting Dialog

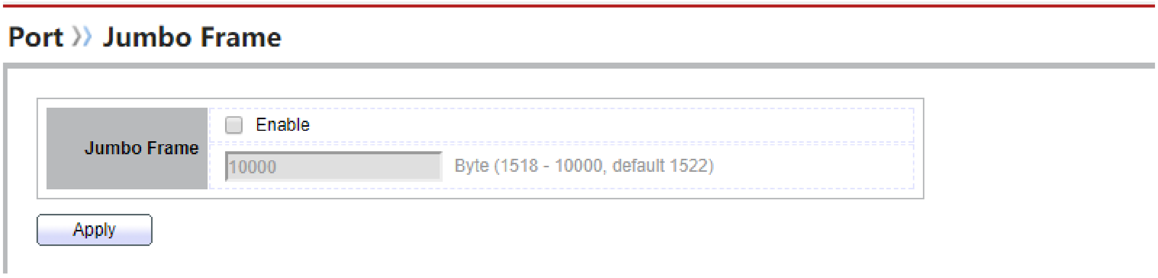
Field	Description
Port	Selected port list
State	Port EEE admin state. • **Enable:** Enable EEE • **Disable:** Disable EEE

Table 4-13 Edit EEE Setting Fields

4.5. Jumbo Frame

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

This page allow user to configure switch jumbo frame size.



Port » Jumbo Frame

Jumbo Frame	□ Enable
	10000 Byte (1518 - 10000, default 1522)

Figure 4-14 Jumbo Frame Page

Field	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.

Table 4-14 Jumbo Frame Fields

5. 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.

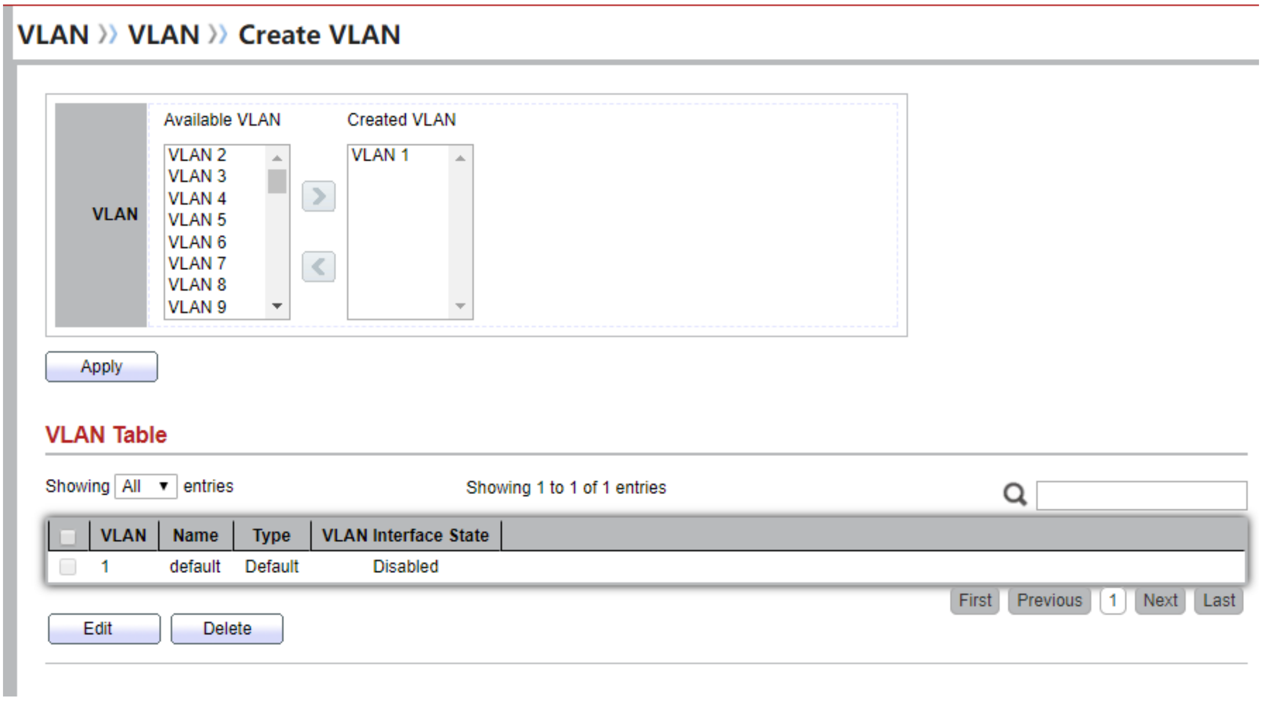
5.1. VLAN

Use the VLAN pages to configure settings of VLAN.

5.1.1. Create VLAN

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

This page allows 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.



VLAN » VLAN » Create VLAN

VLAN

Available VLAN: VLAN 2, VLAN 3, VLAN 4, VLAN 5, VLAN 6, VLAN 7, VLAN 8, VLAN 9

Created VLAN: VLAN 1

VLAN Table

Showing All entries

Showing 1 to 1 of 1 entries

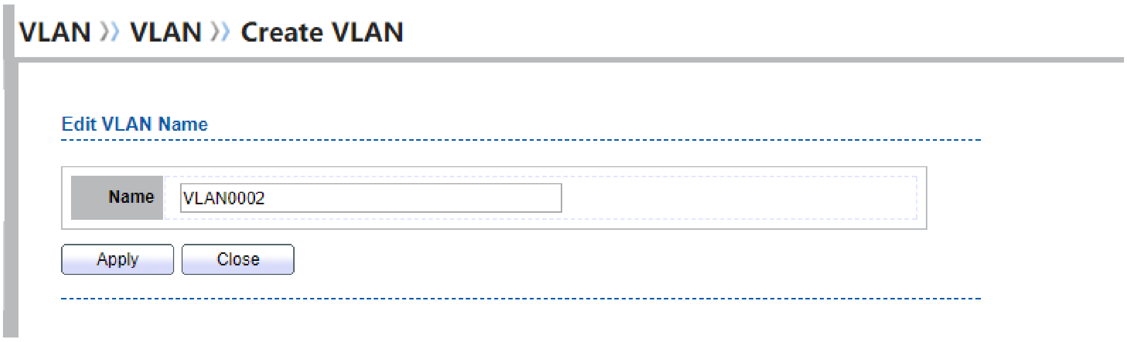
□	VLAN	Name	Type	VLAN Interface State
□	1	default	Default	Disabled

Figure 5-1 Create VLAN Page

Field	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.

Table 5-1 Create VLAN Fields



Name: VLAN0002

Figure 5-2 Edit VLAN Name Dialog

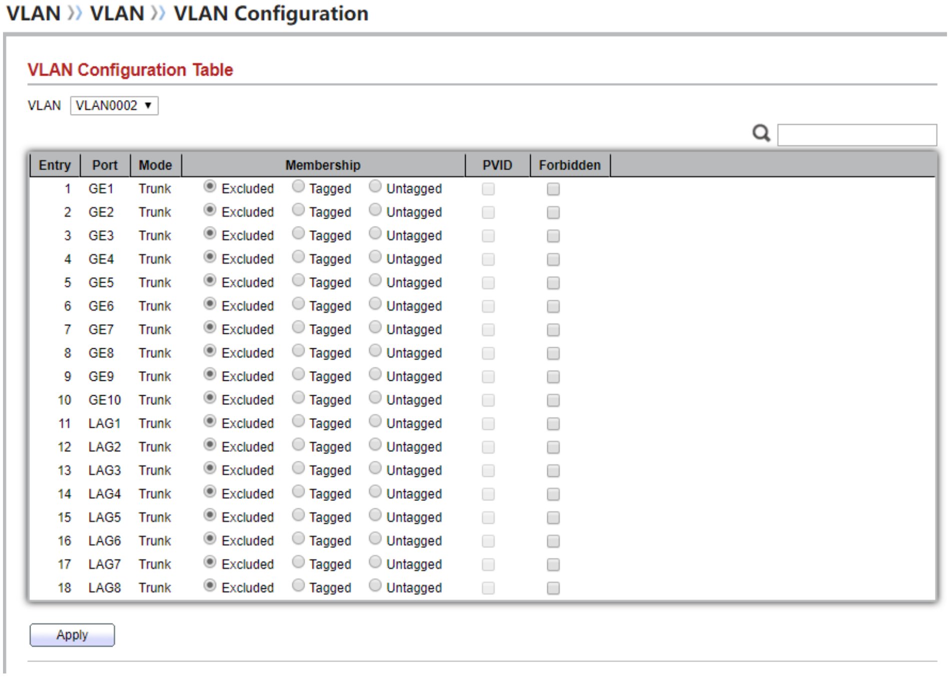
Field	Description
Name	Input VLAN name.

Table 5-2 Edit VLAN Name Fields

5.1.2. VLAN Configuration

To display VLAN Configuration page, click **VLAN > VLAN > VLAN Configuration**

This page allow user to configure the membership for each port of selected VLAN.



VLAN: VLAN0002

Entry	Port	Mode	Membership			PVID	Forbidden
1	GE1	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
2	GE2	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
3	GE3	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
4	GE4	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
5	GE5	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
6	GE6	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
7	GE7	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
8	GE8	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
9	GE9	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
10	GE10	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
11	LAG1	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
12	LAG2	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
13	LAG3	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
14	LAG4	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
15	LAG5	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
16	LAG6	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
17	LAG7	Trunk	● Excluded	○ Tagged	○ Untagged	□	□
18	LAG8	Trunk	● Excluded	○ Tagged	○ Untagged	□	□

Figure 5-3 VLAN configuration Page

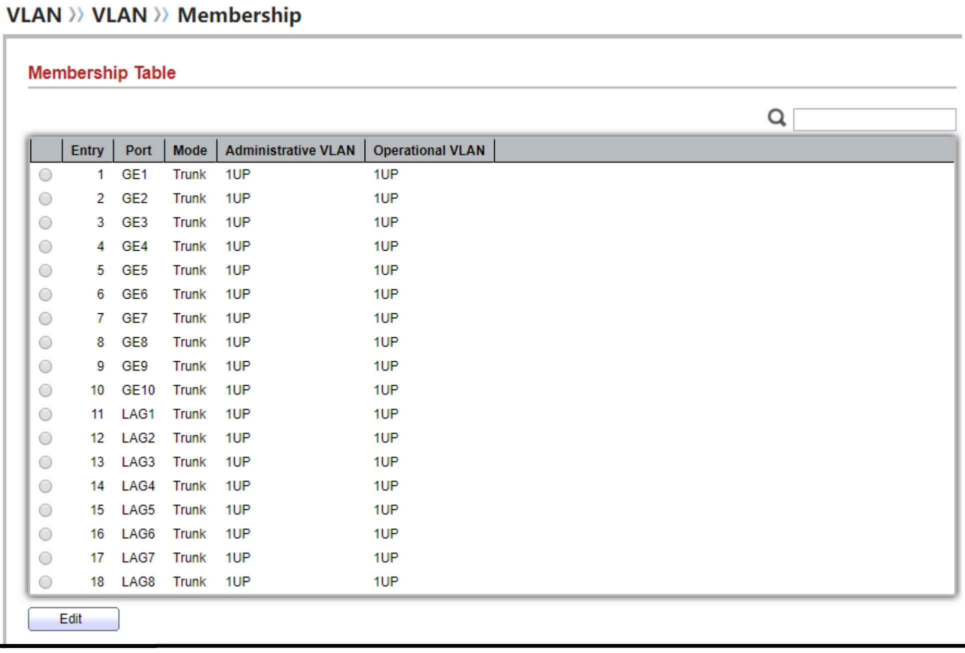
Field	Description
VLAN	Select specified VLAN ID to configure VLAN configuration.
Port	Display the interface of port entry.
Mode	Display the interface VLAN mode of port.
Membership	Select the membership for this port of the specified VLAN ID. • **Forbidden:** Specify the port is forbidden in the VLAN. • **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.

Table 5-3 VLAN Configuration Settings Fields

5.1.3. Membership

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

This page allow user to view membership information for each port and edit membership for specified interface



VLAN >> VLAN >> Membership

Membership Table

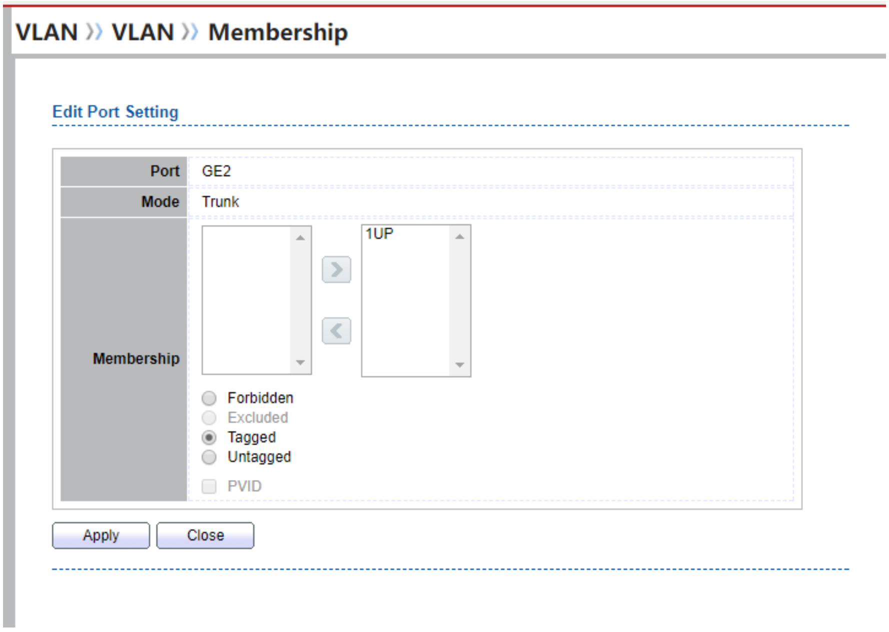
	Entry	Port	Mode	Administrative VLAN	Operational VLAN
○	1	GE1	Trunk	1UP	1UP
○	2	GE2	Trunk	1UP	1UP
○	3	GE3	Trunk	1UP	1UP
○	4	GE4	Trunk	1UP	1UP
○	5	GE5	Trunk	1UP	1UP
○	6	GE6	Trunk	1UP	1UP
○	7	GE7	Trunk	1UP	1UP
○	8	GE8	Trunk	1UP	1UP
○	9	GE9	Trunk	1UP	1UP
○	10	GE10	Trunk	1UP	1UP
○	11	LAG1	Trunk	1UP	1UP
○	12	LAG2	Trunk	1UP	1UP
○	13	LAG3	Trunk	1UP	1UP
○	14	LAG4	Trunk	1UP	1UP
○	15	LAG5	Trunk	1UP	1UP
○	16	LAG6	Trunk	1UP	1UP
○	17	LAG7	Trunk	1UP	1UP
○	18	LAG8	Trunk	1UP	1UP

Figure 5-4 Membership Page

Field	Description

Port	Display the interface of port entry.
Mode	Display the interface VLAN mode of port.
Administrative VLAN	Display the administrative VLAN list of this port.
Operational VLAN	Display the operational VLAN list of this port. Operational VLAN means the VLAN status that really runs in device. It may different to administrative VLAN.

Table 5-4 Membership Fields



VLAN » VLAN » Membership

Edit Port Setting

Port: GE2

Mode: Trunk

Membership: 1UP

○ Forbidden
○ Excluded
● Tagged
○ Untagged
□ PVID

Figure 5-5 Edit Membership Dialog

Field	Description
Port	Display the interface.
Mode	Display the VLAN mode of interface.
Membership	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.

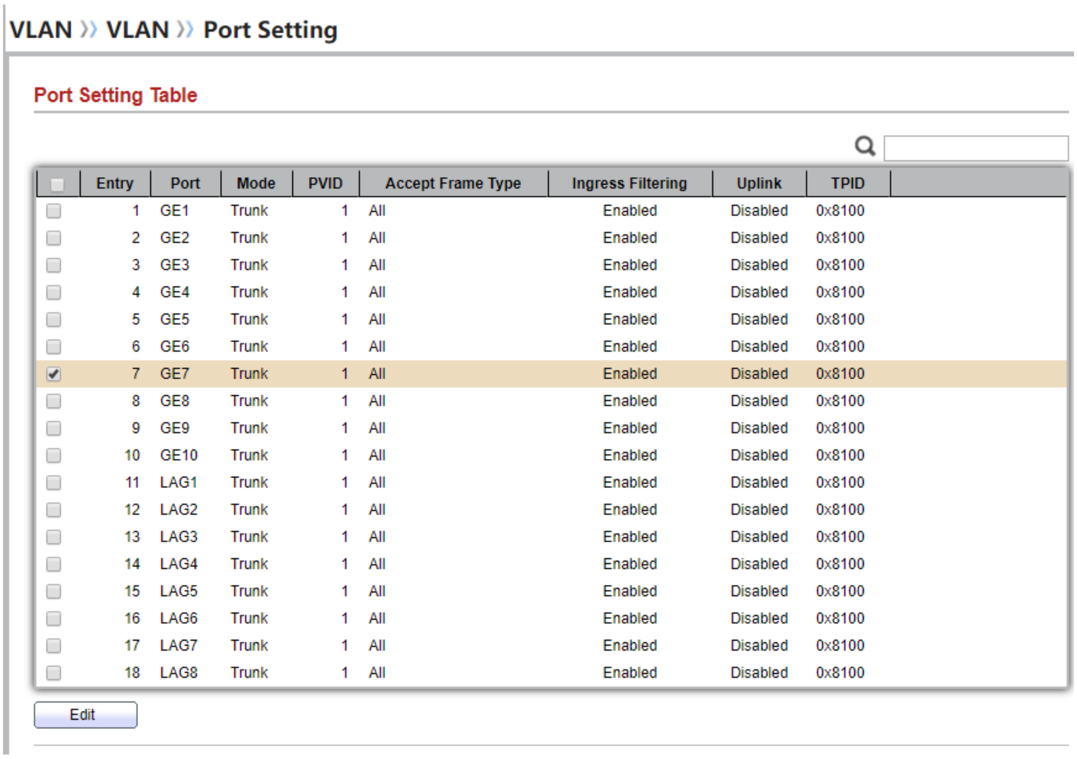
	• **Untagged:** Set VLAN as untagged VLAN. • **PVID:** Check this checkbox to select the VLAN ID to be the port-based VLAN ID for this port. PVID may auto select or can’t select in differ settings.

Table 5-5 Edit Membership Fields

5.1.4. Port Setting

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

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



VLAN » VLAN » Port Setting

Port Setting Table

□	Entry	Port	Mode	PVID	Accept Frame Type	Ingress Filtering	Uplink	TPID
□	1	GE1	Trunk	1	All	Enabled	Disabled	0x8100
□	2	GE2	Trunk	1	All	Enabled	Disabled	0x8100
□	3	GE3	Trunk	1	All	Enabled	Disabled	0x8100
□	4	GE4	Trunk	1	All	Enabled	Disabled	0x8100
□	5	GE5	Trunk	1	All	Enabled	Disabled	0x8100
□	6	GE6	Trunk	1	All	Enabled	Disabled	0x8100
☑	7	GE7	Trunk	1	All	Enabled	Disabled	0x8100
□	8	GE8	Trunk	1	All	Enabled	Disabled	0x8100
□	9	GE9	Trunk	1	All	Enabled	Disabled	0x8100
□	10	GE10	Trunk	1	All	Enabled	Disabled	0x8100
□	11	LAG1	Trunk	1	All	Enabled	Disabled	0x8100
□	12	LAG2	Trunk	1	All	Enabled	Disabled	0x8100
□	13	LAG3	Trunk	1	All	Enabled	Disabled	0x8100
□	14	LAG4	Trunk	1	All	Enabled	Disabled	0x8100
□	15	LAG5	Trunk	1	All	Enabled	Disabled	0x8100
□	16	LAG6	Trunk	1	All	Enabled	Disabled	0x8100
□	17	LAG7	Trunk	1	All	Enabled	Disabled	0x8100
□	18	LAG8	Trunk	1	All	Enabled	Disabled	0x8100

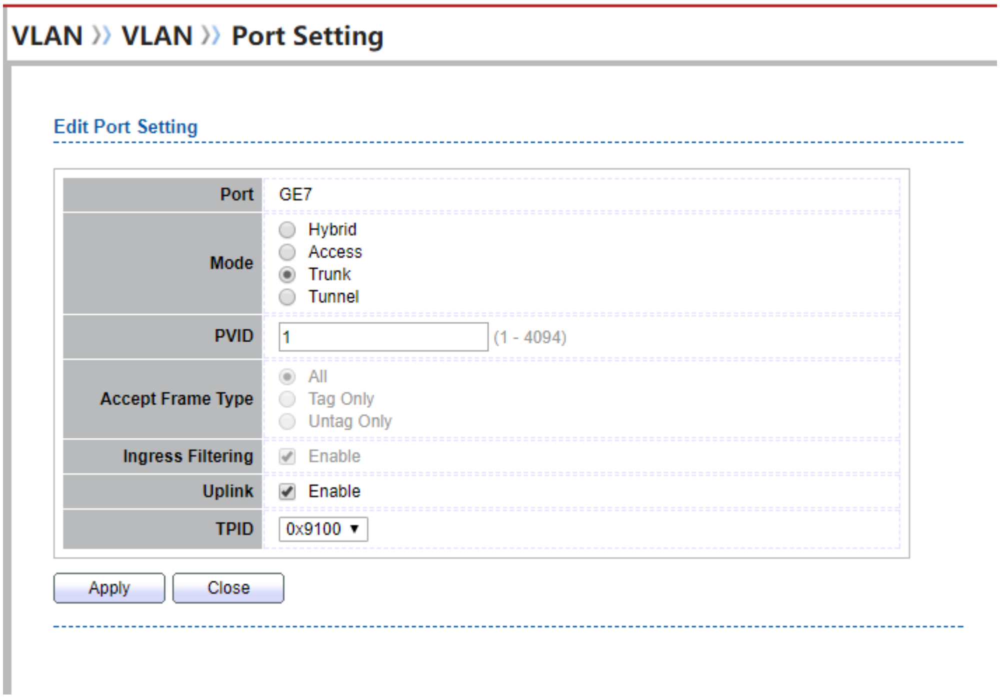
Figure 5-6 Port Setting Page

Field	**Description**
Port	Display the interface.
Mode	Display the VLAN mode of port.

PVID	Display the Port-based VLAN ID of port.
Accept Frame Type	Display accept frame type of port
Ingress Filtering	Display ingress filter status of port

Uplink	Display uplink status.
TPID	Display TPID used of interface.

Table 5-6 Port setting Fields


VLAN ›› VLAN ›› Port Setting

Edit Port Setting

Port	GE7
Mode	○ Hybrid ○ Access ● Trunk ○ Tunnel
PVID	1 (1 - 4094)
Accept Frame Type	● All ○ Tag Only ○ Untag Only
Ingress Filtering	☑ Enable
Uplink	☑ Enable
TPID	0x9100 ▾

Figure 5-7 Edit Port Setting Dialog

Field	Description
Port	Display selected port to be edited.
Mode	Select the VLAN mode of the interface. • **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's 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.

Table 5-7 Edit Port Setting Fields

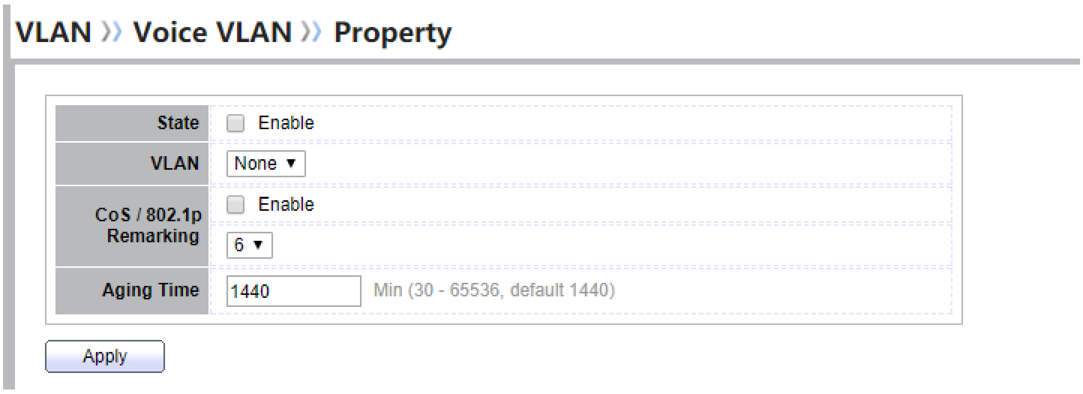
5.2. Voice VLAN

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

5.2.1. Property

To display Property page, click **VLAN> Voice VLAN> Property**

This page allow user to configure global and per interface settings of voice VLAN.



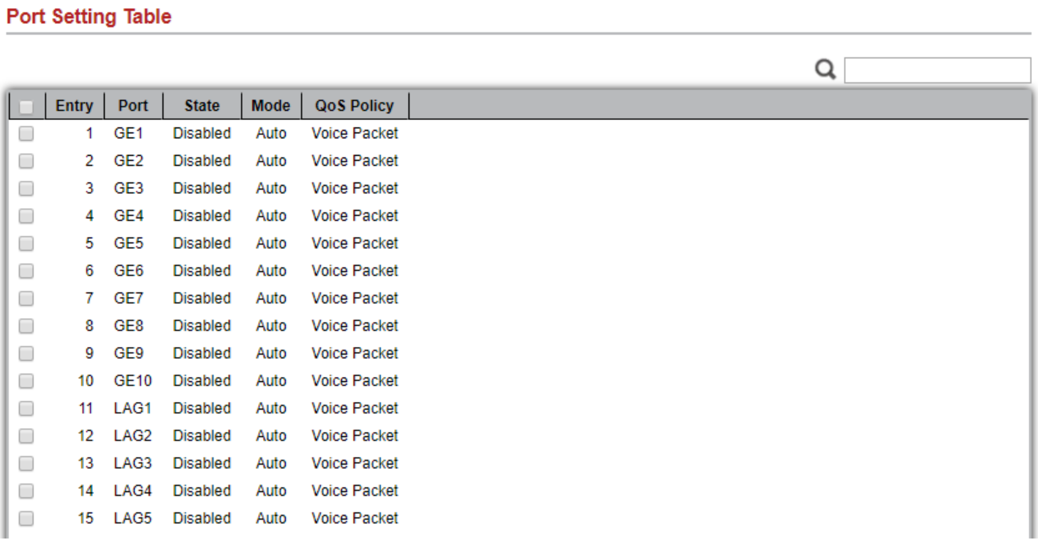
VLAN » Voice VLAN » Property

State	□ Enable
VLAN	None ▾
CoS / 802.1p Remarking	□ Enable
	6 ▾
Aging Time	1440 Min (30 - 65536, default 1440)

Figure 5-8 Property Page

Field	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.

Table 5-8 Property Fields



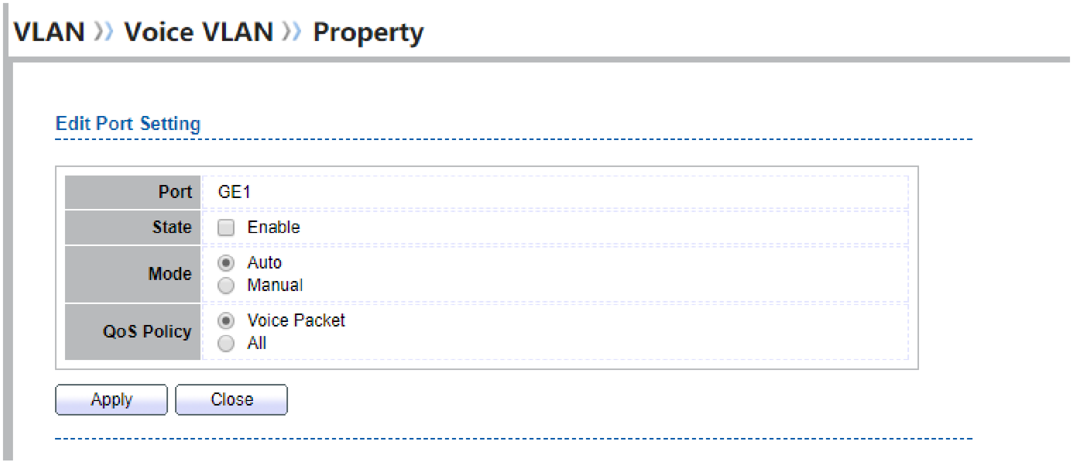
Port Setting Table

☐	Entry	Port	State	Mode	QoS Policy
☐	1	GE1	Disabled	Auto	Voice Packet
☐	2	GE2	Disabled	Auto	Voice Packet
☐	3	GE3	Disabled	Auto	Voice Packet
☐	4	GE4	Disabled	Auto	Voice Packet
☐	5	GE5	Disabled	Auto	Voice Packet
☐	6	GE6	Disabled	Auto	Voice Packet
☐	7	GE7	Disabled	Auto	Voice Packet
☐	8	GE8	Disabled	Auto	Voice Packet
☐	9	GE9	Disabled	Auto	Voice Packet
☐	10	GE10	Disabled	Auto	Voice Packet
☐	11	LAG1	Disabled	Auto	Voice Packet
☐	12	LAG2	Disabled	Auto	Voice Packet
☐	13	LAG3	Disabled	Auto	Voice Packet
☐	14	LAG4	Disabled	Auto	Voice Packet
☐	15	LAG5	Disabled	Auto	Voice Packet

Figure 5-9 Property Port Page

Field	Description
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

Table 5-9 Property Port Fields



VLAN » Voice VLAN » Property

Edit Port Setting

Port	GE1
State	☐ Enable
Mode	● Auto ○ Manual
QoS Policy	● Voice Packet ○ All

Figure 5-10 Edit Property Port Dialog

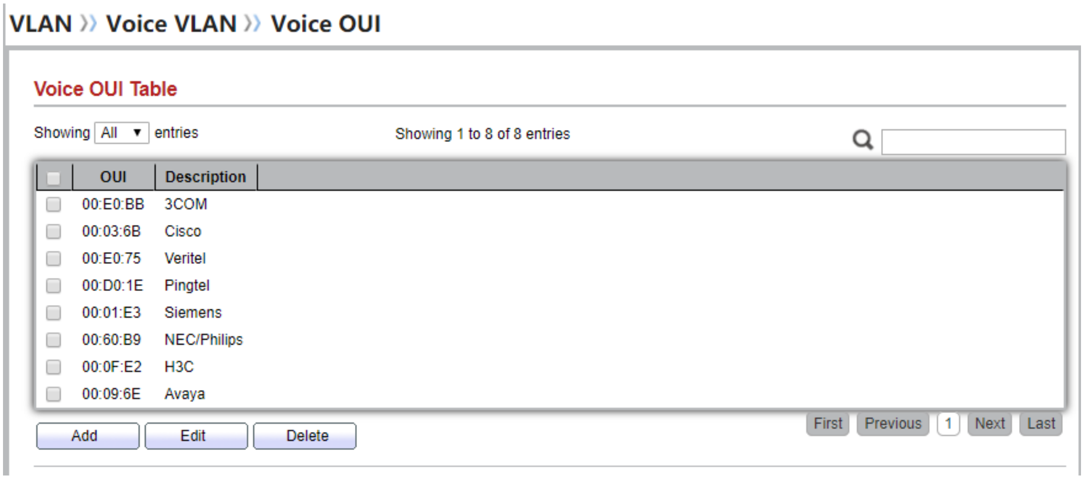
Field	Description
Port	Display selected port to be edited.
State	Set checkbox to enable/disabled voice VLAN function of interface.
Mode	Select port voice VLAN mode • **Auto:** Voice VLAN auto detect packets that match OUI table and add received port into voice VLAN ID tagged member. • **Manual:** User 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.

Table 5-10 Edit Property Port Fields

5.2.2. Voice OUI

To display Voice OUI page, click **VLAN> Voice VLAN> Voice OUI**

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



VLAN » Voice VLAN » Voice OUI

Voice OUI Table

Showing All ▾ entries

Showing 1 to 8 of 8 entries

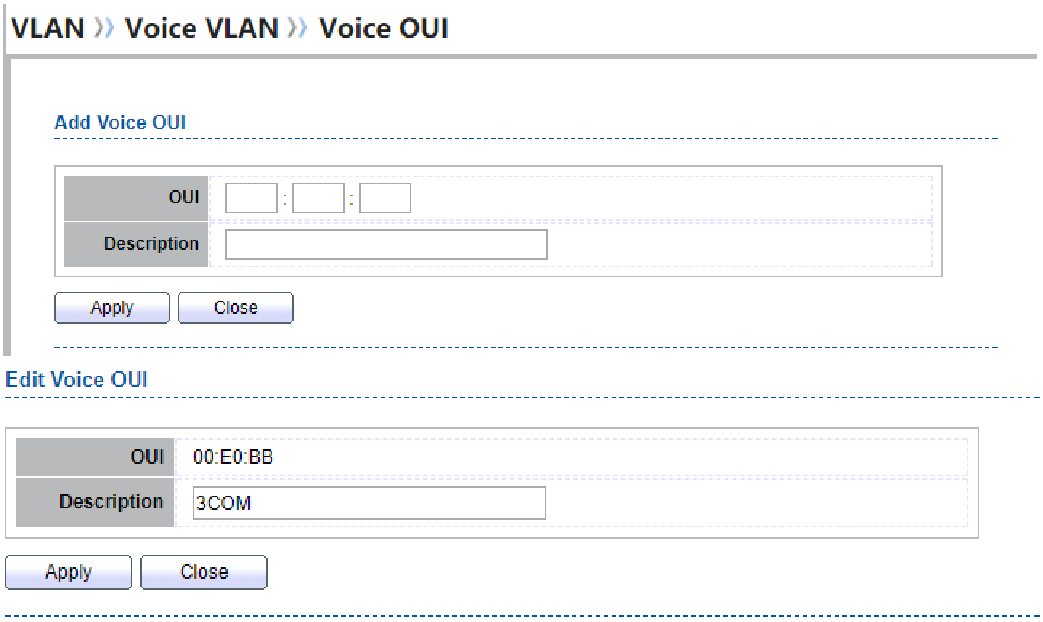
□	OUI	Description
□	00:E0:BB	3COM
□	00:03:6B	Cisco
□	00:E0:75	Veritel
□	00:D0:1E	Pingtel
□	00:01:E3	Siemens
□	00:60:B9	NEC/Philips
□	00:0F:E2	H3C
□	00:09:6E	Avaya

Figure 5-11 Voice OUI Page

Field	Description

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

Table 5-11 Voice OUI Mac Setting Fields



Add Voice OUI

OUI	: :
Description	

Edit Voice OUI

OUI	00:E0:BB
Description	3COM

Figure 5-12 Add and Edit Voice OUI Dialog

Field	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

Table 5-12 Add and Edit Voice OUI Fields

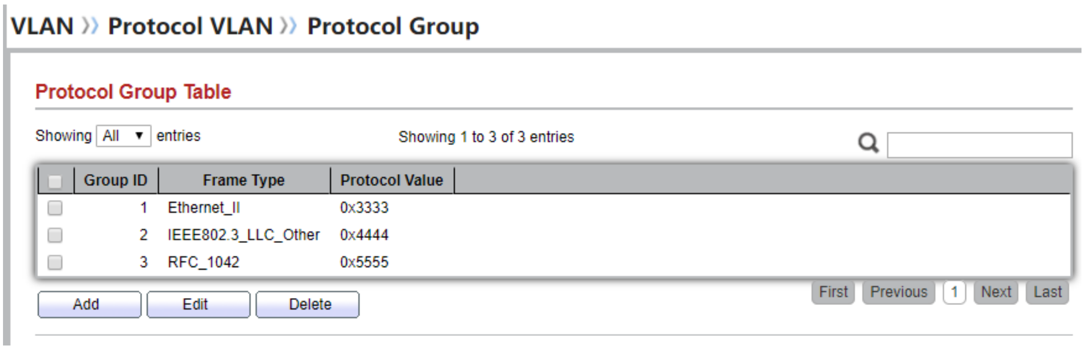
5.3. Protocol VLAN

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

5.3.1. Protocol Group

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

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



VLAN » Protocol VLAN » Protocol Group

Protocol Group Table

Showing All entries

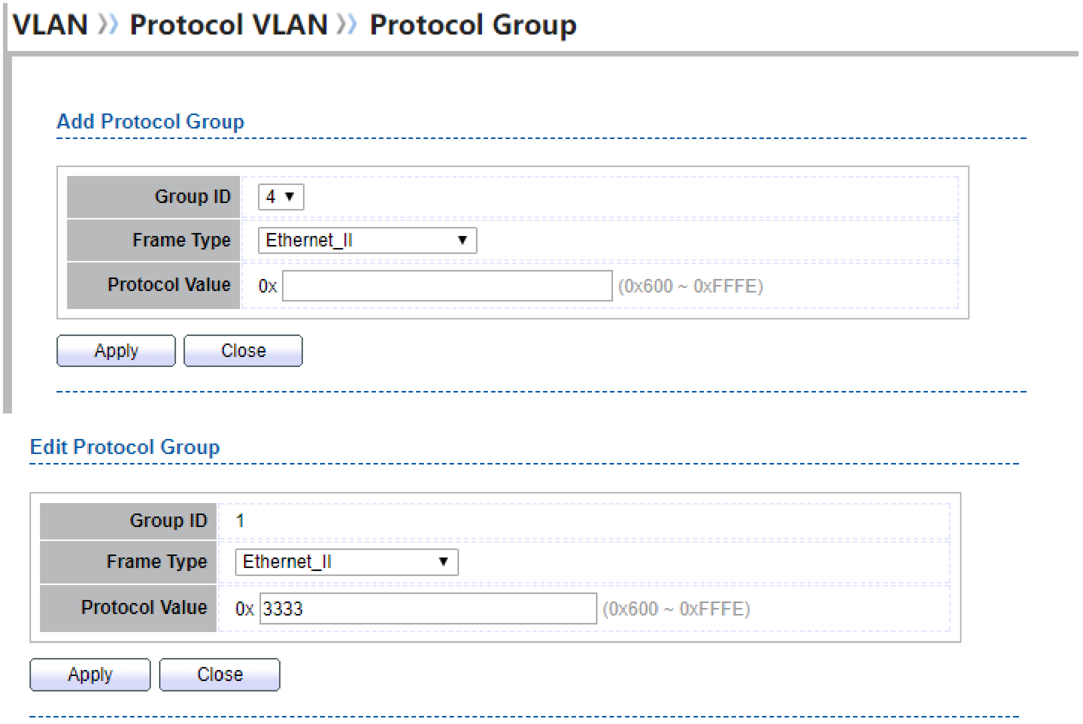
Showing 1 to 3 of 3 entries

□	Group ID	Frame Type	Protocol Value
□	1	Ethernet_II	0x3333
□	2	IEEE802.3_LLC_Other	0x4444
□	3	RFC_1042	0x5555

Figure 5-13 Protocol Group Page

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

Table 5-13 Protocol Group Fields



VLAN » Protocol VLAN » Protocol Group

Add Protocol Group

Group ID	4
Frame Type	Ethernet_II
Protocol Value	0x (0x600 ~ 0xFFFE)

Edit Protocol Group

Group ID	1
Frame Type	Ethernet_II
Protocol Value	0x 3333 (0x600 ~ 0xFFFE)

Figure 5-14 Add and Edit Protocol Group Dialog

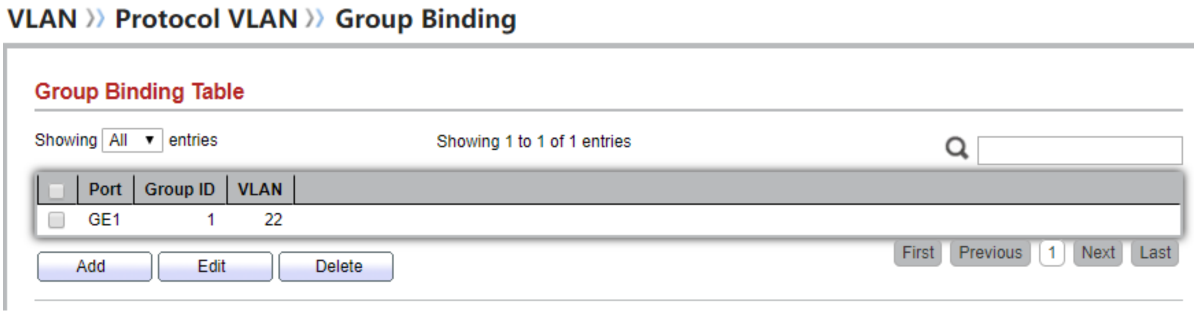
Field	Description

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.

Table 5-14 Add and Edit Protocol Group Fields

5.3.2. Group Binding

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



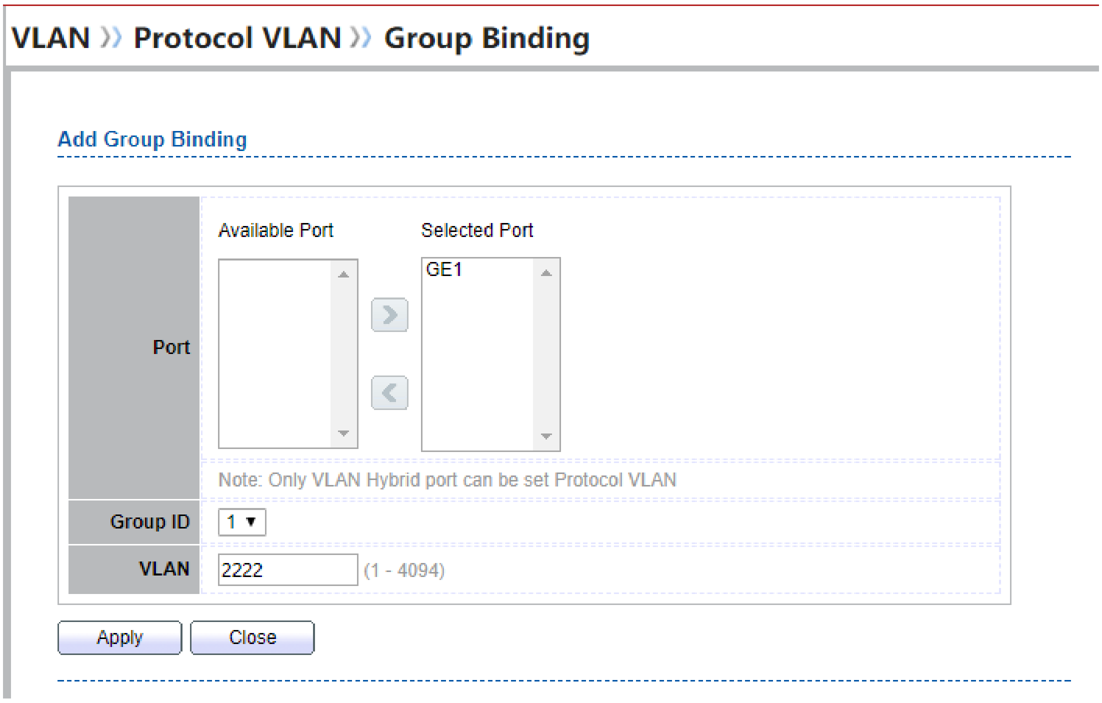
□	Port	Group ID	VLAN
□	GE1	1	22

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

Figure 5-15 Group binding Page

Field	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

Table 5-15 Group Binding Fields



VLAN ›› Protocol VLAN ›› Group Binding

Add Group Binding

Port	Available Port / Selected Port: GE1 Note: Only VLAN Hybrid port can be set Protocol VLAN
Group ID	1 ▾
VLAN	2222 (1 - 4094)

Figure 5-16 Add and Edit Group Binding Dialog

Field	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.

Table 5-16 Group Binding Fields

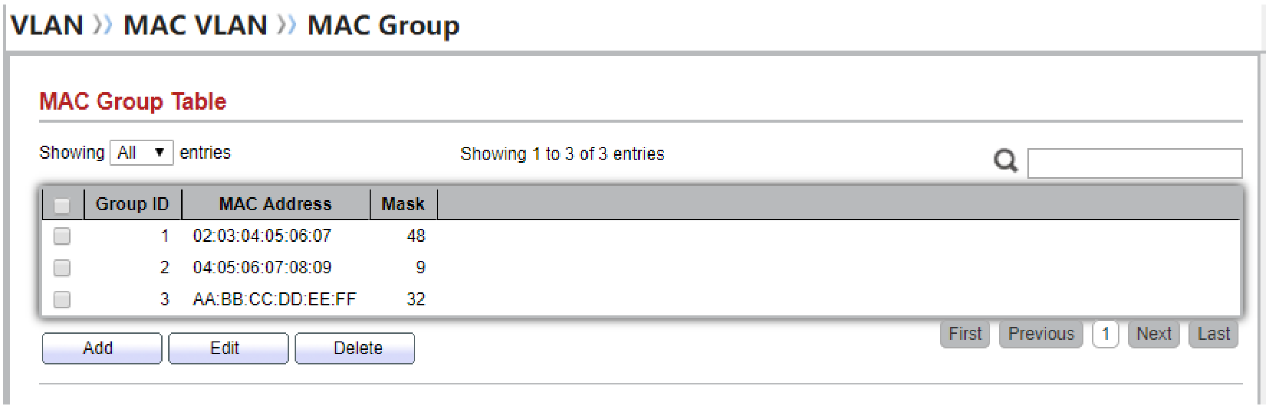
5.4. MAC VLAN

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

5.4.1. MAC Group

To display MAC Group page, click **VLAN > MAC VLAN > MAC Group**

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

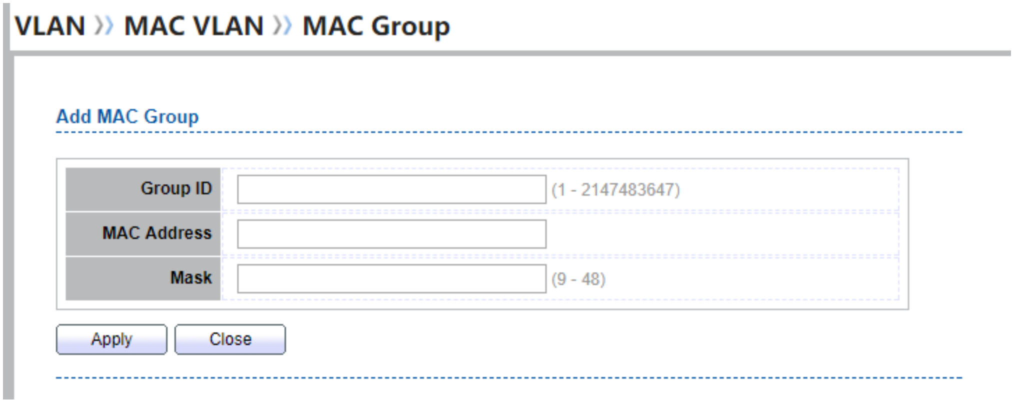


□	Group ID	MAC Address	Mask
□	1	02:03:04:05:06:07	48
□	2	04:05:06:07:08:09	9
□	3	AA:BB:CC:DD:EE:FF	32

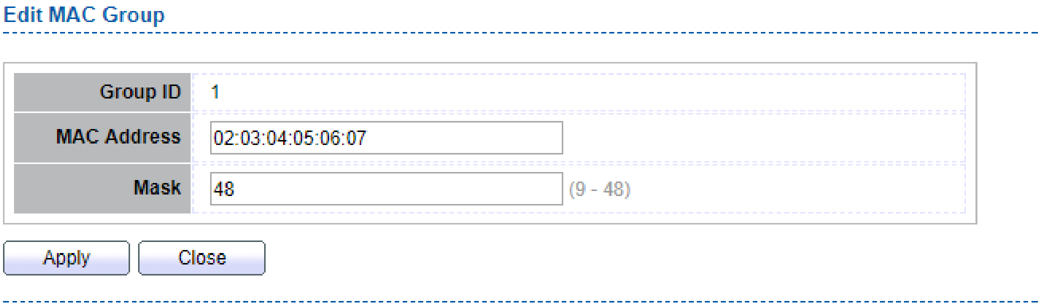
Figure 5-17 MAC Group Page

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

Table 5-17 MAC Group Fields



Group ID		(1 - 2147483647)
MAC Address		
Mask		(9 - 48)



Edit MAC Group

Group ID	1
MAC Address	02:03:04:05:06:07
Mask	48 (9 - 48)

Figure 5-18 Add and Edit MAC Group Dialog

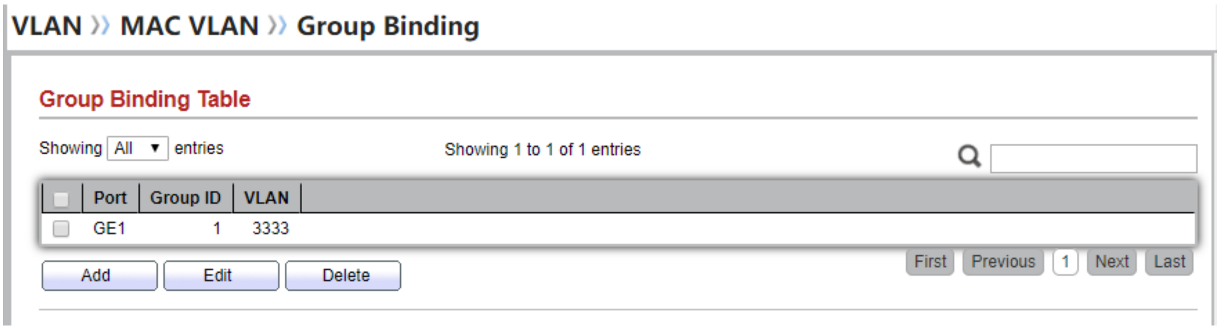
Field	Description
Group ID	Input group ID that is a unique ID of mac group entry. The range from 1 to 2147483647. Only available on Add Dialog
MAC Address	Input mac address for classifying packets.
Mask	Input mask of mac address.

Table 5-18 Add and Edit MAC Group Fields

5.4.2. Group Binding

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

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


VLAN » MAC VLAN » Group Binding

Group Binding Table

Showing All entries   Showing 1 to 1 of 1 entries

□	Port	Group ID	VLAN
□	GE1	1	3333

Figure 5-19 Group binding Page

Field	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

Table 5-19 Group Binding Fields

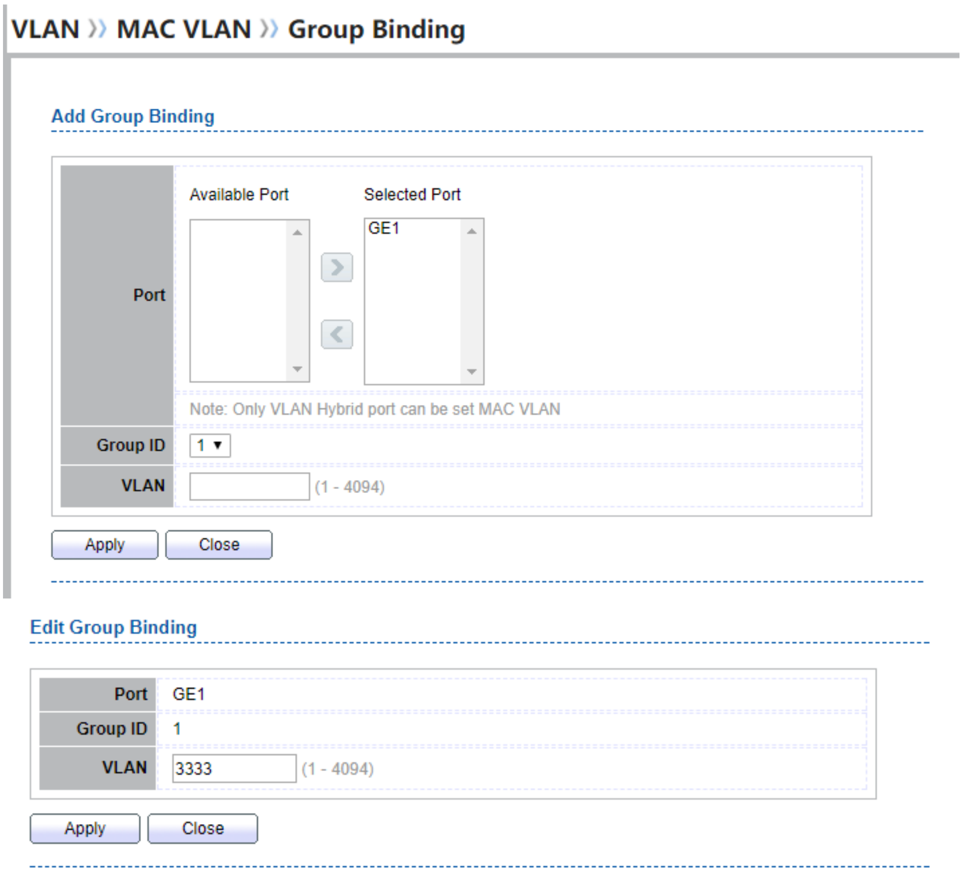


Figure 5-20 Add and Edit Group Binding Dialog

Field	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 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 MAC group.

Table 5-20 Group Binding Fields

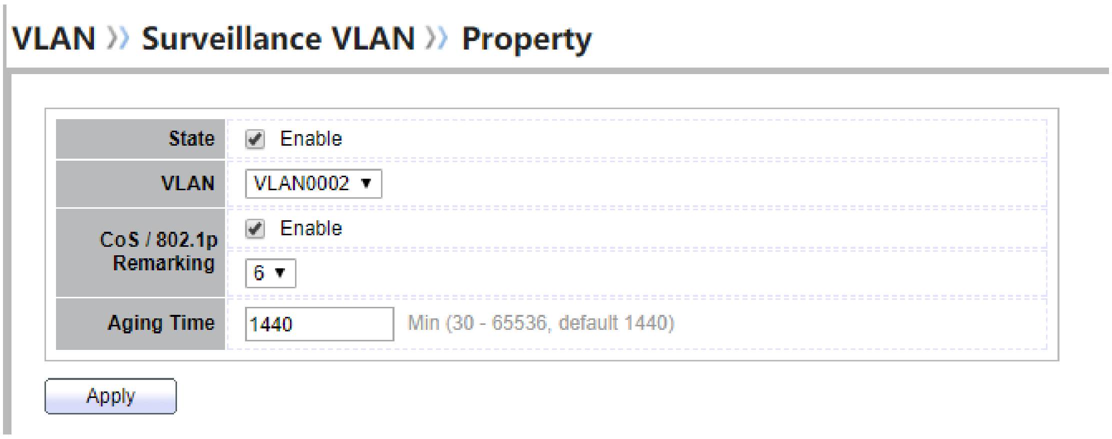
5.5. Surveillance VLAN

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

5.5.1. Property

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

This page allow user to configure global and per interface settings of Surveillance VLAN.



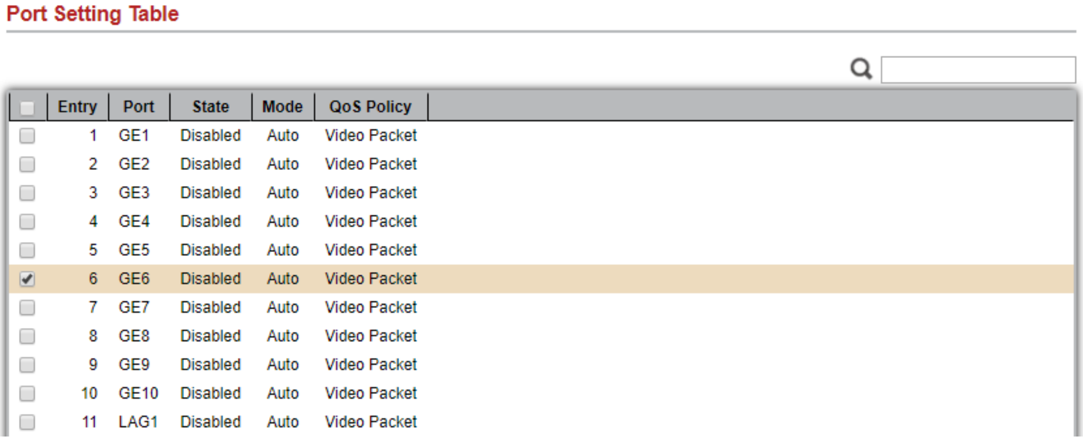
VLAN » Surveillance VLAN » Property

State	☑ Enable
VLAN	VLAN0002 ▾
CoS / 802.1p Remarking	☑ Enable 6 ▾
Aging Time	1440 Min (30 - 65536, default 1440)

Figure 5-21 Property Page

Field	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.

Table 5-21 Property Fields



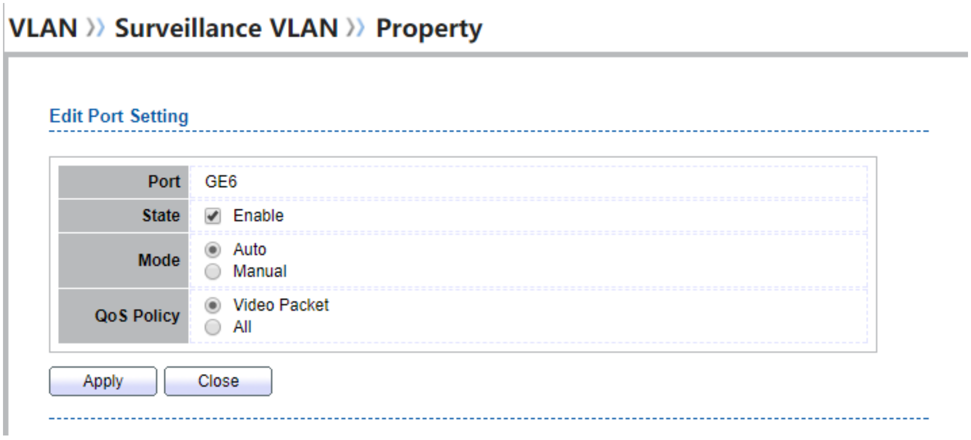
Port Setting Table

□	Entry	Port	State	Mode	QoS Policy
□	1	GE1	Disabled	Auto	Video Packet
□	2	GE2	Disabled	Auto	Video Packet
□	3	GE3	Disabled	Auto	Video Packet
□	4	GE4	Disabled	Auto	Video Packet
□	5	GE5	Disabled	Auto	Video Packet
☑	6	GE6	Disabled	Auto	Video Packet
□	7	GE7	Disabled	Auto	Video Packet
□	8	GE8	Disabled	Auto	Video Packet
□	9	GE9	Disabled	Auto	Video Packet
□	10	GE10	Disabled	Auto	Video Packet
□	11	LAG1	Disabled	Auto	Video Packet

Figure 5-22 Property Port Page

Field	Description
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

Table 5-22 Property Port Fields



Port	GE6
State	☑ Enable
Mode	● Auto ○ Manual
QoS Policy	● Video Packet ○ All

Figure 5-23 Edit Property Port Dialog

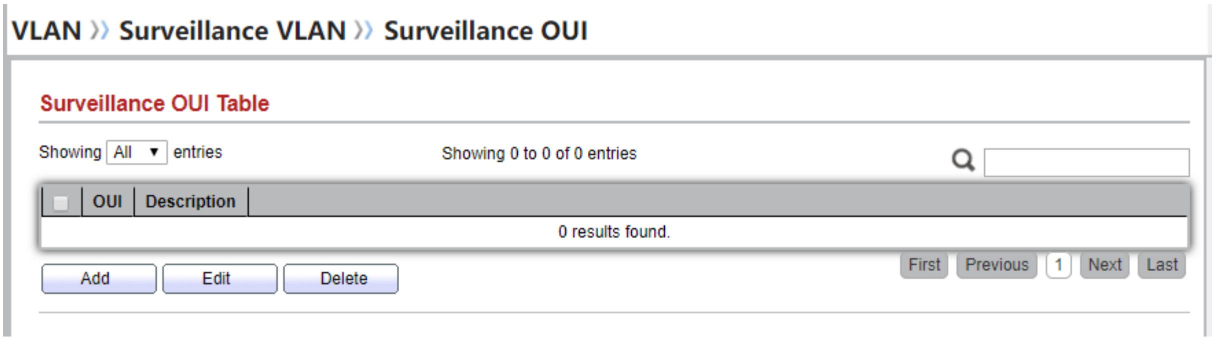
Field	Description
Port	Display selected port to be edited.
State	Set checkbox to enable/disabled Surveillance VLAN function of interface.
Mode	Select port Surveillance VLAN mode • **Auto:** Video VLAN auto detect packets that match OUI table and add received port into surveillance VLAN ID tagged member. • **Manual:** User need add interface to VLAN ID tagged member manually.
QoS Policy	Select port QoS Policy mode • **Video 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 Surveillance VLAN.

Table 5-23 Edit Property Port Fields

5.5.2. Surveillance OUI

To display Surveillance OUI page, click **VLAN> Surveillance VLAN> Surveillance OUI**

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



VLAN » Surveillance VLAN » Surveillance OUI

Surveillance OUI Table

Showing All entries

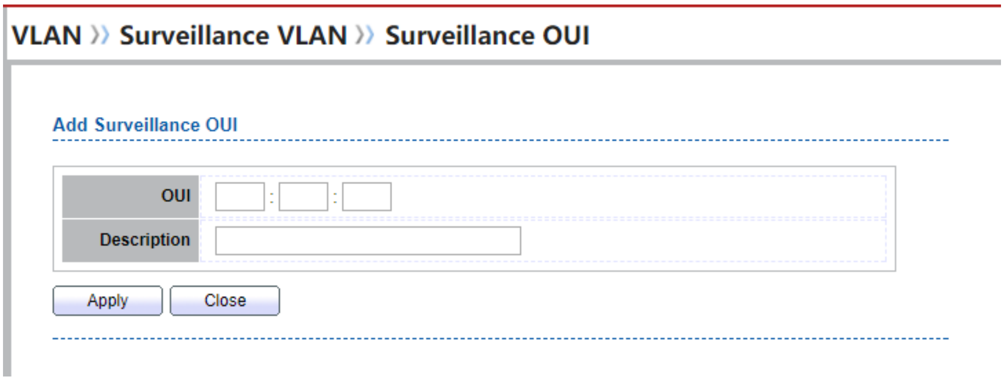
Showing 0 to 0 of 0 entries

□	OUI	Description
0 results found.		

Figure 5-24 Surveillance OUI Page

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

Table 5-24 Surveillance OUI Fields



VLAN » Surveillance VLAN » Surveillance OUI

Add Surveillance OUI

OUI	: :
Description	

Figure 5-25 Add and Edit Surveillance OUI Dialog

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

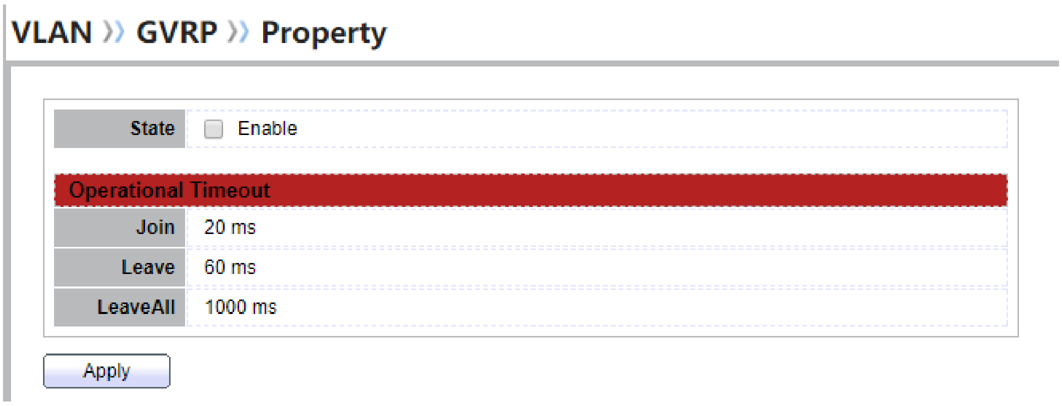
Table 5-25 Add and Edit Surveillance OUI Fields

5.6. GVRP

5.6.1. Property

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

This page allow user to enable or disable GVRP function and GVRP port setting


VLAN >> GVRP >> Property

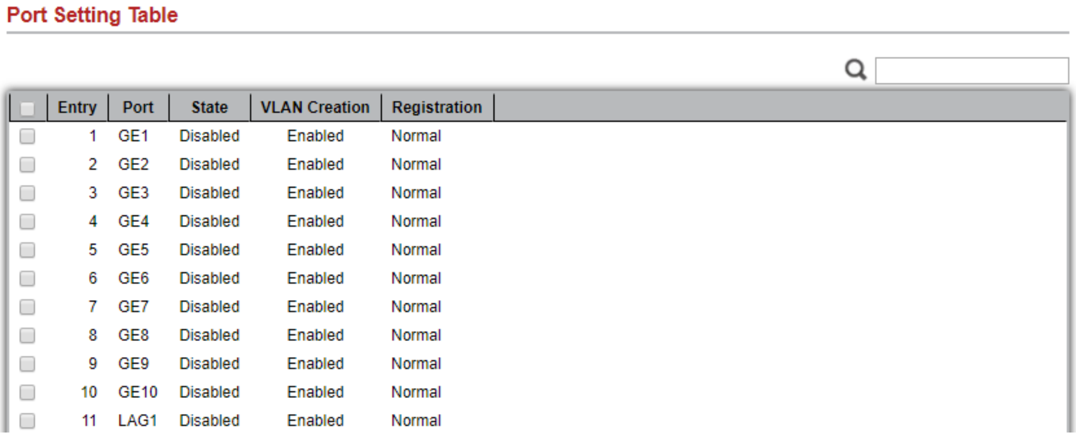
State	□ Enable
Operational Timeout	
Join	20 ms
Leave	60 ms
LeaveAll	1000 ms

Figure 5-26 GVRP Setting Page

Field	Description
State	Set the enabling status of GVRP functionality • **Enable:** if Checked Enable GVRP, else is Disable GVRP
Operational Timeout	
Join	GVRP Join time out.
Leave	GVRP leave time out.

Leave All	GVRP leave all time out.

Table 5-26 GVRP Setting Fields



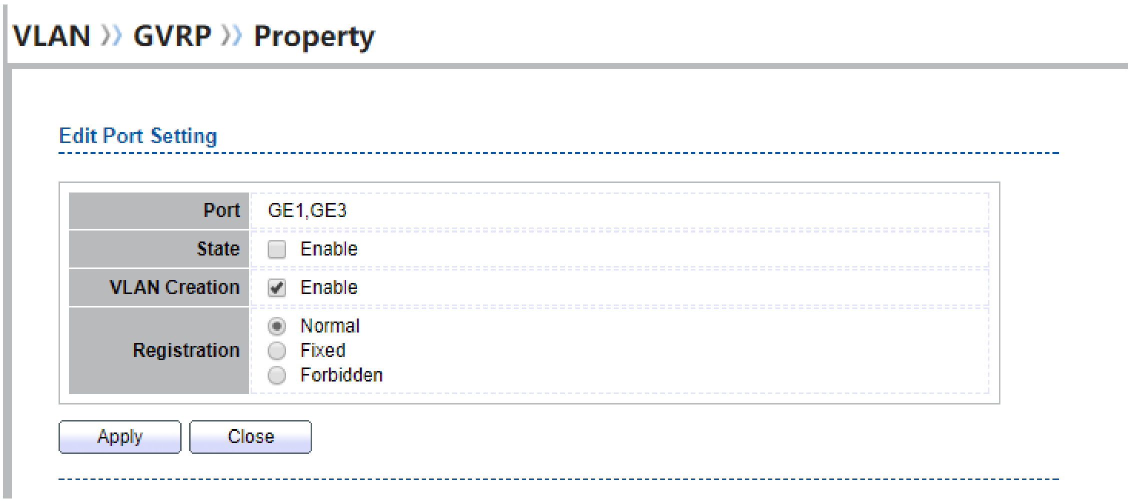
Port Setting Table

□	Entry	Port	State	VLAN Creation	Registration
□	1	GE1	Disabled	Enabled	Normal
□	2	GE2	Disabled	Enabled	Normal
□	3	GE3	Disabled	Enabled	Normal
□	4	GE4	Disabled	Enabled	Normal
□	5	GE5	Disabled	Enabled	Normal
□	6	GE6	Disabled	Enabled	Normal
□	7	GE7	Disabled	Enabled	Normal
□	8	GE8	Disabled	Enabled	Normal
□	9	GE9	Disabled	Enabled	Normal
□	10	GE10	Disabled	Enabled	Normal
□	11	LAG1	Disabled	Enabled	Normal

Figure 5-27 GVRP port Setting Page

Field	Description
Entry	Entry of number
Port	Port Name
State	Display port GVRP state
Vlan Creation	Display port GVRP creation vlan state
Registration	Display port GVRP registration mode

Table 5-27 GVRP port setting Fields



VLAN » GVRP » Property

Edit Port Setting

Port	GE1,GE3
State	□ Enable
VLAN Creation	☑ Enable
Registration	● Normal ○ Fixed ○ Forbidden

Figure 5-28 GVRP port Setting Edit Page

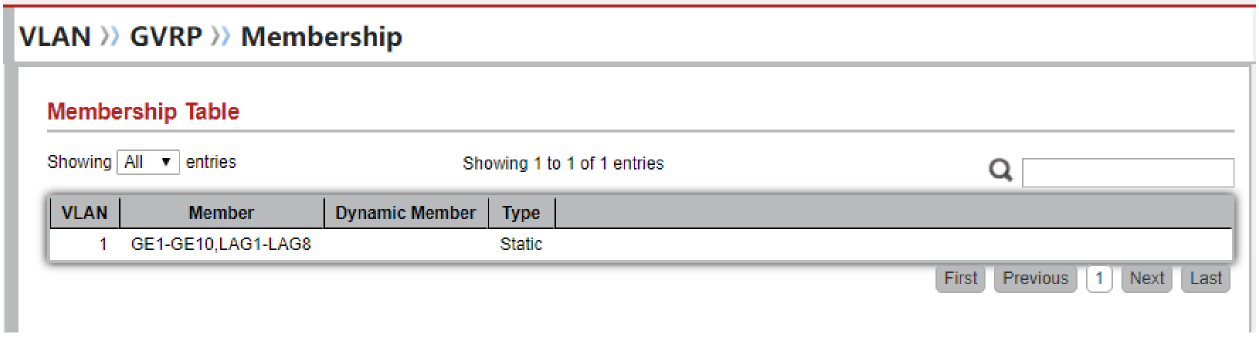
Field	Description
Port	Display the selected port list
State	Set the enabling status of GVRP port • **Enable:** Enable/Disable port of GVRP state.
Vlan Creation	Set the enabling status of GVRP port create VLAN • **Enable:** Enable/Disable port create dynamic VLAN.
Register Mode	Set the register mode of 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

Table 5-28 GVRP port setting Edit Fields

5.6.2. Membership

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

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



VLAN	Member	Dynamic Member	Type
1	GE1-GE10,LAG1-LAG8		Static

Figure 5-29 GVRP VLAN Information Page

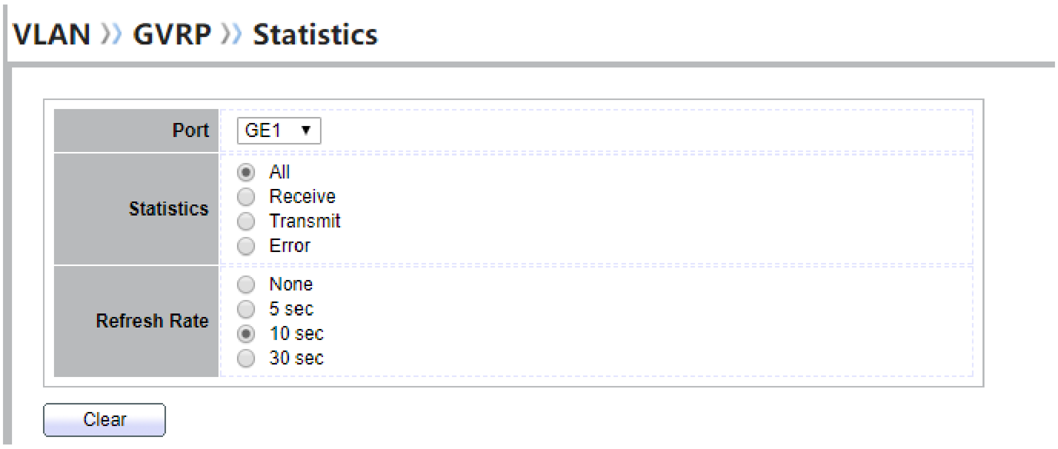
Field	Description
VLAN	VLAN ID
Member	VLAN port members include static and dynamic member
Dynamic Ports	GVRP learned dynamic ports
Vlan Type	The type of VLAN is static or dynamic.

Table 5-29 GVRP Port Status Fields

5.6.3. Statistics

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

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



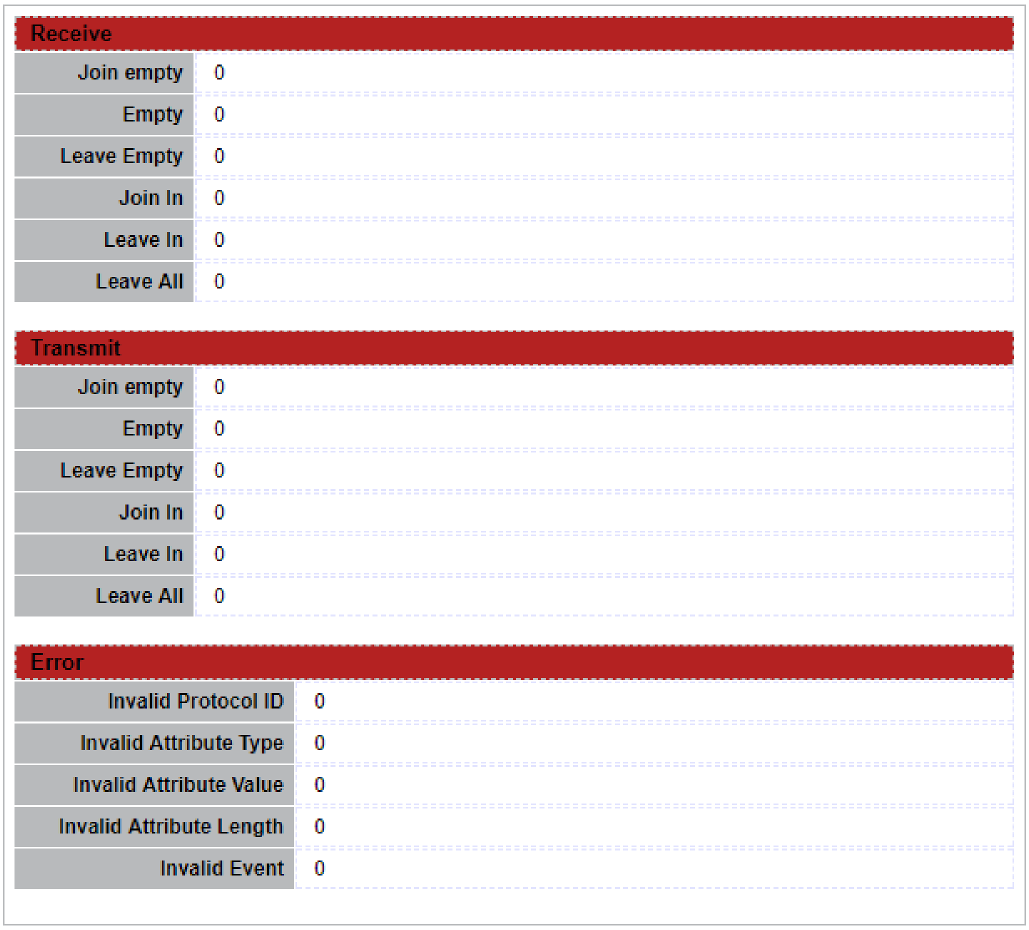
VLAN ›› GVRP ›› Statistics

Port	GE1 ▾
Statistics	● All ○ Receive ○ Transmit ○ Error
Refresh Rate	○ None ○ 5 sec ● 10 sec ○ 30 sec

Figure 5-30 GVRP Port Statistics Display Setting

Field	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

Table 5-30 GVRP Port Statistics Display Setting Fields



Receive	
Join empty	0
Empty	0
Leave Empty	0
Join In	0
Leave In	0
Leave All	0

Transmit	
Join empty	0
Empty	0
Leave Empty	0
Join In	0
Leave In	0
Leave All	0

Error	
Invalid Protocol ID	0
Invalid Attribute Type	0
Invalid Attribute Value	0
Invalid Attribute Length	0
Invalid Event	0

Figure 5-31 GVRP Port Statistics

Field	Description
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.
Invalid Protocol ID	The number of Receive Invalid Protocol ID
Invalid Attribute Type	The number of Receive Invalid Attribut 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.

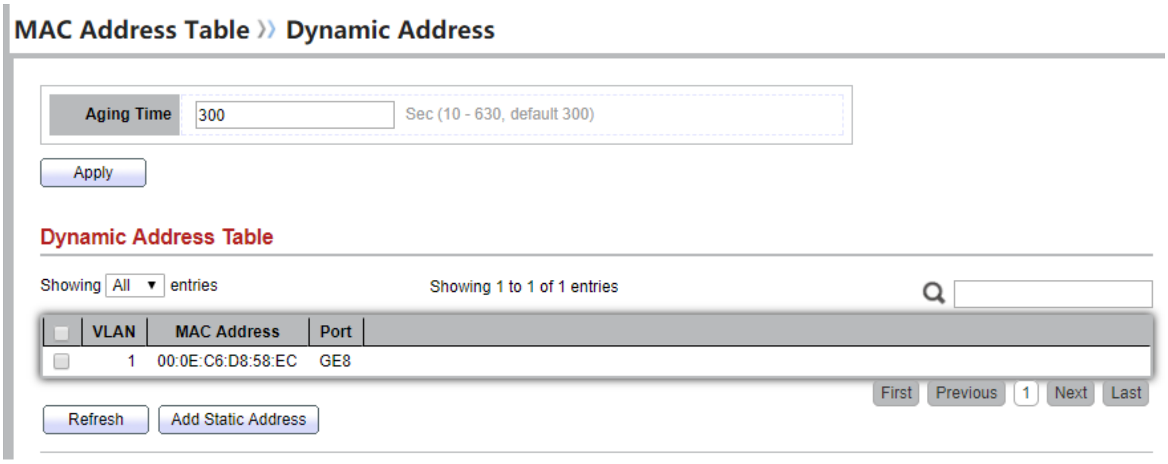
Table 5-31 GVRP Port Statistics Fields

6. MAC Address Table

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

6.1. *Dynamic Address*

To configure the aging time of the dynamic address, click **MAC Address Table** > **Dynamic Address**.



MAC Address Table » Dynamic Address

Aging Time: 300 Sec (10 - 630, default 300)

Dynamic Address Table

Showing All entries   Showing 1 to 1 of 1 entries

□	VLAN	MAC Address	Port
□	1	00:0E:C6:D8:58:EC	GE8

Figure 6-1: Dynamic Address Setting page.

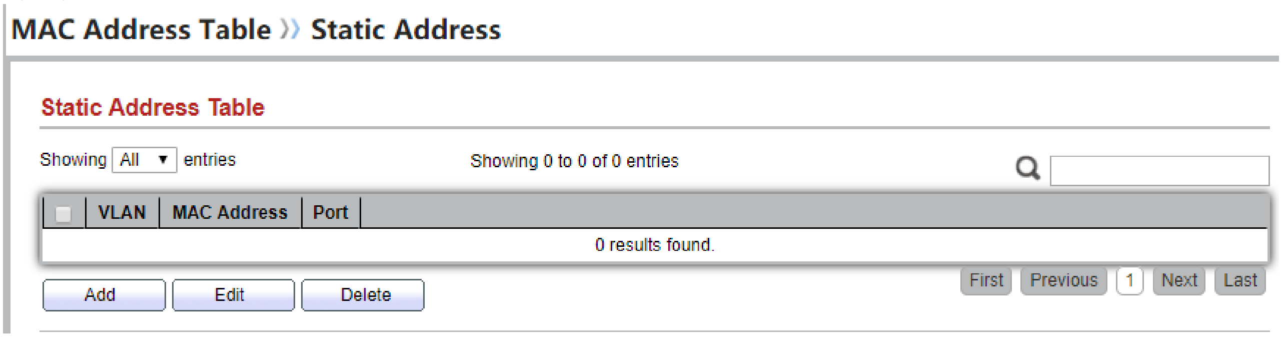
Field	Description

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..

Table 6-1: Dynamic Address Setting fields.

6.2. Static Address

To display the static MAC address, click **MAC Address Table > Static Address**.



MAC Address Table » Static Address

Static Address Table

Showing All entries   Showing 0 to 0 of 0 entries

□	VLAN	MAC Address	Port
0 results found.			

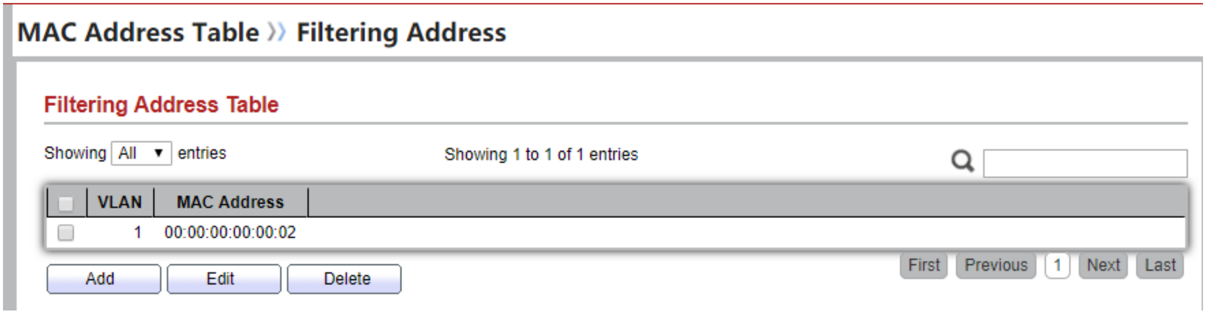
Figure 6-2: Static Address Page.

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

Table 6-2: Static Address Setting fields.

6.3. Filtering Address

To configure and display the MAC filtering settings, click **MAC Address Table > Filtering Address**.



MAC Address Table » Filtering Address

Filtering Address Table

Showing All entries   Showing 1 to 1 of 1 entries

□	VLAN	MAC Address
□	1	00:00:00:00:00:02

Figure 6-3: Filtering Address page.

Field	Description
MAC Address	Specify unicast MAC address in the packets to be dropped.
VLAN	Specify the VLAN ID for the specific MAC address.

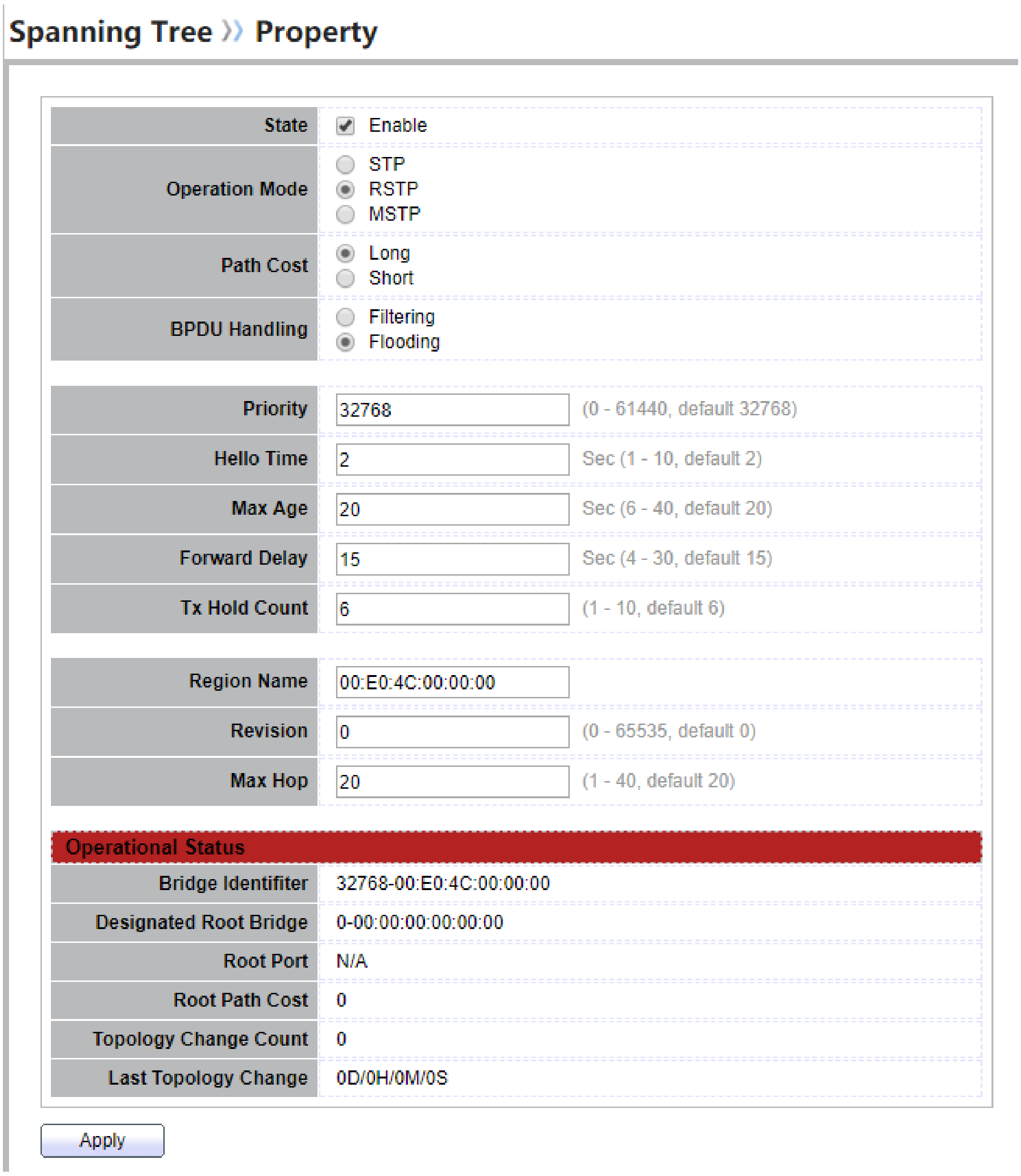
Table 6-3: Filtering Address Setting fields.

7. STP

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

7.1. Property

To configure and display STP property configuration, click **Spanning Tree** > **Property**.



Spanning Tree » Property

State	☑ Enable	
Operation Mode	○ STP ● RSTP ○ MSTP	
Path Cost	● Long ○ Short	
BPDU Handling	○ Filtering ● Flooding	
Priority	32768	(0 - 61440, default 32768)
Hello Time	2	Sec (1 - 10, default 2)
Max Age	20	Sec (6 - 40, default 20)
Forward Delay	15	Sec (4 - 30, default 15)
Tx Hold Count	6	(1 - 10, default 6)
Region Name	00:E0:4C:00:00:00	
Revision	0	(0 - 65535, default 0)
Max Hop	20	(1 - 40, default 20)

Operational Status

Bridge Identifiter	32768-00:E0:4C:00:00:00
Designated Root Bridge	0-00:00:00:00:00:00
Root Port	N/A
Root Path Cost	0
Topology Change Count	0
Last Topology Change	0D/0H/0M/0S

Figure 7-1: STP Property.

Field	Description
State	Enable/Disable the Spanning Tree on the switch.
Operation Mode	Specify the Spanning Tree 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 Hops	Specify the number of hops in an MSTP region before the BPDU is discarded. The valid range is 1 to 40.

Table 7-1: STP Property field.

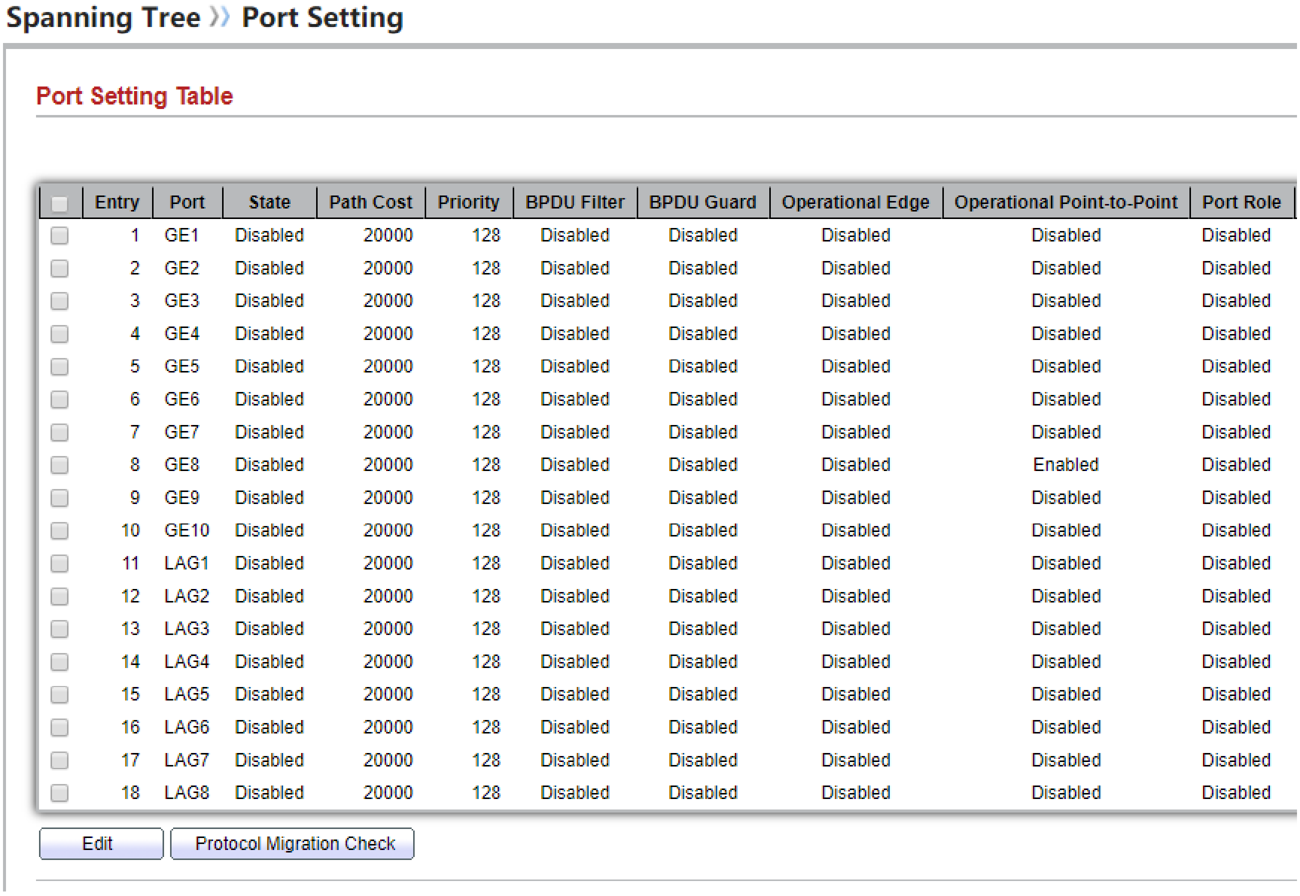
Field	Description
Bridge Identifier	Bridge identifier of the switch.
Designated Root Identifier	Bridge identifier of the designated root bridge.
Root Port	Operational root port of the switch.
Root Path Cost	Operational root path cost.
Topology Change	Numbers of the topology changes.

Count	
Last Topology Change	The last time for the topology change.

Table 7-2: STP Operational Status field.

7.2. Port Setting

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



Spanning Tree » Port Setting

Port Setting Table

□	Entry	Port	State	Path Cost	Priority	BPDU Filter	BPDU Guard	Operational Edge	Operational Point-to-Point	Port Role
□	1	GE1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	2	GE2	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	3	GE3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	4	GE4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	5	GE5	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	6	GE6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	7	GE7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	8	GE8	Disabled	20000	128	Disabled	Disabled	Disabled	Enabled	Disabled
□	9	GE9	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	10	GE10	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	11	LAG1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	12	LAG2	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	13	LAG3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	14	LAG4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	15	LAG5	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	16	LAG6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	17	LAG7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled
□	18	LAG8	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled

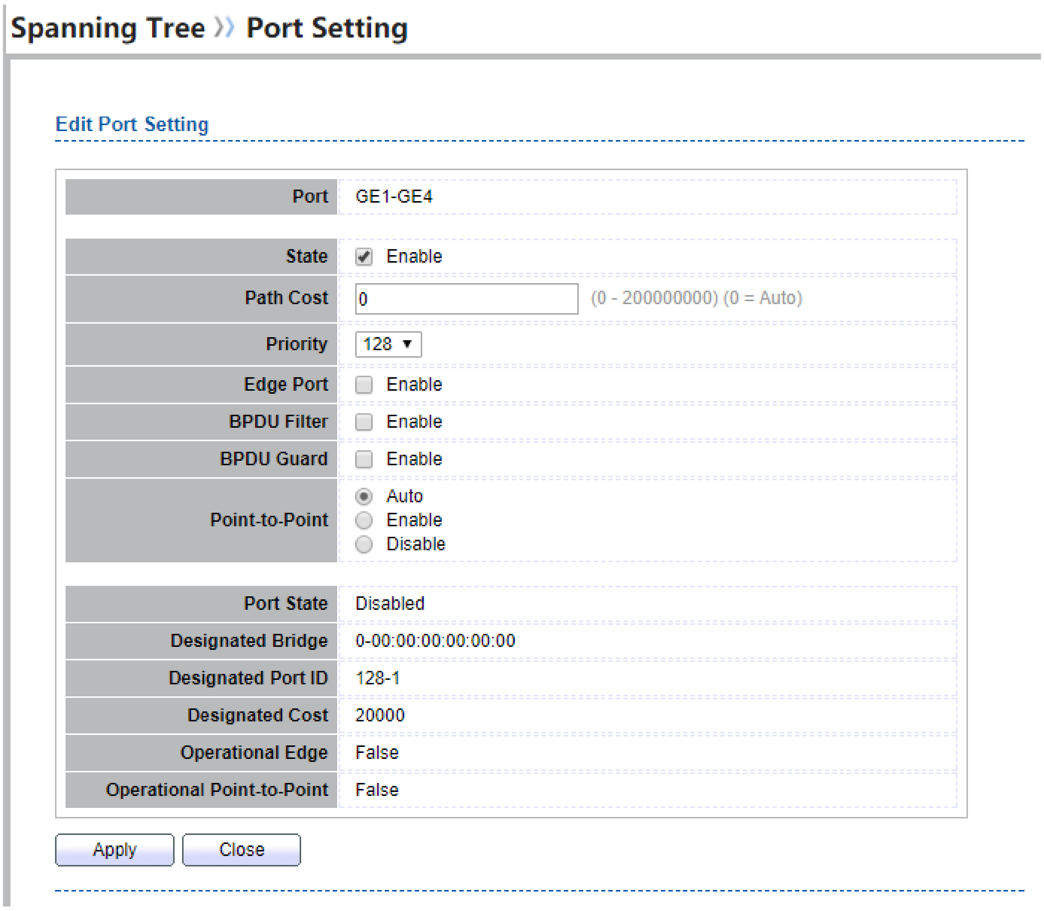
Figure 7-2: STP Port Setting page.

Field	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

Table 7-3: STP Port Setting fields.

Field	Description
Protocol Migration Check	Restart the Spanning Tree Protocol (STP) migration process (re-negotiate with its neighborhood) on the specific interface.

Table 7-4: STP Port Setting buttons.



Spanning Tree » Port Setting

Edit Port Setting

Port	GE1-GE4
State	☑ Enable
Path Cost	0 (0 - 200000000) (0 = Auto)
Priority	128 ▼
Edge Port	□ Enable
BPDU Filter	□ Enable
BPDU Guard	□ Enable
Point-to-Point	● Auto ○ Enable ○ Disable
Port State	Disabled
Designated Bridge	0-00:00:00:00:00:00
Designated Port ID	128-1
Designated Cost	20000
Operational Edge	False
Operational Point-to-Point	False

Figure 7-3: Edit STP Port Setting page.

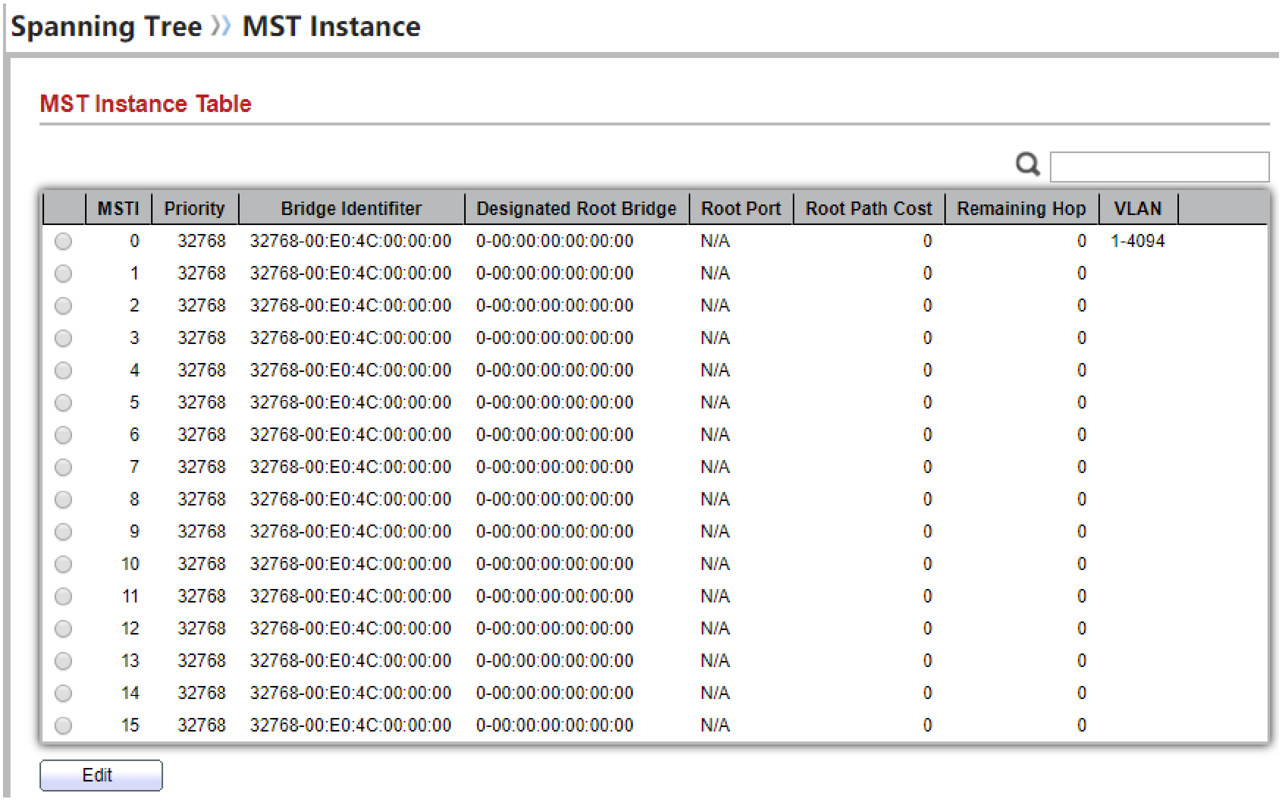
Field	Description
State	Enable/Disable the STP on the specified port.
Path Cost	Specify the STP path cost on the specified port.
Priority	Specify the STP path cost on the specified port.
Edge Port	Specify the edge mode. • **Enable**: Force to true state (as link to a host). • **Disable**: Force to false 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 BPDU 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.

Table 7-5: Edit STP Port Setting fields.

7.3. MST Instance

To configure MST instance setting, click **Spanning Tree** > **MST Instance**.



Spanning Tree » MST Instance

MST Instance Table

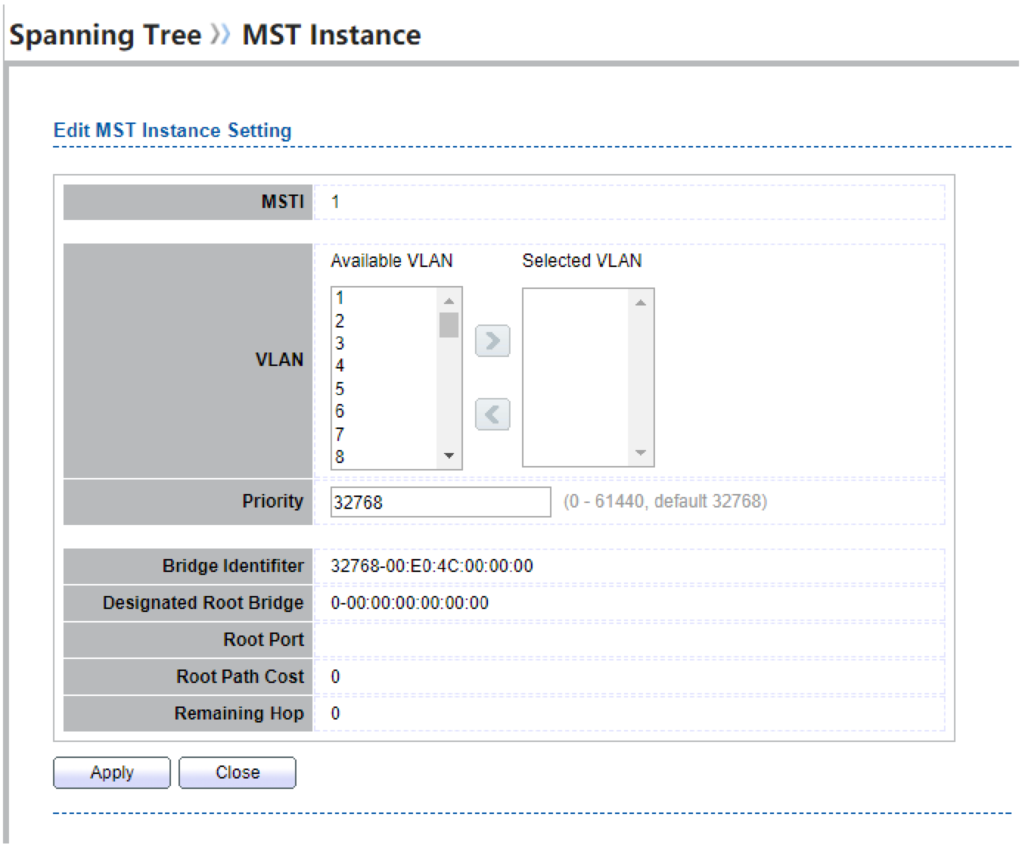
	MSTI	Priority	Bridge Identifiter	Designated Root Bridge	Root Port	Root Path Cost	Remaining Hop	VLAN
○	0	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	1-4094
○	1	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	2	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	3	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	4	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	5	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	6	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	7	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	8	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	9	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	10	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	11	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	12	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	13	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	14	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	
○	15	32768	32768-00:E0:4C:00:00:00	0-00:00:00:00:00:00	N/A	0	0	

Figure 7-4: MST Instance page.

Field	Description

MSTI	MST instance ID.
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.

Table 7-6: MST Instance fields.



Spanning Tree » MST Instance

Edit MST Instance Setting

MSTI	1
VLAN	Available VLAN: 1, 2, 3, 4, 5, 6, 7, 8 Selected VLAN:
Priority	32768 (0 - 61440, default 32768)
Bridge Identifiter	32768-00:E0:4C:00:00:00
Designated Root Bridge	0-00:00:00:00:00:00
Root Port	
Root Path Cost	0
Remaining Hop	0

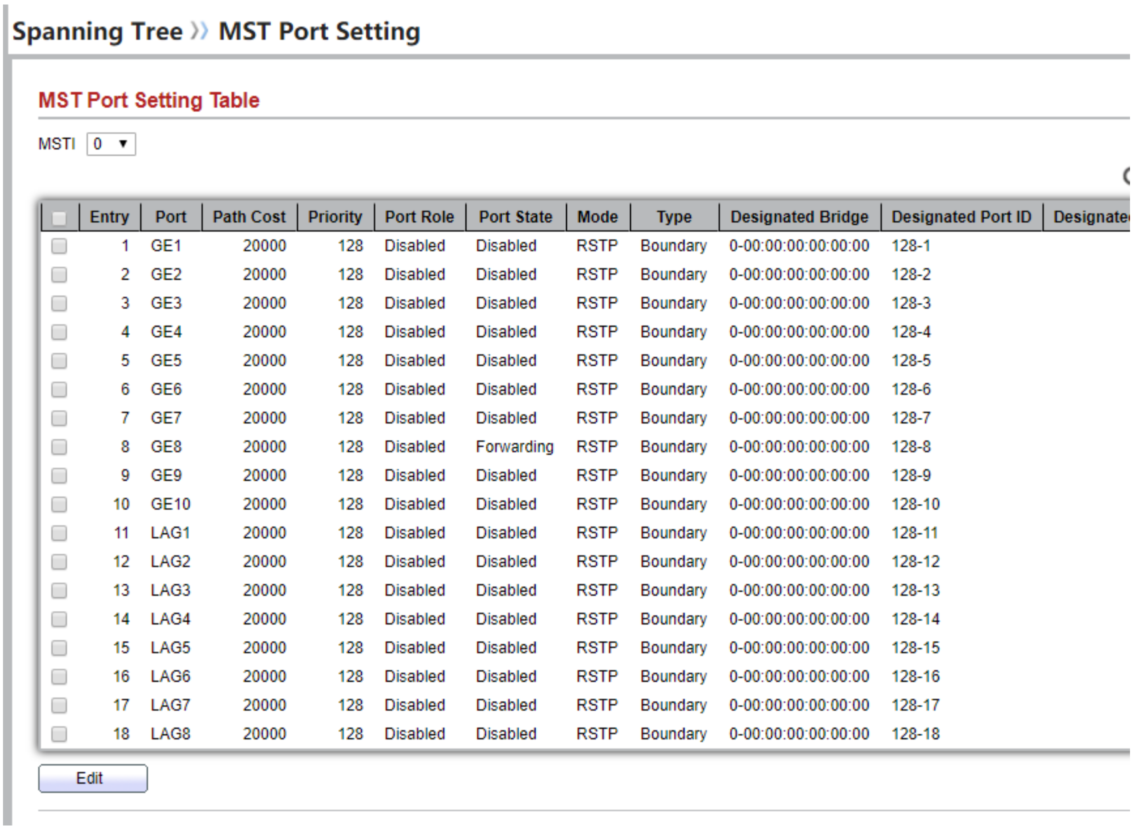
Figure 7-5: Edit MST Instance page.

Field	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.

Table 7-7: Edit MST Instance fields.

7.4. MST Port Setting

To configure and display MST port setting, click **Spanning Tree** > **MST Port Setting**.



Spanning Tree » MST Port Setting

MST Port Setting Table

MSTI 0 ▼

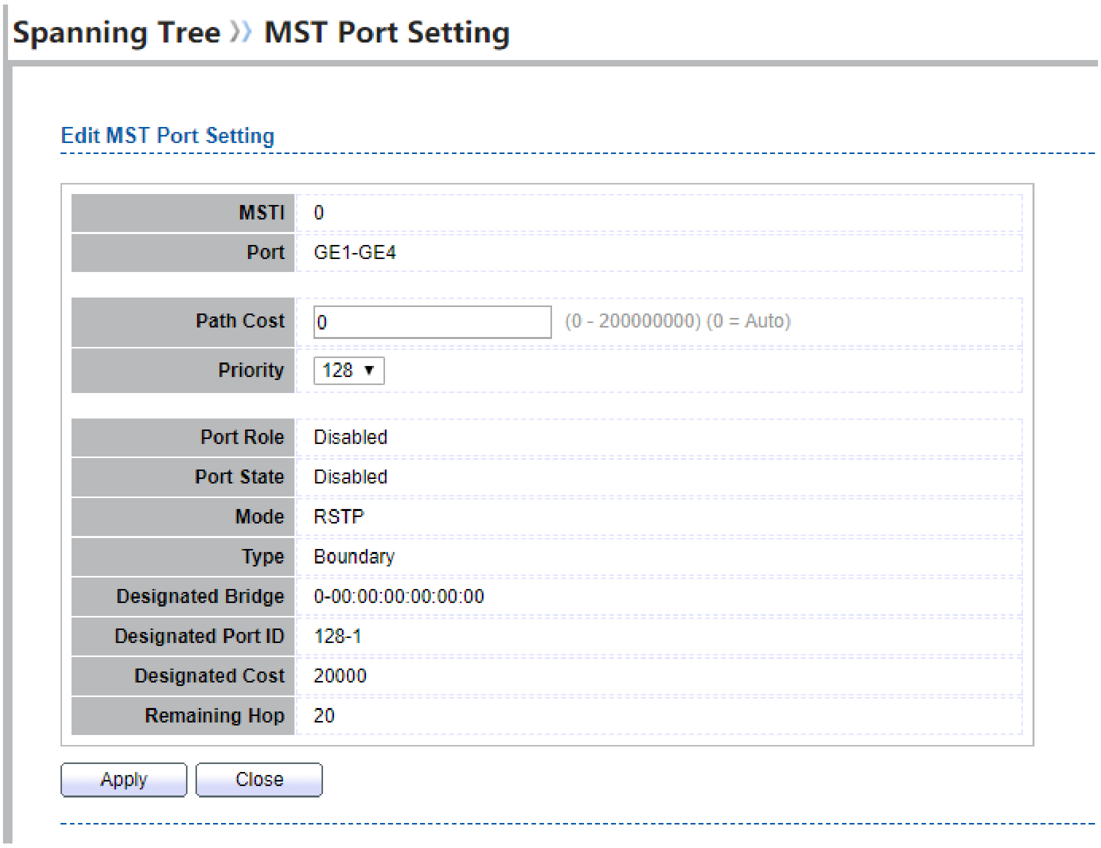
□	Entry	Port	Path Cost	Priority	Port Role	Port State	Mode	Type	Designated Bridge	Designated Port ID	Designate
□	1	GE1	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-1	
□	2	GE2	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-2	
□	3	GE3	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-3	
□	4	GE4	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-4	
□	5	GE5	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-5	
□	6	GE6	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-6	
□	7	GE7	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-7	
□	8	GE8	20000	128	Disabled	Forwarding	RSTP	Boundary	0-00:00:00:00:00:00	128-8	
□	9	GE9	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-9	
□	10	GE10	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-10	
□	11	LAG1	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-11	
□	12	LAG2	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-12	
□	13	LAG3	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-13	
□	14	LAG4	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-14	
□	15	LAG5	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-15	
□	16	LAG6	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-16	
□	17	LAG7	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-17	
□	18	LAG8	20000	128	Disabled	Disabled	RSTP	Boundary	0-00:00:00:00:00:00	128-18	

Figure 7-6: MST Port Setting page.

Field	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 port 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.

Table 7-8: MST Port Setting fields.



MSTI	0
Port	GE1-GE4
Path Cost	0 (0 - 200000000) (0 = Auto)
Priority	128 ▾
Port Role	Disabled
Port State	Disabled
Mode	RSTP
Type	Boundary
Designated Bridge	0-00:00:00:00:00:00
Designated Port ID	128-1
Designated Cost	20000
Remaining Hop	20

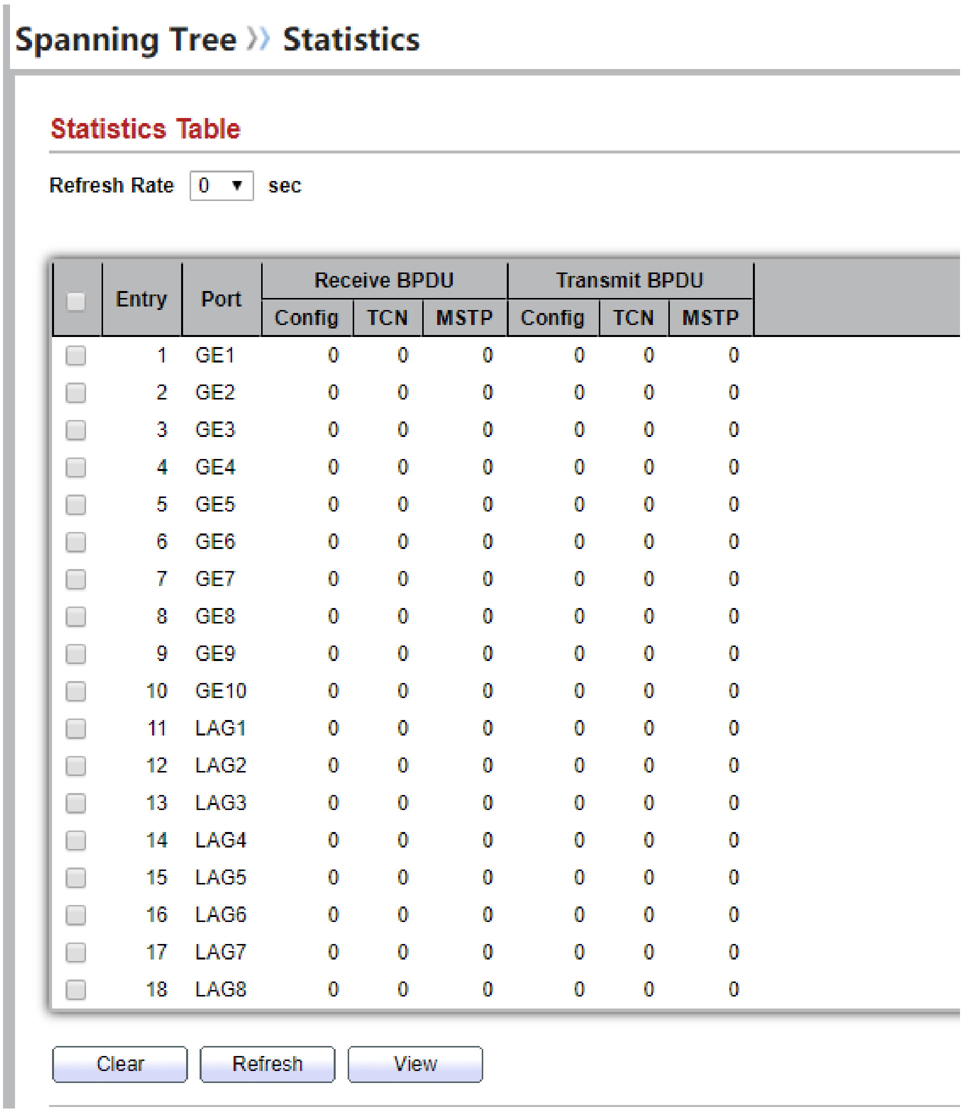
Figure 7-7: Edit MST Port Setting page.

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

Table 7-9: Edit MST Port Setting fields.

7.5. Statistics

To display the STP statistics, click **Spanning Tree** > **Statistics**.



Spanning Tree » Statistics

Statistics Table

Refresh Rate 0 ▾ sec

□	Entry	Port	Receive BPDU			Transmit BPDU		
			Config	TCN	MSTP	Config	TCN	MSTP
□	1	GE1	0	0	0	0	0	0
□	2	GE2	0	0	0	0	0	0
□	3	GE3	0	0	0	0	0	0
□	4	GE4	0	0	0	0	0	0
□	5	GE5	0	0	0	0	0	0
□	6	GE6	0	0	0	0	0	0
□	7	GE7	0	0	0	0	0	0
□	8	GE8	0	0	0	0	0	0
□	9	GE9	0	0	0	0	0	0
□	10	GE10	0	0	0	0	0	0
□	11	LAG1	0	0	0	0	0	0
□	12	LAG2	0	0	0	0	0	0
□	13	LAG3	0	0	0	0	0	0
□	14	LAG4	0	0	0	0	0	0
□	15	LAG5	0	0	0	0	0	0
□	16	LAG6	0	0	0	0	0	0
□	17	LAG7	0	0	0	0	0	0
□	18	LAG8	0	0	0	0	0	0

Figure 7-8: STP Statistics page.

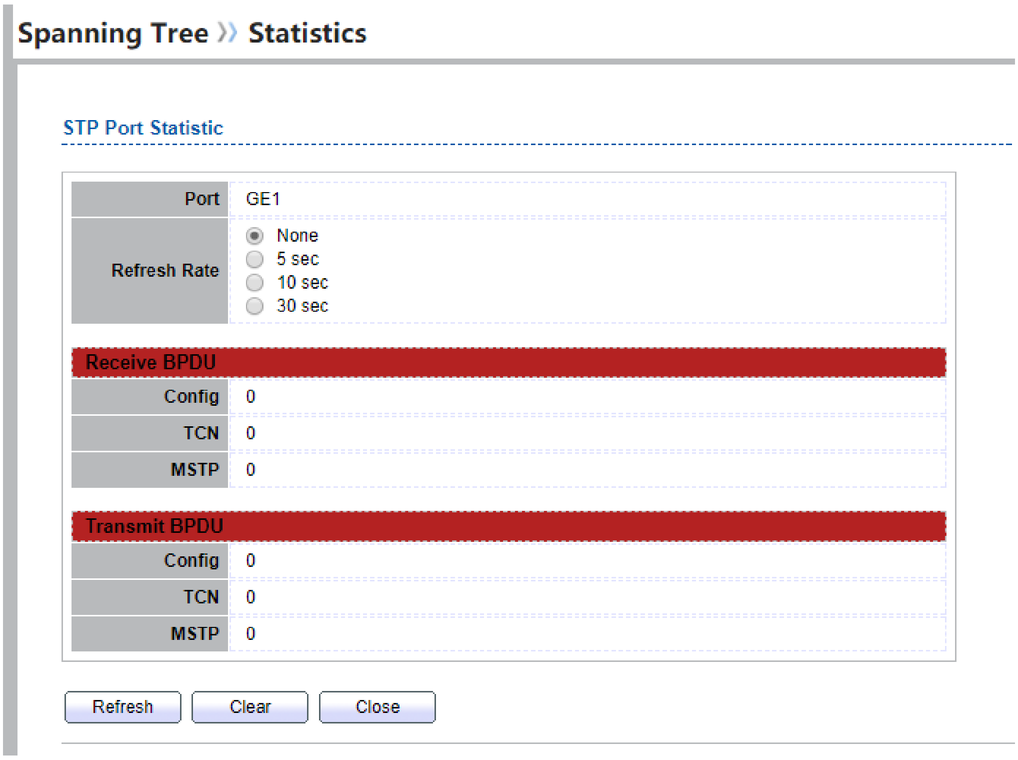
Field	Description
Refresh Rate	The option to refresh the statistics automatically.
Receive BPDU (Config)	The counts of the received CONFIG BPDU.
Receive BPDU (TCN)	The counts of the received TCN BPDU.
Receive BPDU	The counts of the received MSTP BPDU.

(MSTP)	
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.

Table 7-10: View STP Statistic fields.

Field	Description
Clear	Clear the statistics for the selected interfaces
View	View the statistics for the interface.

Table 7-11: View STP Statistic buttons.



Spanning Tree » Statistics

STP Port Statistic

Port	GE1
Refresh Rate	● None ○ 5 sec ○ 10 sec ○ 30 sec
Receive BPDU	
Config	0
TCN	0
MSTP	0
Transmit BPDU	
Config	0
TCN	0
MSTP	0

Figure 7-9: View STP Port Statistics page.

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

Table 7-12: View STP Port Statistic buttons.

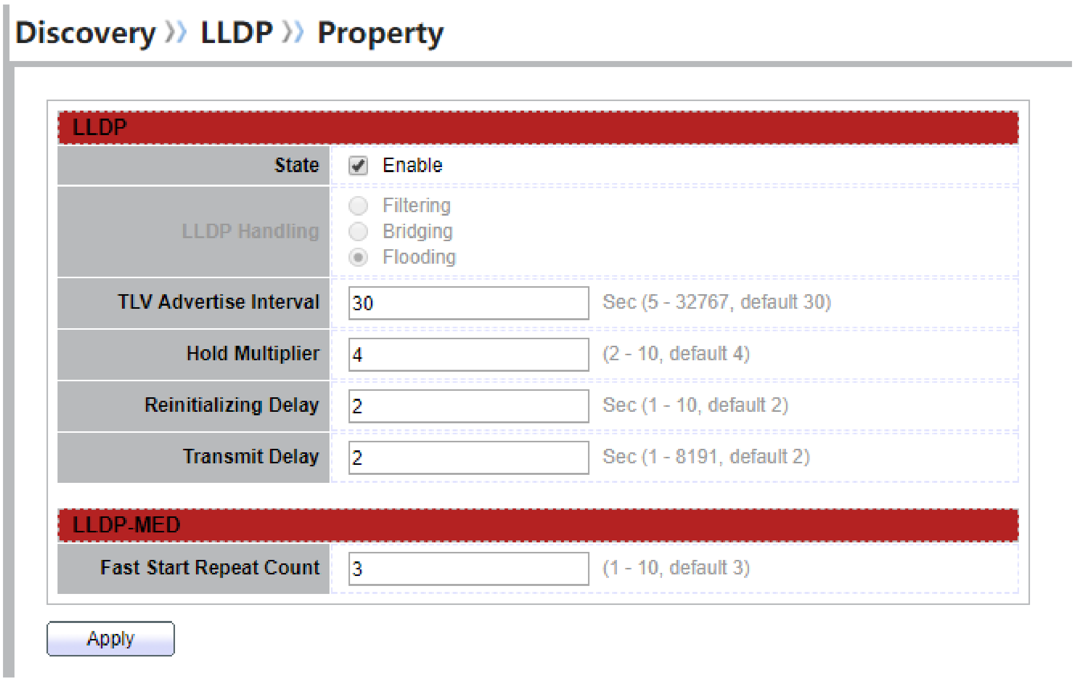
8. Discovery

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.

8.1.1. Property

To display LLDP Property Setting web page, click **Discovery > LLDP > Property**.



Discovery » LLDP » Property

LLDP

State	☑ Enable
LLDP Handling	○ Filtering ○ Bridging ● Flooding
TLV Advertise Interval	30 Sec (5 - 32767, default 30)
Hold Multiplier	4 (2 - 10, default 4)
Reinitializing Delay	2 Sec (1 - 10, default 2)
Transmit Delay	2 Sec (1 - 8191, default 2)

LLDP-MED

Fast Start Repeat Count	3 (1 - 10, default 3)

Figure 8-1 LLDP Property Setting

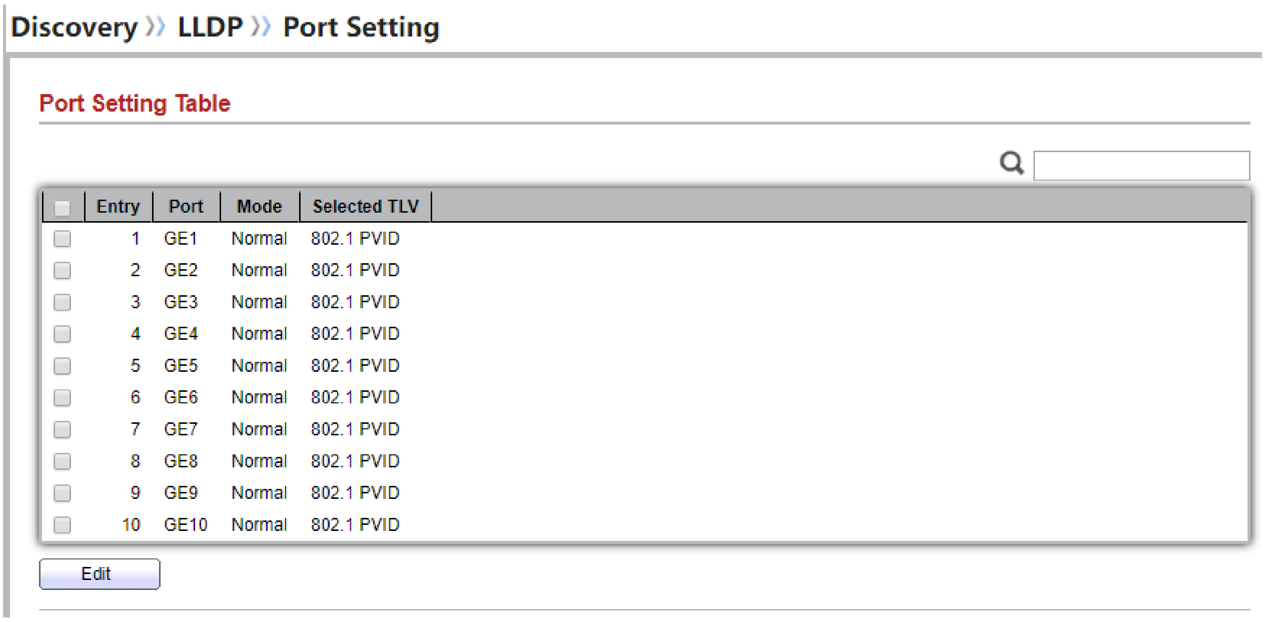
Field	Description
State	Enable/ Disable LLDP protocol on this switch.
LLDP Handling	Select LLDP PDU handling action to be filtered, bridging or flooded when LLDP is globally disabled. • **Filtering:** Deletes the packet. • **Bridging:** (VLAN-aware flooding) Forwards the packet to all VLAN members. • **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.
Holdtime Multiplier	Select the multiplier on the transmit interval to assign to TTL (range 2–10, default = 4).

Reinitialization 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).

Table 8-1 LLDP Property Setting Fields

8.1.2. Port Setting

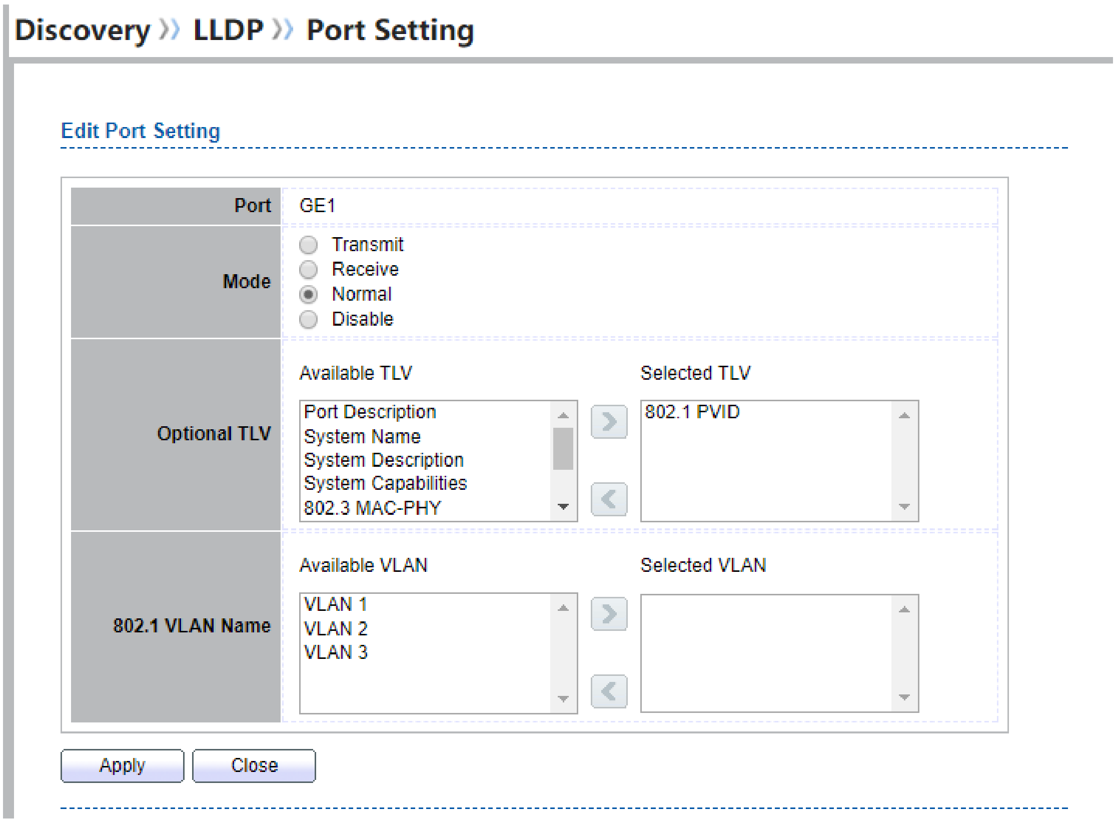
To display LLDP Port Setting, click **Discovery > LLDP > Port Setting**.



□	Entry	Port	Mode	Selected TLV
□	1	GE1	Normal	802.1 PVID
□	2	GE2	Normal	802.1 PVID
□	3	GE3	Normal	802.1 PVID
□	4	GE4	Normal	802.1 PVID
□	5	GE5	Normal	802.1 PVID
□	6	GE6	Normal	802.1 PVID
□	7	GE7	Normal	802.1 PVID
□	8	GE8	Normal	802.1 PVID
□	9	GE9	Normal	802.1 PVID
□	10	GE10	Normal	802.1 PVID

Figure 8-2 LLDP Port Setting Page

To Edit LLDP port setting web page, select the port which to set, click button **Edit**



Discovery » LLDP » Port Setting

Edit Port Setting

Port	GE1
Mode	○ Transmit ○ Receive ● Normal ○ Disable
Optional TLV	Available TLV: Port Description, System Name, System Description, System Capabilities, 802.3 MAC-PHY Selected TLV: 802.1 PVID
802.1 VLAN Name	Available VLAN: VLAN 1, VLAN 2, VLAN 3 Selected VLAN:

Figure 8-3 LLDP Port Edit Page

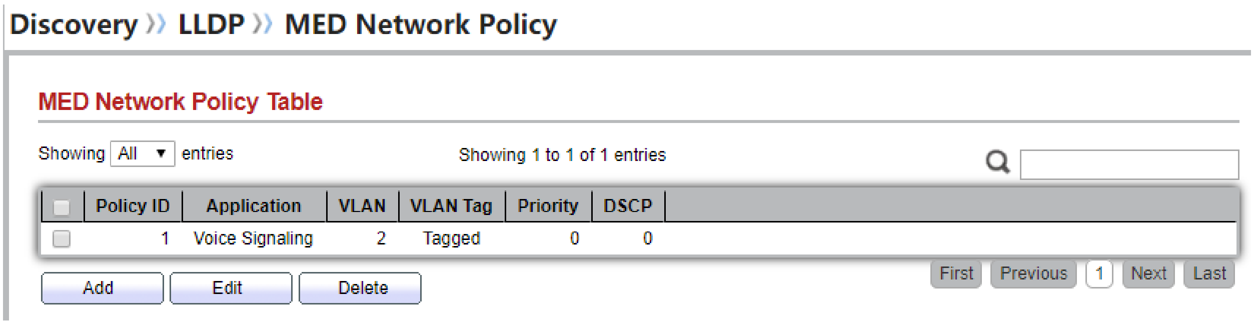
Field	Description
Port	Select specified port or all ports to configure LLDP state.
Mode	Select the transmission state of LLDP port interface. • **Disable:** Disable the transmission of LLDP PDUs. • **RX Only:** Receive LLDP PDUs only. • **TX Only:** Transmit LLDP PDUs only. • **TX And RX:** Transmit 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** • **802.1PVID**

802.1 VLAN Name	Select the VLAN Name ID to be carried (multiple selection is allowed).

Table 8-2 LLDP Port Configuration Fields

8.1.3. MED Network Policy

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



Discovery » LLDP » MED Network Policy

MED Network Policy Table

Showing All ▾ entries

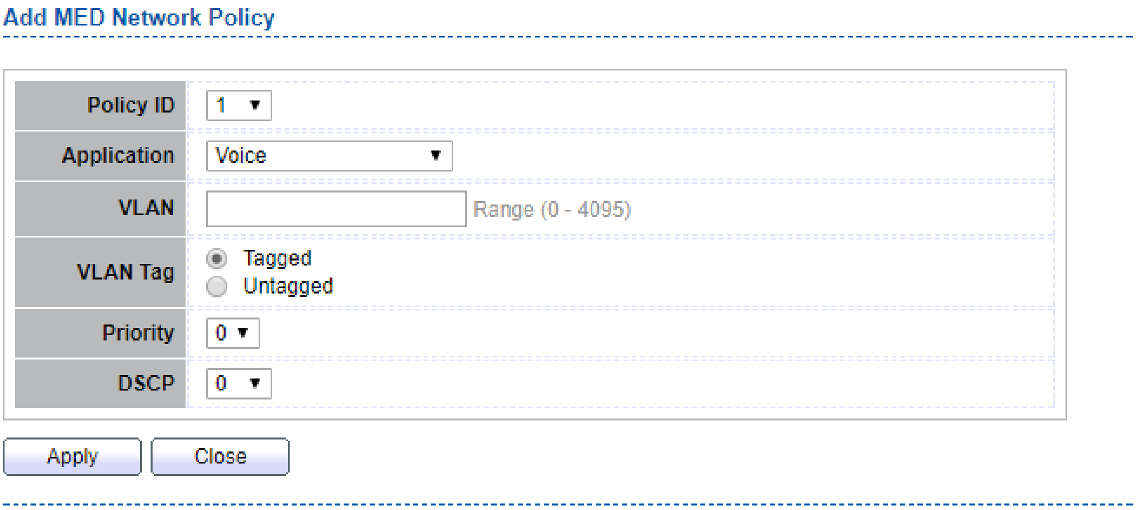
Showing 1 to 1 of 1 entries

□	Policy ID	Application	VLAN	VLAN Tag	Priority	DSCP
□	1	Voice Signaling	2	Tagged	0	0

Figure 8-4 LLDP MED Network Policy Page

To Add LLDP MED Network Policy entry, Click button **Add**

To Edit LLDP MED Network Policy entry, select the entry which to edit, Click button **Edit**



Add MED Network Policy

Policy ID	1 ▾
Application	Voice ▾
VLAN	Range (0 - 4095)
VLAN Tag	● Tagged ○ Untagged
Priority	0 ▾
DSCP	0 ▾

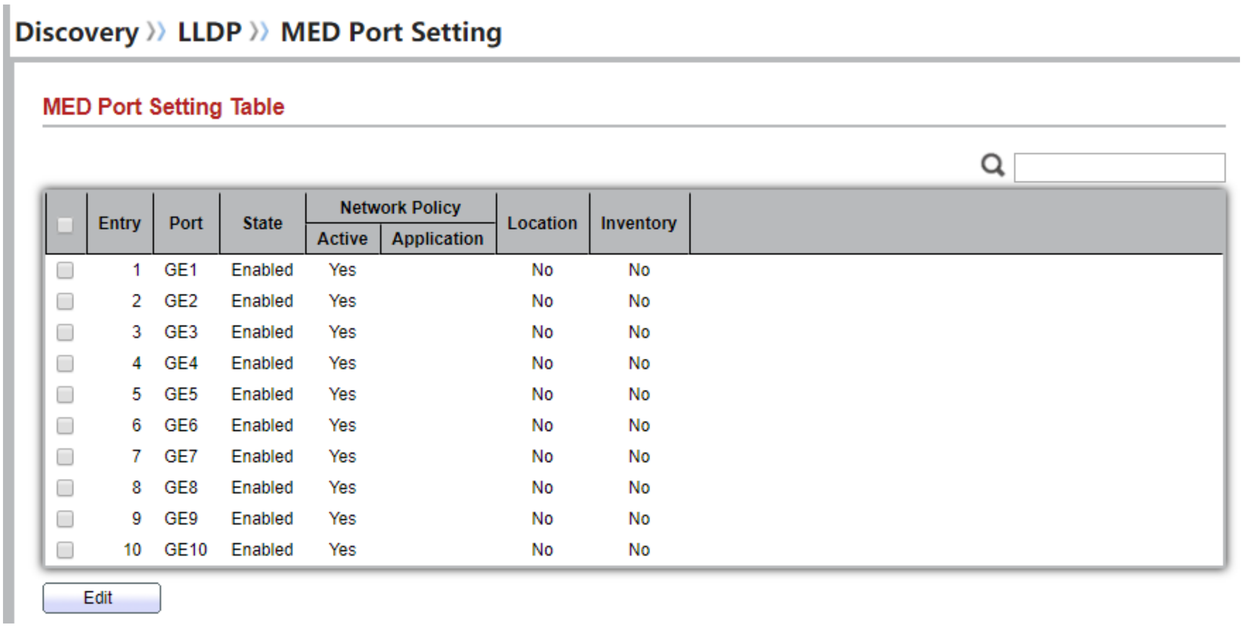
Figure 8-5 LLDP MED Network Policy Setting Page

Field	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** • **App 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

Table 8-3 LLDP MED Network Policy Configuration Fields

8.1.4. MED Port Setting

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



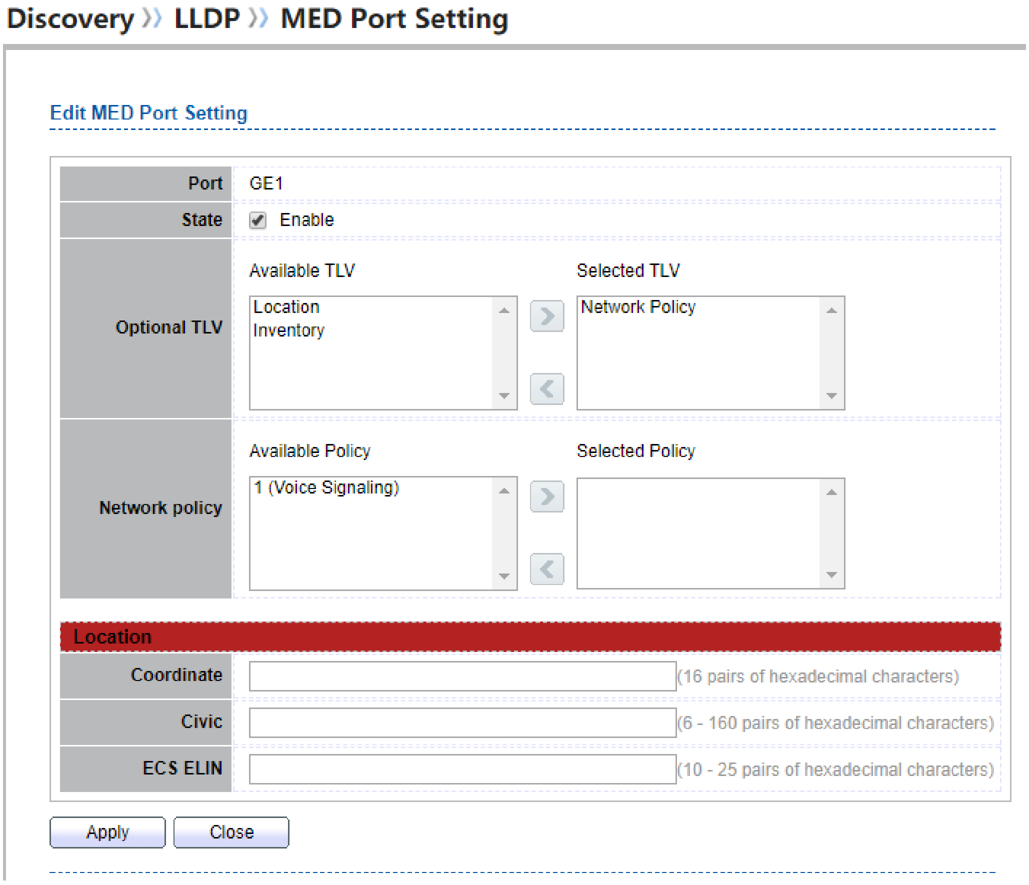
Discovery » LLDP » MED Port Setting

MED Port Setting Table

□	Entry	Port	State	Network Policy		Location	Inventory
				Active	Application		
□	1	GE1	Enabled	Yes		No	No
□	2	GE2	Enabled	Yes		No	No
□	3	GE3	Enabled	Yes		No	No
□	4	GE4	Enabled	Yes		No	No
□	5	GE5	Enabled	Yes		No	No
□	6	GE6	Enabled	Yes		No	No
□	7	GE7	Enabled	Yes		No	No
□	8	GE8	Enabled	Yes		No	No
□	9	GE9	Enabled	Yes		No	No
□	10	GE10	Enabled	Yes		No	No

Figure 8-6 LLDP MED Setting Page

To Edit LLDP MED port setting web page, select the port which to set, click button **Edit**



Discovery » LLDP » MED Port Setting

Edit MED Port Setting

Port	GE1
State	☑ Enable
Optional TLV	Available TLV: Location Inventory Selected TLV: Network Policy
Network policy	Available Policy: 1 (Voice Signaling) Selected Policy:

Location

Coordinate		(16 pairs of hexadecimal characters)
Civic		(6 - 160 pairs of hexadecimal characters)
ECS ELIN		(10 - 25 pairs of hexadecimal characters)

Figure 8-7 LLDP MED Add/Edit Page

Field	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.

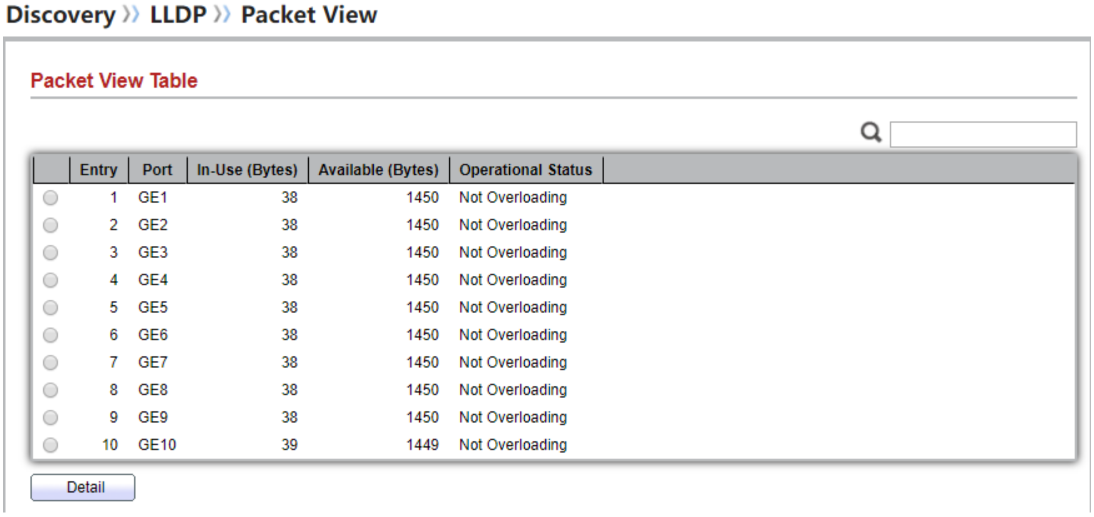
Table 1-4 LLDP MED Port Configuration Fields

Field	Description
Coordinate	Set Coordinate
Civic	Set Civic
ECS ELIN	Set ECS ELIN

Table 8-4 LLDP MED Port Location Configuration Fields

8.1.5. Packet View

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



Discovery » LLDP » Packet View

Packet View Table

	Entry	Port	In-Use (Bytes)	Available (Bytes)	Operational Status
○	1	GE1	38	1450	Not Overloading
○	2	GE2	38	1450	Not Overloading
○	3	GE3	38	1450	Not Overloading
○	4	GE4	38	1450	Not Overloading
○	5	GE5	38	1450	Not Overloading
○	6	GE6	38	1450	Not Overloading
○	7	GE7	38	1450	Not Overloading
○	8	GE8	38	1450	Not Overloading
○	9	GE9	38	1450	Not Overloading
○	10	GE10	39	1449	Not Overloading

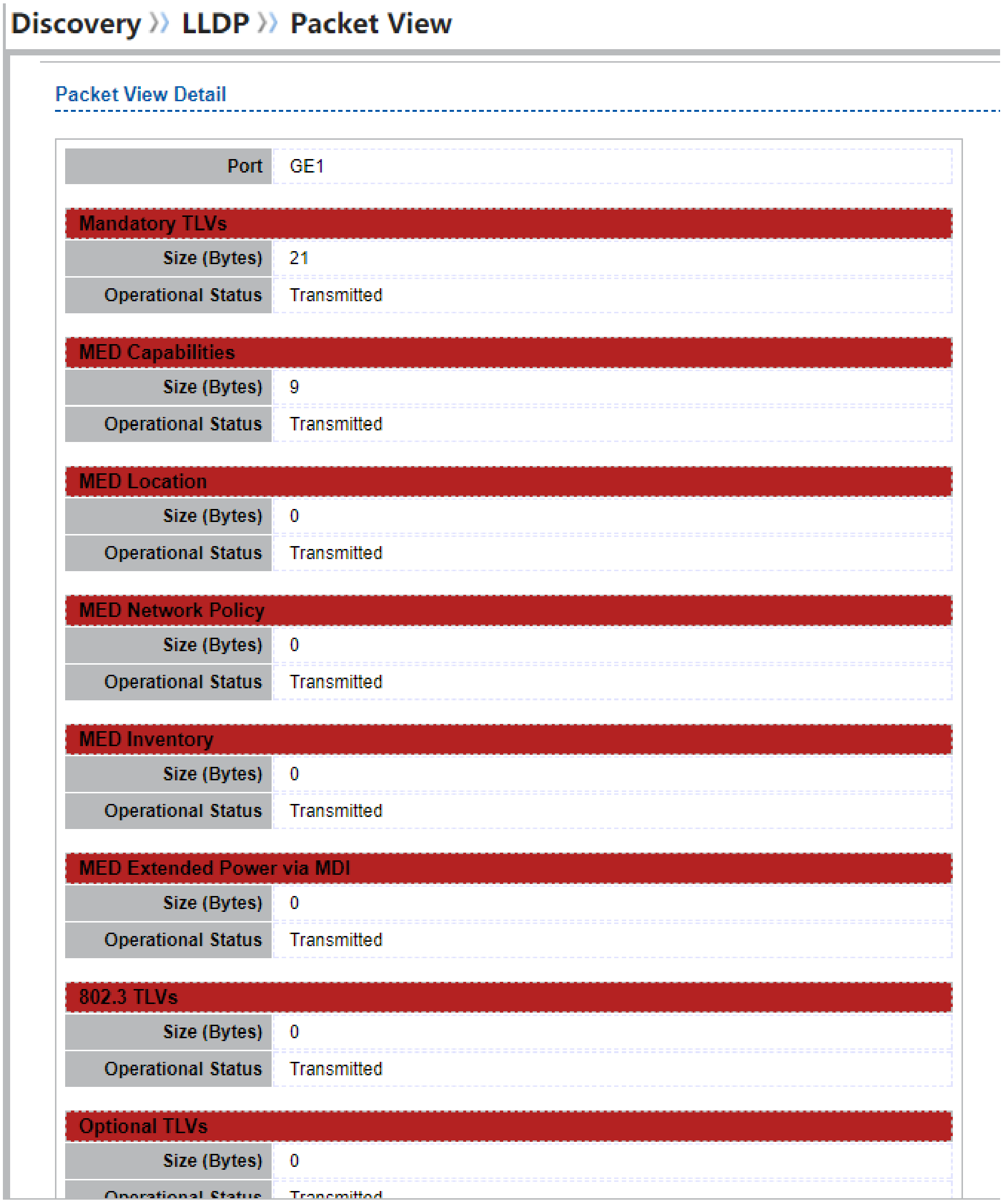
Figure 8-8 LLDP Overloading Page

Field	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

Table 8-5 LLDP Overloading Fields

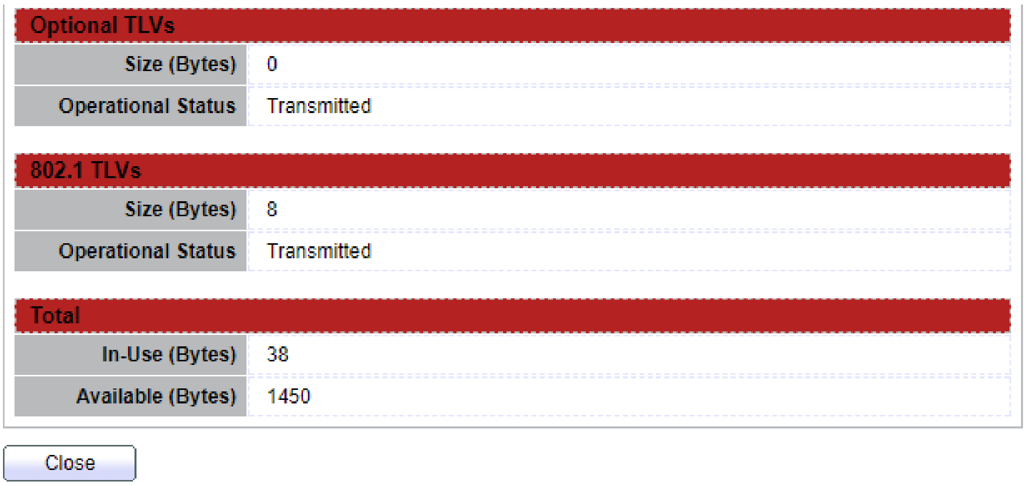
If need detail information, select the port, then click **detail**



Discovery » LLDP » Packet View

Packet View Detail

Port	GE1
Mandatory TLVs	
Size (Bytes)	21
Operational Status	Transmitted
MED Capabilities	
Size (Bytes)	9
Operational Status	Transmitted
MED Location	
Size (Bytes)	0
Operational Status	Transmitted
MED Network Policy	
Size (Bytes)	0
Operational Status	Transmitted
MED Inventory	
Size (Bytes)	0
Operational Status	Transmitted
MED Extended Power via MDI	
Size (Bytes)	0
Operational Status	Transmitted
802.3 TLVs	
Size (Bytes)	0
Operational Status	Transmitted
Optional TLVs	
Size (Bytes)	0
Operational Status	Transmitted



Optional TLVs	
Size (Bytes)	0
Operational Status	Transmitted
802.1 TLVs	
Size (Bytes)	8
Operational Status	Transmitted
Total	
In-Use (Bytes)	38
Available (Bytes)	1450

Figure 8-9 LLDP Overloading Detail Page

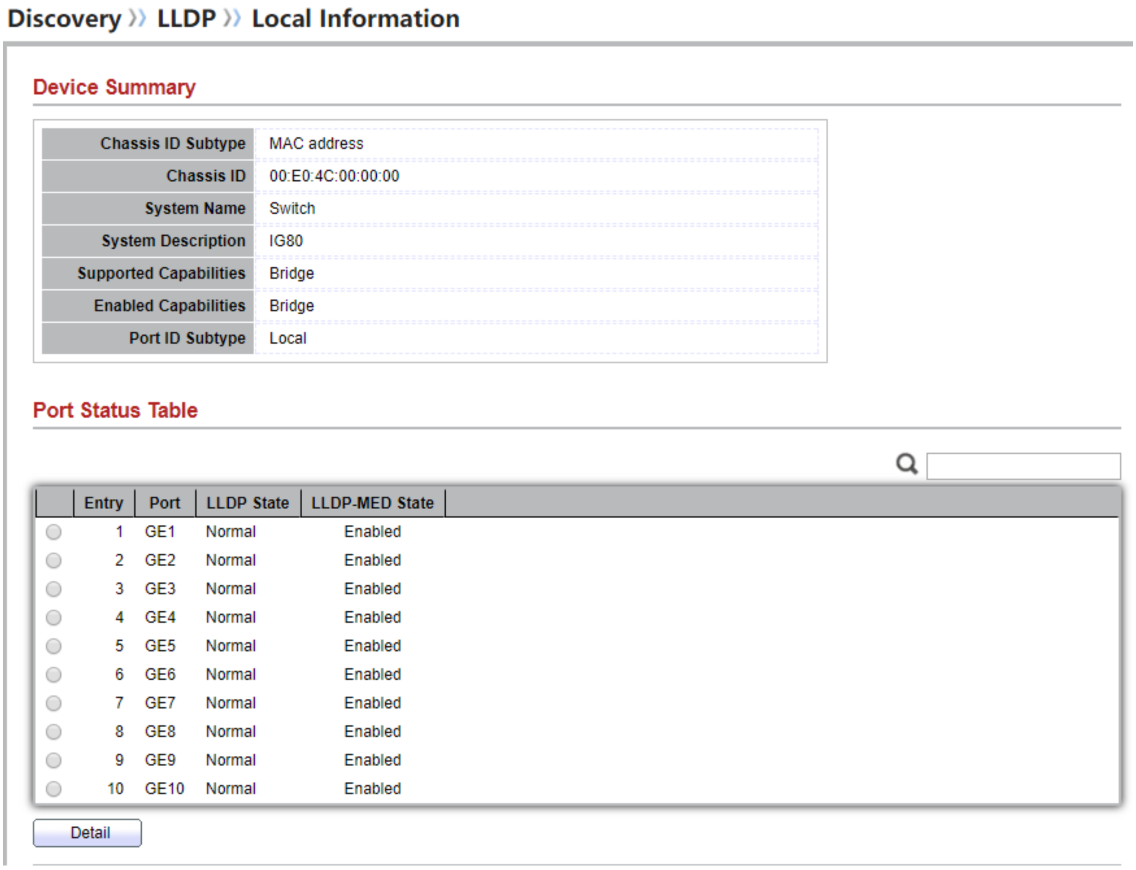
Field	Description
Port	Port Name
Mandatory TLVs	Total mandatory TLV byte size. Status is sent or overloading.
MED Capabilities	Total MED Capabilities TLV byte size. Status is sent or overloading.
MED Location	Total MED Location byte size. Status is sent or overloading.
MED Network Policy	Total MED Network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

Table 8-6 LLDP Overloading Detial Fields

8.1.6. Local Information

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



Discovery » LLDP » Local Information

Device Summary

Chassis ID Subtype	MAC address
Chassis ID	00:E0:4C:00:00:00
System Name	Switch
System Description	IG80
Supported Capabilities	Bridge
Enabled Capabilities	Bridge
Port ID Subtype	Local

Port Status Table

	Entry	Port	LLDP State	LLDP-MED State
○	1	GE1	Normal	Enabled
○	2	GE2	Normal	Enabled
○	3	GE3	Normal	Enabled
○	4	GE4	Normal	Enabled
○	5	GE5	Normal	Enabled
○	6	GE6	Normal	Enabled
○	7	GE7	Normal	Enabled
○	8	GE8	Normal	Enabled
○	9	GE9	Normal	Enabled
○	10	GE10	Normal	Enabled

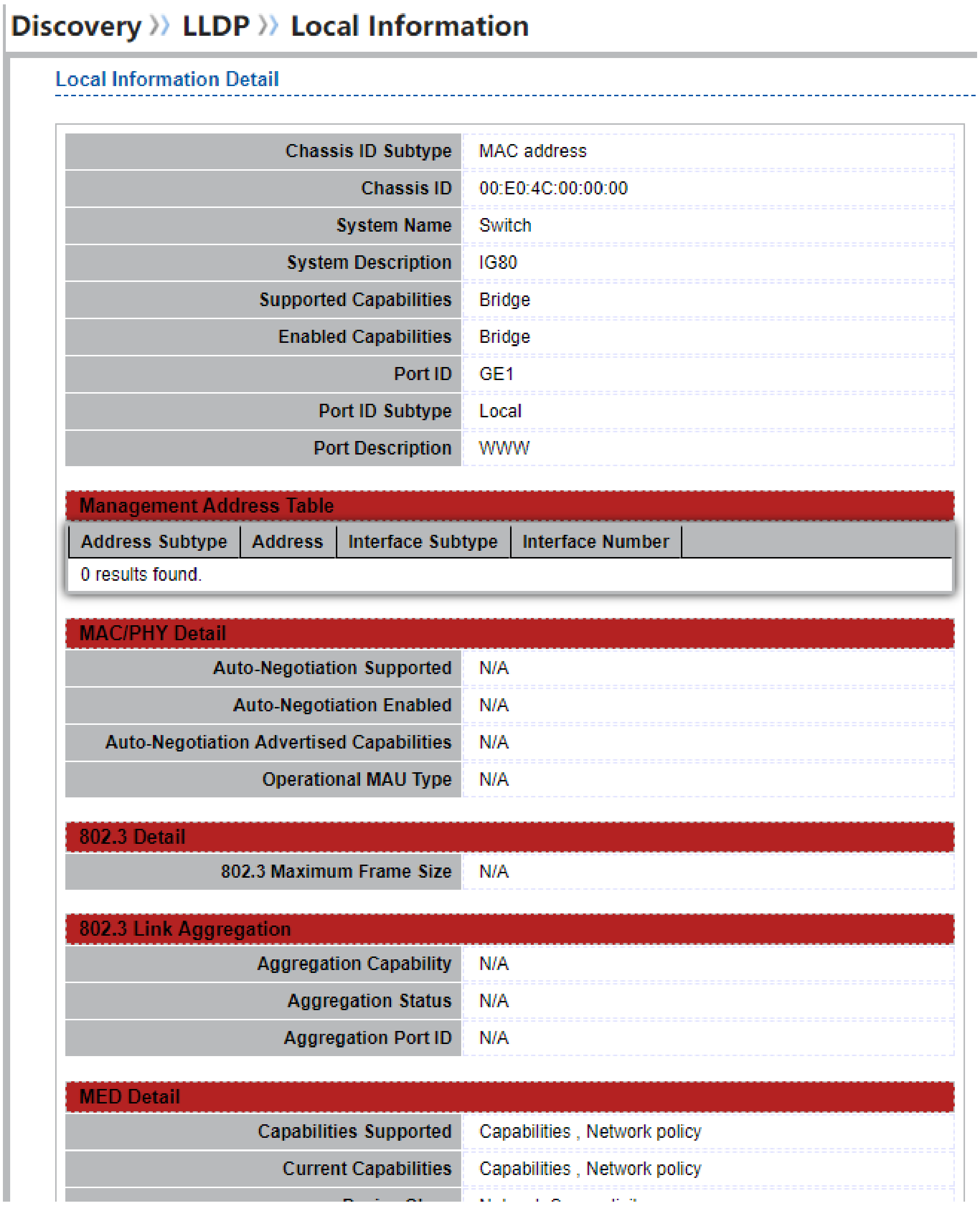
Use the LLDP Local Information to view LLDP local device information.

Figure 8-10 LLDP Local Information Page

Field	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 switch.
System Description	Description of the switch.
Capabilities Supported	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.

Table 8-7 LLDP Local Information Fields

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



Discovery » LLDP » Local Information

Local Information Detail

Chassis ID Subtype	MAC address
Chassis ID	00:E0:4C:00:00:00
System Name	Switch
System Description	IG80
Supported Capabilities	Bridge
Enabled Capabilities	Bridge
Port ID	GE1
Port ID Subtype	Local
Port Description	WWW

Management Address Table

Address Subtype	Address	Interface Subtype	Interface Number
0 results found.			

MAC/PHY Detail

Auto-Negotiation Supported	N/A
Auto-Negotiation Enabled	N/A
Auto-Negotiation Advertised Capabilities	N/A
Operational MAU Type	N/A

802.3 Detail

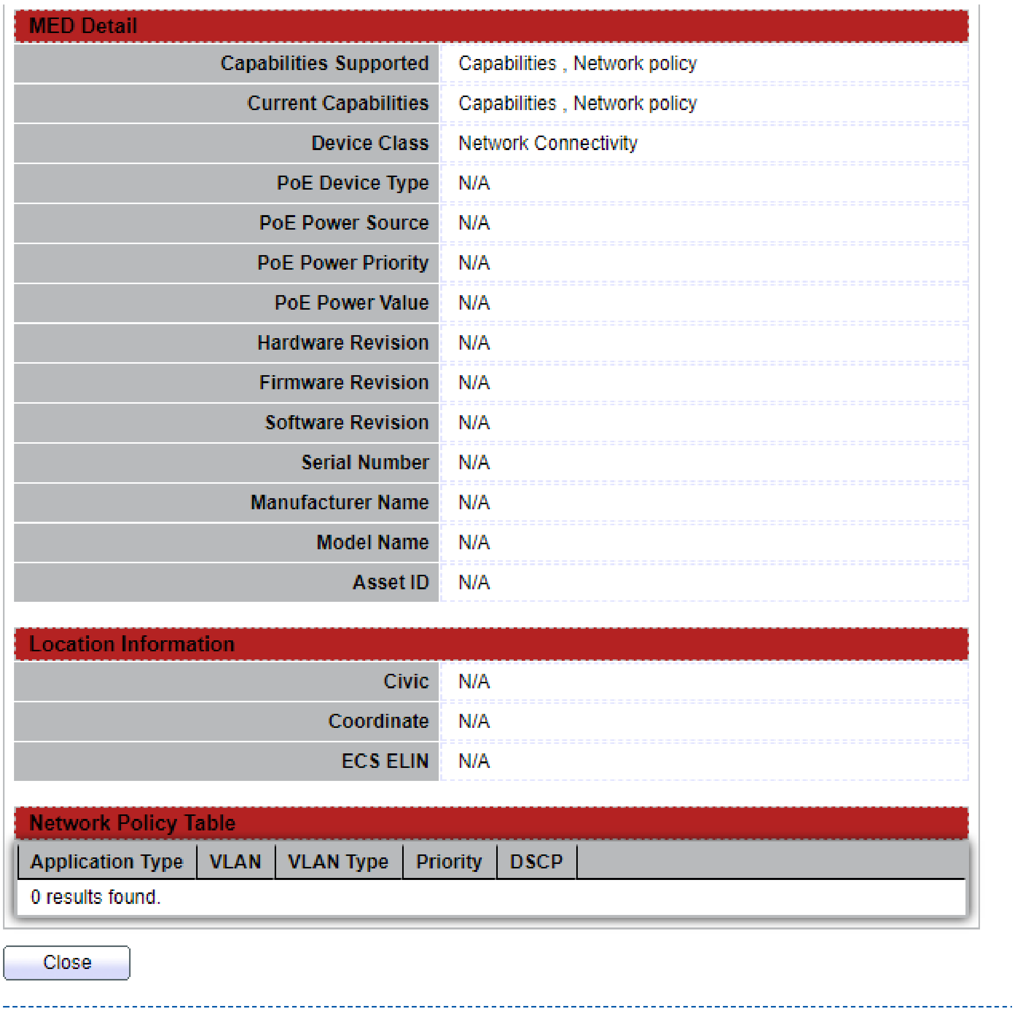
802.3 Maximum Frame Size	N/A

802.3 Link Aggregation

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

MED Detail

Capabilities Supported	Capabilities , Network policy
Current Capabilities	Capabilities , Network policy



MED Detail

Capabilities Supported	Capabilities , Network policy
Current Capabilities	Capabilities , Network policy
Device Class	Network Connectivity
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

Location Information

Civic	N/A
Coordinate	N/A
ECS ELIN	N/A

Network Policy Table

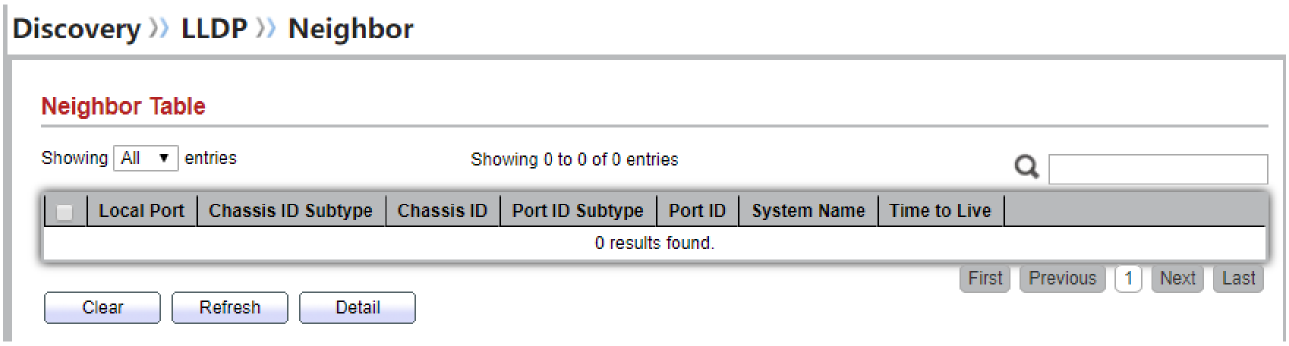
Application Type	VLAN	VLAN Type	Priority	DSCP
0 results found.				

Figure 8-11 LLDP Local Information Detail Page

8.1.7. Neighbor

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

Use the LLDP Neighbor page to view LLDP neighbors information.



Discovery » LLDP » Neighbor

Neighbor Table

Showing All ▾ entries

Showing 0 to 0 of 0 entries

□	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name	Time to Live
0 results found.							

Figure 8-12 LLDP Neighbor Page

Field	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	Identifier of the 802 LAN neighboring device's chassis.
Port ID Subtype	Type of the port identifier that is shown.
Port ID	Identifier of port.
System Name	Published name of the switch.
Time to Live	Time interval in seconds after which the information for this neighbor is deleted.

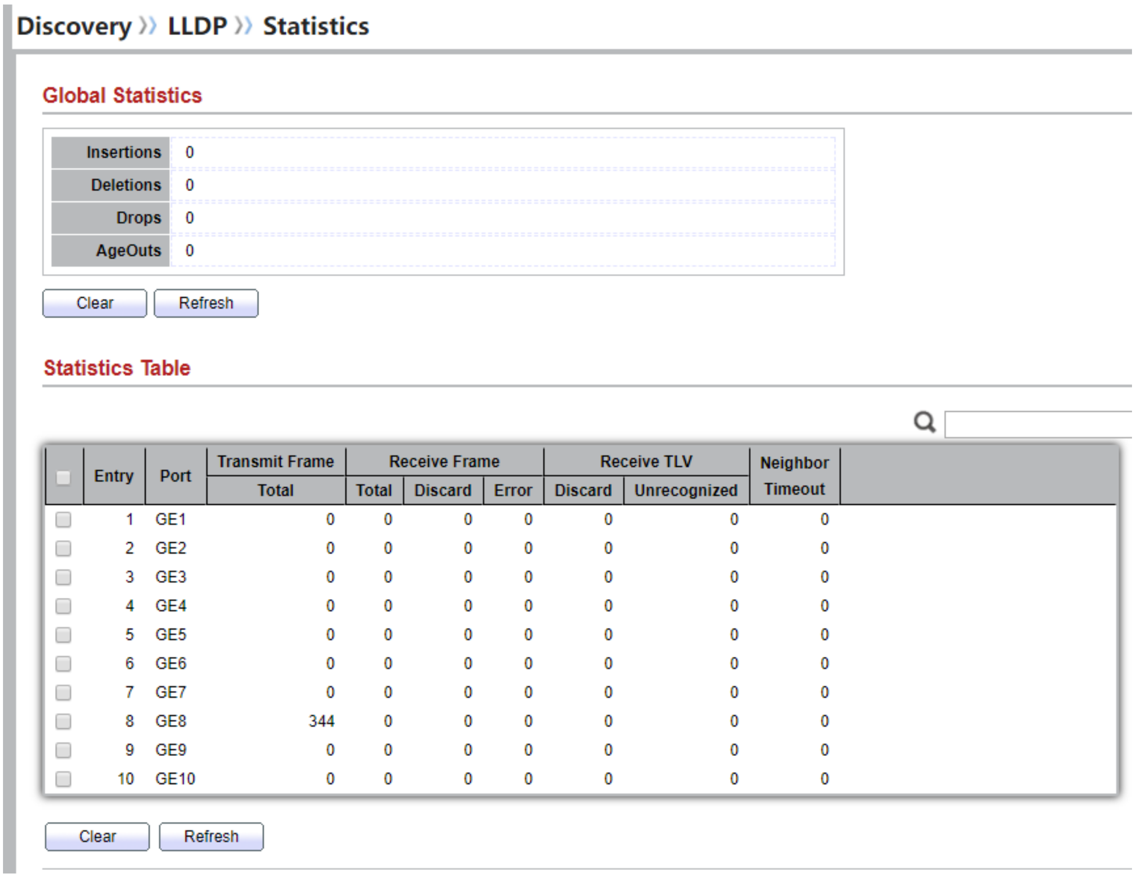
Table 8-8 LLDP Neighbor Fields

Click “detail” to view selected neighbor detail information.

8.1.8. Statistics

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

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



Discovery » LLDP » Statistics

Global Statistics

Insertions	0
Deletions	0
Drops	0
AgeOuts	0

Statistics Table

□	Entry	Port	Transmit Frame	Receive Frame			Receive TLV		Neighbor
			Total	Total	Discard	Error	Discard	Unrecognized	Timeout
□	1	GE1	0	0	0	0	0	0	0
□	2	GE2	0	0	0	0	0	0	0
□	3	GE3	0	0	0	0	0	0	0
□	4	GE4	0	0	0	0	0	0	0
□	5	GE5	0	0	0	0	0	0	0
□	6	GE6	0	0	0	0	0	0	0
□	7	GE7	0	0	0	0	0	0	0
□	8	GE8	344	0	0	0	0	0	0
□	9	GE9	0	0	0	0	0	0	0
□	10	GE10	0	0	0	0	0	0	0

Figure 8-14 LLDP Statistics Page

Field	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.
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.

Table 8-9 LLDP Statistics Fields

9. Multicast

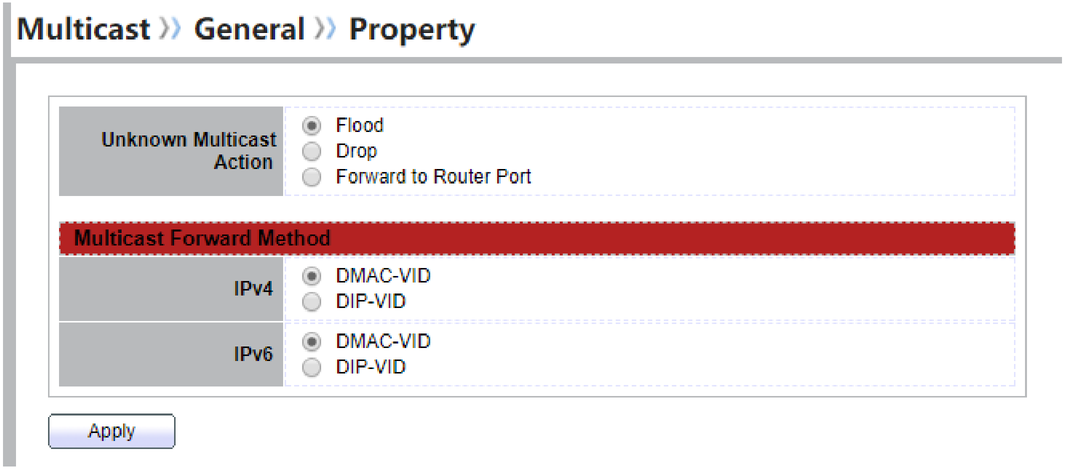
9.1. General

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

9.1.1. Property

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

This page allow user to set multicast forwarding method and unknown multicast action.



Multicast » General » Property

Unknown Multicast Action	● Flood ○ Drop ○ Forward to Router Port
Multicast Forward Method	
IPv4	● DMAC-VID ○ DIP-VID
IPv6	● DMAC-VID ○ DIP-VID

Figure 9-1 Multicast General Properties Page

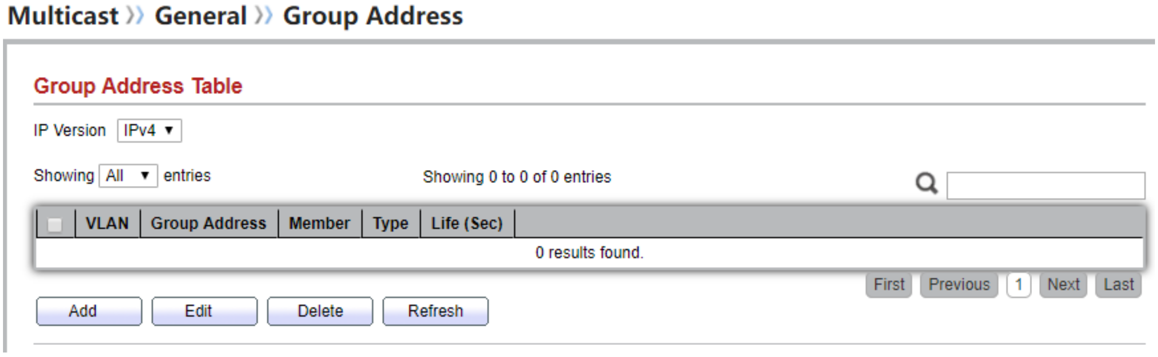
Field	Description
Unknown Multicast Action	Set the unknown multicast action • **Drop:** drop the unknown multicast data. • **Flood:** flood the unknown multicast data. • **Router port:** forward the unknown multicast data to router port.
IPv4	Set the ipv4 multicast forward method. • **MAC-VID:** forward 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).

Table 9-1 Multicast General Property Setting Fields

9.1.2. Group Address

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

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


Multicast » General » Group Address

Group Address Table

IP Version: IPv4

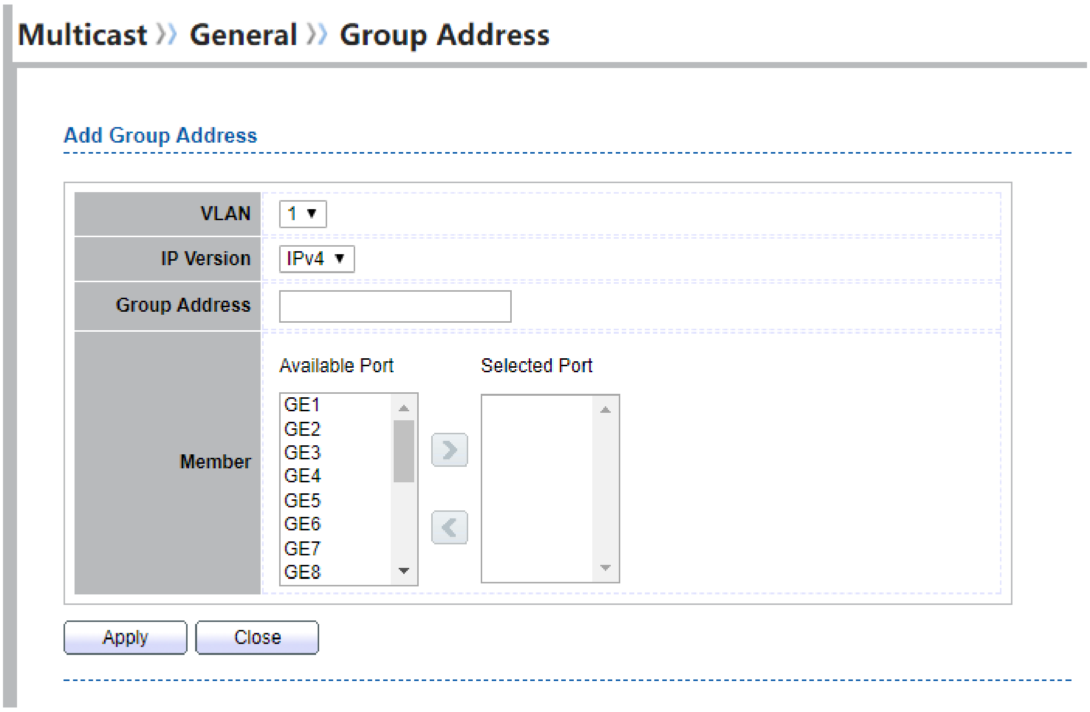
Showing All entries — Showing 0 to 0 of 0 entries

□	VLAN	Group Address	Member	Type	Life (Sec)
0 results found.					

Figure 9-2 Multicast Group Address Table Page

Field	Description
IP Version	IP Version • **IPv4:** ipv4 multicast group • **IPv6:** ipv6 multicast group
VLAN	The VLAN ID of 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.

Table 9-2 Multicast Group Address Table Fields



Multicast » General » Group Address

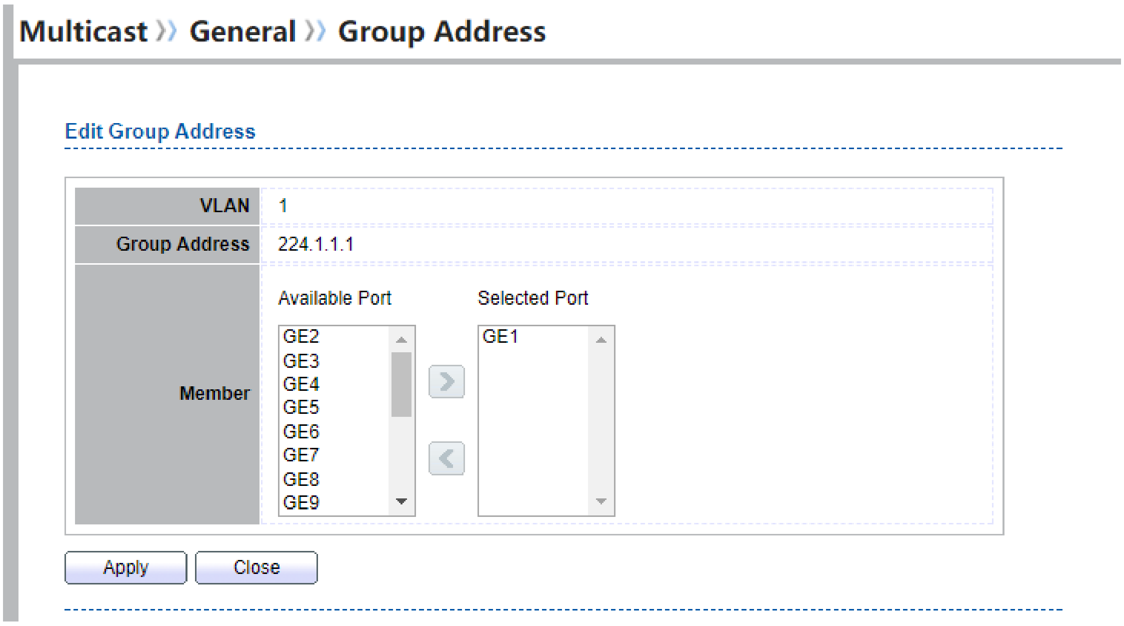
Add Group Address

VLAN	1 ▼
IP Version	IPv4 ▼
Group Address	
Member	Available Port: GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 Selected Port:

Figure 9-3 Multicast Group Address Add Page

Field	Description
VLAN	The VLAN ID of 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

Table 9-3 Multicast Group Address Add Fields



Multicast ›› General ›› Group Address

Edit Group Address

VLAN	1
Group Address	224.1.1.1
Member	Available Port: GE2, GE3, GE4, GE5, GE6, GE7, GE8, GE9 Selected Port: GE1

Figure 9-4 Multicast Group Address Edit Page

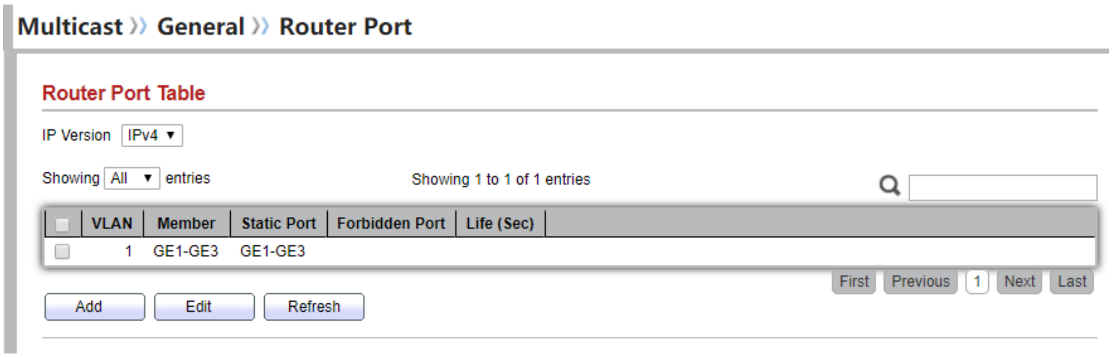
Field	Description
VLAN	The VLAN ID of edited group.
Group Address	The group IP address.
Member	The member ports of group. • **Available Port:** Optional port member • **Selected Port**: Selected port member

Table 9-4 Multicast Group Address Edit Fields

9.1.3. Router Port

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

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



Multicast » General » Router Port

Router Port Table

IP Version: IPv4

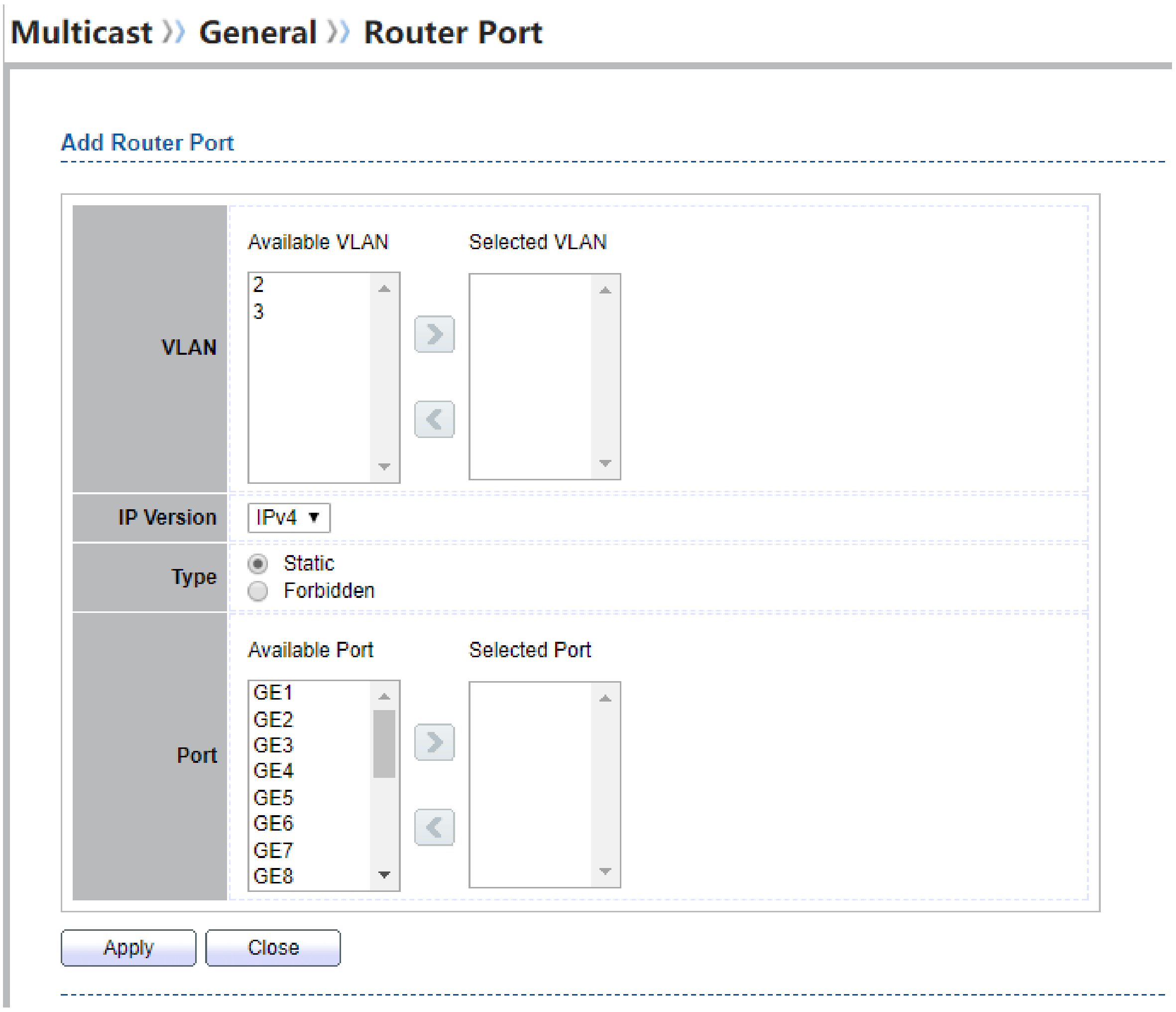
Showing All entries   Showing 1 to 1 of 1 entries

□	VLAN	Member	Static Port	Forbidden Port	Life (Sec)
□	1	GE1-GE3	GE1-GE3		

Figure 9-5 Multicast Router Table Page

Field	Description
IP Version	IP Version • **IPv4:** ipv4 multicast router • **IPv6:** ipv6 multicast router
VLAN	The VLAN ID 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.

Table 9-5 Multicast Router Table Fields



Multicast » General » Router Port

Add Router Port

VLAN: Available VLAN: 2, 3 — Selected VLAN:

IP Version: IPv4

Type: ● Static ○ Forbidden

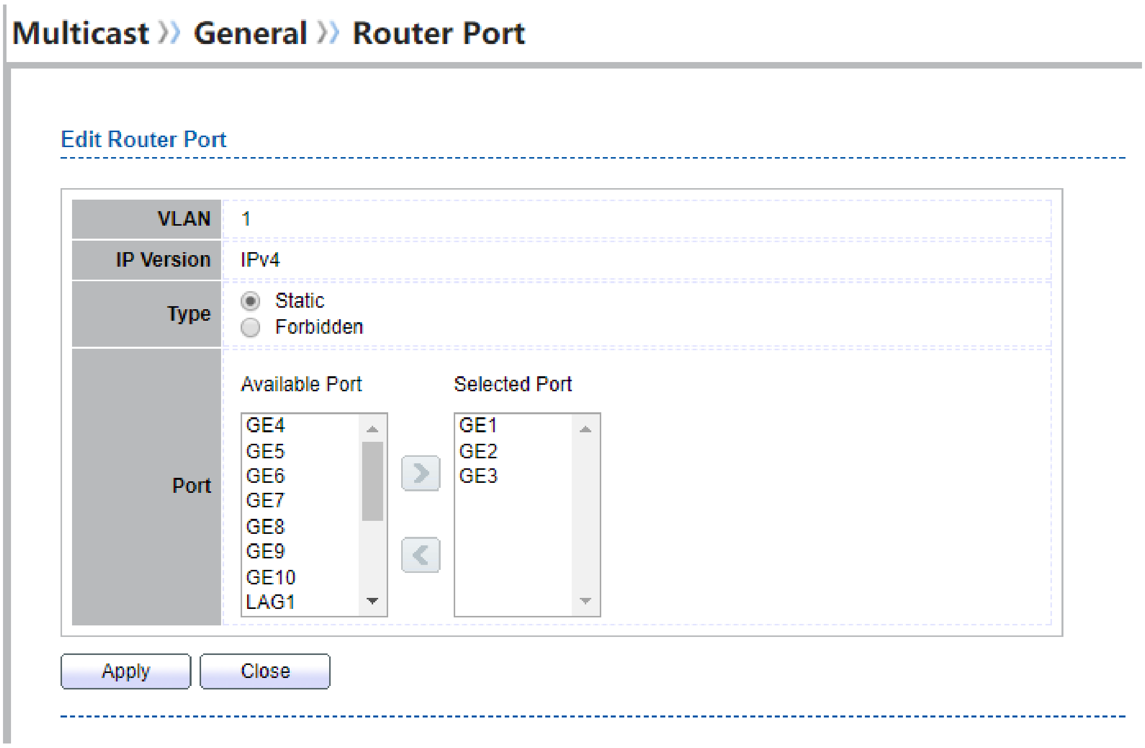
Port: Available Port: GE1, GE2, GE3, GE4, GE5, GE6, GE7, GE8 — Selected Port:

Figure 9-6 Multicast Router Add Page

Field	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 router • **IPv6:** ipv6 multicast router
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

Table 9-6 Multicast Router Add Fields



Multicast >> General >> Router Port

Edit Router Port

VLAN	1
IP Version	IPv4
Type	● Static ○ Forbidden
Port	Available Port: GE4, GE5, GE6, GE7, GE8, GE9, GE10, LAG1 Selected Port: GE1, GE2, GE3

Figure 9-7 Multicast Router Edit Page

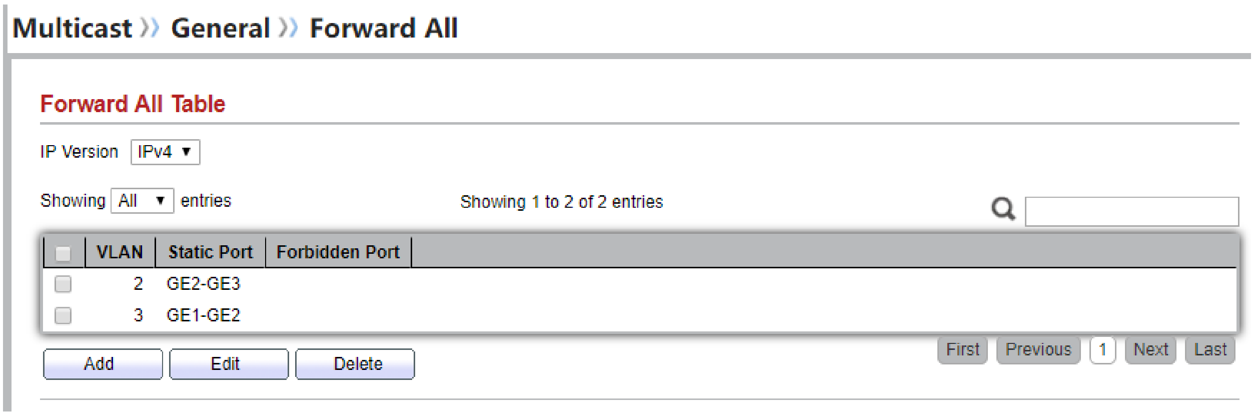
Field	Description
VLAN	VLAN ID of Selected router entry
IP Version	Selected IP version
Type	The router port type • **Static:** static router port • **Forbidden:** forbidden router port, can't learn dynamic router port member
Port	The member ports of router entry for selected port type. • **Available Port:** Optional router port member • **Selected Port**: Selected router port member

Table 9-7 Multicast Router Edit Fields

9.1.4. Forward All

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

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



Multicast » General » Forward All

Forward All Table

IP Version: IPv4

Showing All entries

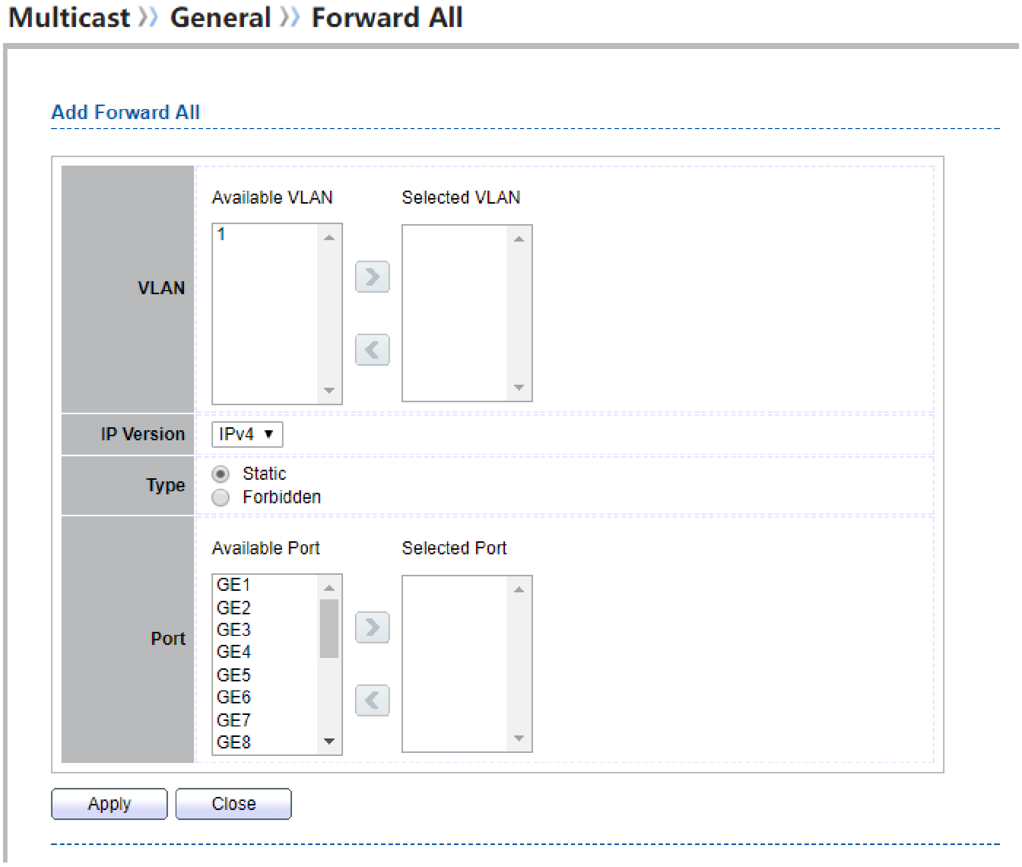
Showing 1 to 2 of 2 entries

□	VLAN	Static Port	Forbidden Port
□	2	GE2-GE3	
□	3	GE1-GE2	

Figure 9-8 Multicast Forward All Table Page

Field	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

Table 9-8 Multicast Forward All Table Fields



Multicast » General » Forward All

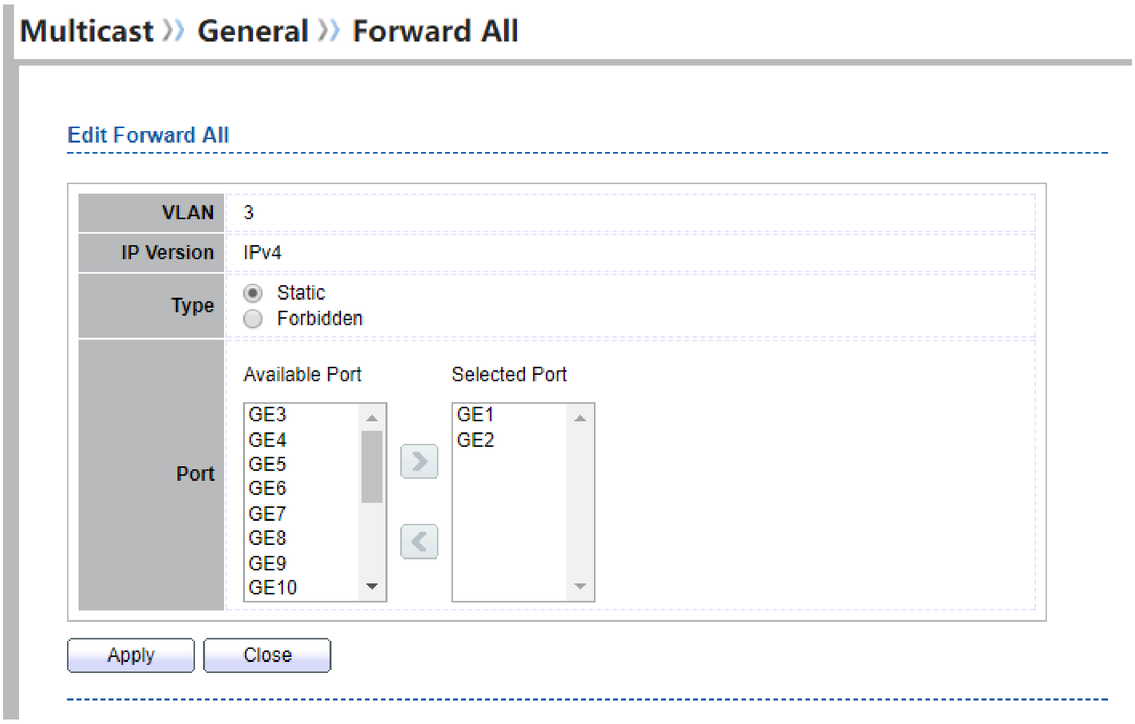
Add Forward All

VLAN	Available VLAN: 1 Selected VLAN:
IP Version	IPv4
Type	● Static ○ Forbidden
Port	Available Port: GE1, GE2, GE3, GE4, GE5, GE6, GE7, GE8 Selected Port:

Figure 9-9 Multicast Forward All Add Page

Field	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

Table 9-9 Multicast Forward All Add Fields


Multicast » General » Forward All

Edit Forward All

VLAN	3
IP Version	IPv4
Type	● Static ○ Forbidden
Port	Available Port: GE3, GE4, GE5, GE6, GE7, GE8, GE9, GE10 Selected Port: GE1, GE2

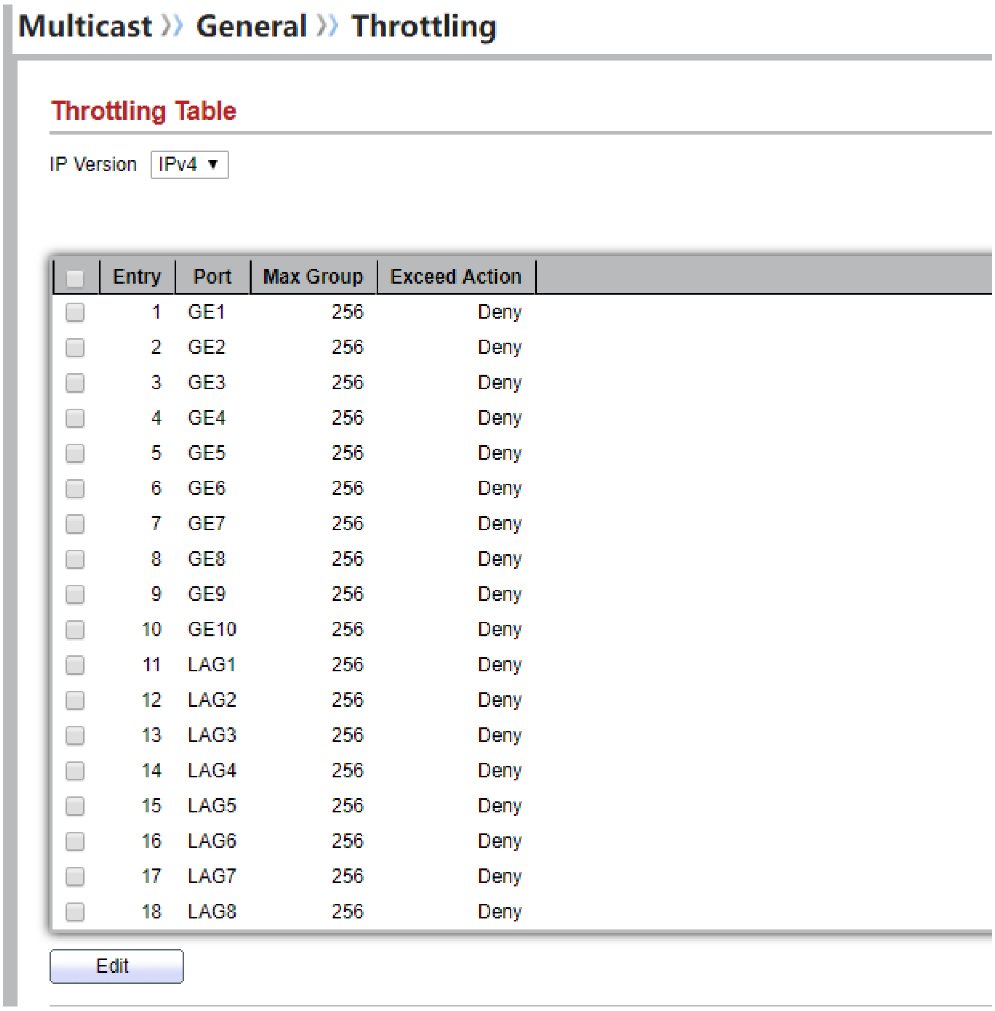
Figure 9-10 Multicast Forward All Edit Page

Field	Description
VLAN	VLAN ID of Selected forward all entry
IP Version	Selected IP version
Type	The forward all port type • **Static:** static forward all port • **Forbidden:** forbidden forward all port
Port	The member ports of forward all entry for selected port type. • **Available Port:** Optional router port member • **Selected Port**: Selected router port member

Table 9-10 Multicast Forward All Edit Fields

9.1.5. Throttling

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



IP Version IPv4

□	Entry	Port	Max Group	Exceed Action
□	1	GE1	256	Deny
□	2	GE2	256	Deny
□	3	GE3	256	Deny
□	4	GE4	256	Deny
□	5	GE5	256	Deny
□	6	GE6	256	Deny
□	7	GE7	256	Deny
□	8	GE8	256	Deny
□	9	GE9	256	Deny
□	10	GE10	256	Deny
□	11	LAG1	256	Deny
□	12	LAG2	256	Deny
□	13	LAG3	256	Deny
□	14	LAG4	256	Deny
□	15	LAG5	256	Deny
□	16	LAG6	256	Deny
□	17	LAG7	256	Deny
□	18	LAG8	256	Deny

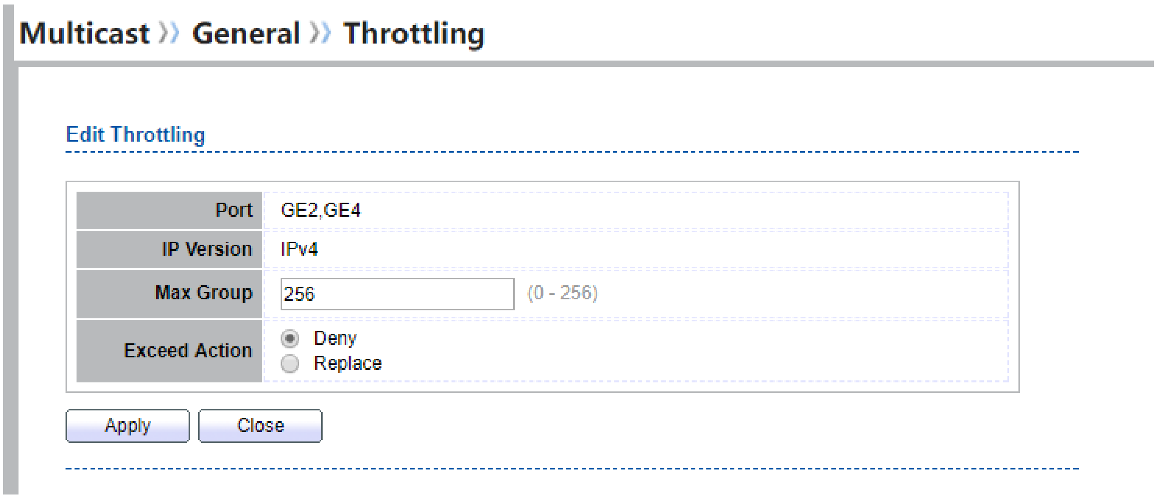
This page allow user to configure port can learned max group number and if port group number arrived max group number action

Figure 9-11 Multicast Throttling Table Page

Field	Description
IP Version	IP Version • **IPv4:** ipv4 for igmp snooping throttling • **IPv6:** ipv6 for mld snooping throttling
Entry	Entry of number
Port	Port Name
Max Group	Max number of group for port

Exceed Action	Display the port exceed max number group learning group action

Table 9-11 Multicast Throttling Table Fields



Multicast >> General >> Throttling

Edit Throttling

Port	GE2,GE4
IP Version	IPv4
Max Group	256 (0 - 256)
Exceed Action	● Deny ○ Replace

Figure 9-12 Multicast Throttling Edit Page

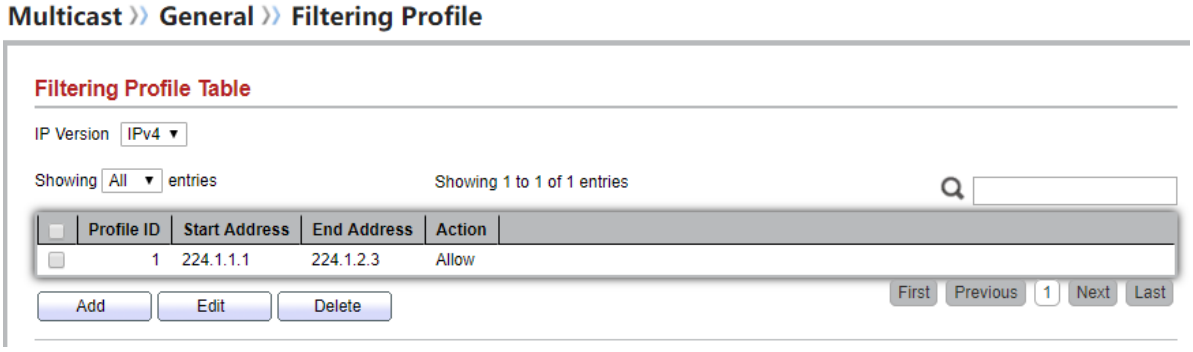
Field	Description
Port	Display the selected port list
IP Version	Display the selected IP version
Max Group	Max number of group for port
Exceed Action	Excess Max number of port learning group action • **Deny:** do not learning group. • **Replace:** random replace one exist group

Table 9-12 Multicast Throttling Table Edit Fields

9.1.6. Filtering Profile

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

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


Multicast » General » Filtering Profile

Filtering Profile Table

IP Version: IPv4

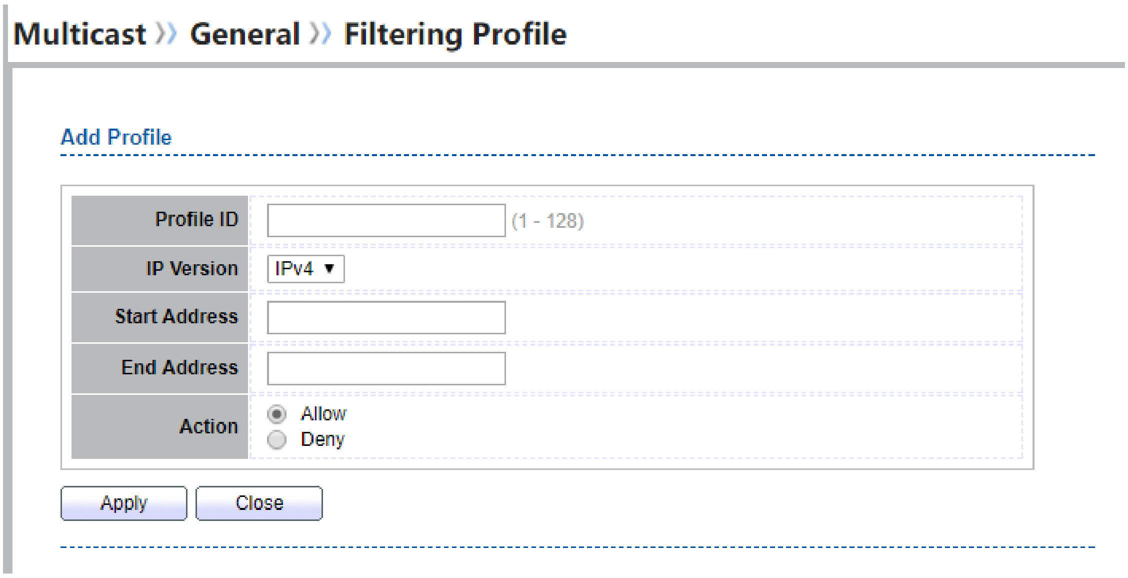
Showing All entries — Showing 1 to 1 of 1 entries

□	Profile ID	Start Address	End Address	Action
□	1	224.1.1.1	224.1.2.3	Allow

Figure 9-13 Multicast Profile Table Page

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

Table 9-13 Multicast Profile Table Fields


Multicast » General » Filtering Profile

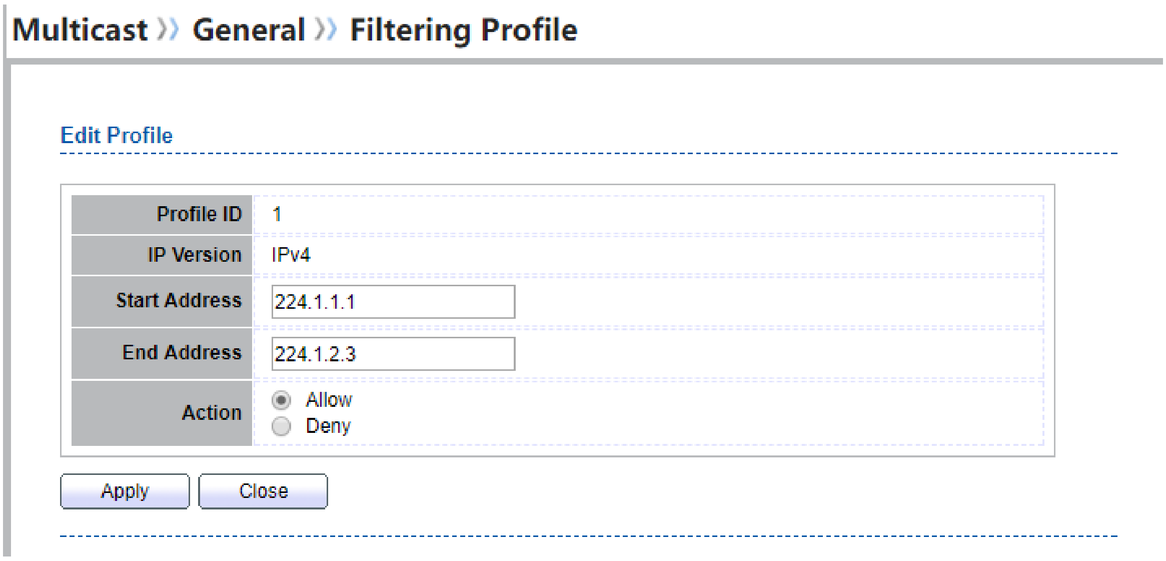
Add Profile

Profile ID	(1 - 128)
IP Version	IPv4
Start Address	
End Address	
Action	● Allow ○ Deny

Figure 9-14 Multicast Profile Add Page

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

Table 9-14 Multicast Profile Add Fields


Multicast ›› General ›› Filtering Profile

Edit Profile

Profile ID	1
IP Version	IPv4
Start Address	224.1.1.1
End Address	224.1.2.3
Action	● Allow ○ Deny

Figure 9-15 Multicast Profile Edit Page

Field	Description
Profile ID	Edit Profile ID
IP Version	Display the edit profile ip version
Start Address	The start group address of profile

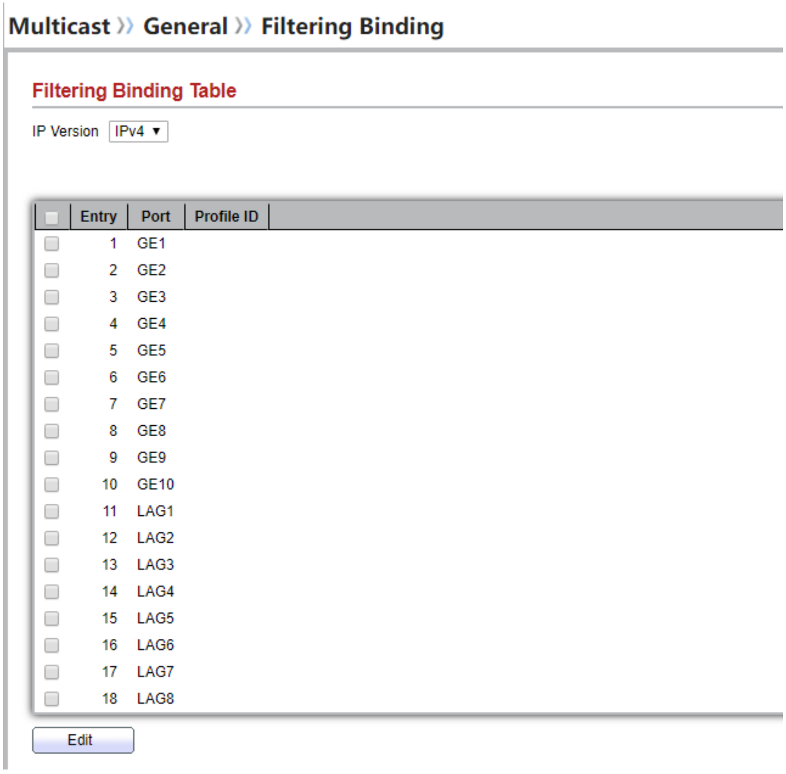
End Address	The end group address of profile
Action	The action of profile: • **Allow:** permit the group can learned that match the profile. • **Deny:** deny the group to learn the groupthat match the profile.

Table 9-15 Multicast Profile Edit Fields

9.1.7. Filtering Binding

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

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



Multicast » General » Filtering Binding

Filtering Binding Table

IP Version IPv4 ▼

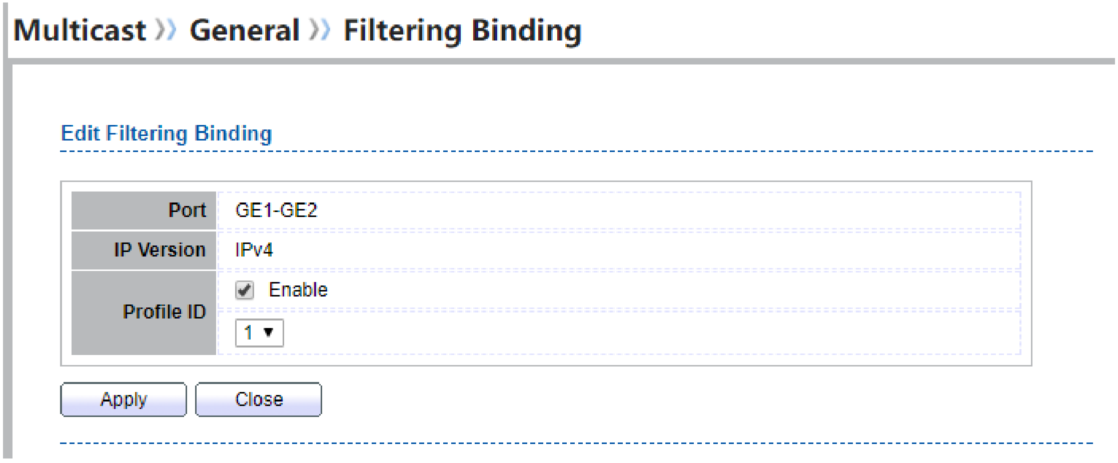
□	Entry	Port	Profile ID
□	1	GE1	
□	2	GE2	
□	3	GE3	
□	4	GE4	
□	5	GE5	
□	6	GE6	
□	7	GE7	
□	8	GE8	
□	9	GE9	
□	10	GE10	
□	11	LAG1	
□	12	LAG2	
□	13	LAG3	
□	14	LAG4	
□	15	LAG5	
□	16	LAG6	
□	17	LAG7	
□	18	LAG8	

Figure 9-16 Multicast Filtering Table Page

Field	Description
IP Version	IP Version • **IPv4:** ipv4 for igmp snooping throttling • **IPv6:** ipv6 for mld snooping throttling
Entry	Entry of number

Port	Port Name
Profile ID	Port binding Profile ID

Table 9-16 Multicast Filtering Table Fields



Multicast ›› General ›› Filtering Binding

Edit Filtering Binding

Port	GE1-GE2
IP Version	IPv4
Profile ID	☑ Enable 1 ▾

Figure 9-17 Multicast Filtering Edit Page

Field	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

Table 9-17 Multicast Filtering Edit Fields

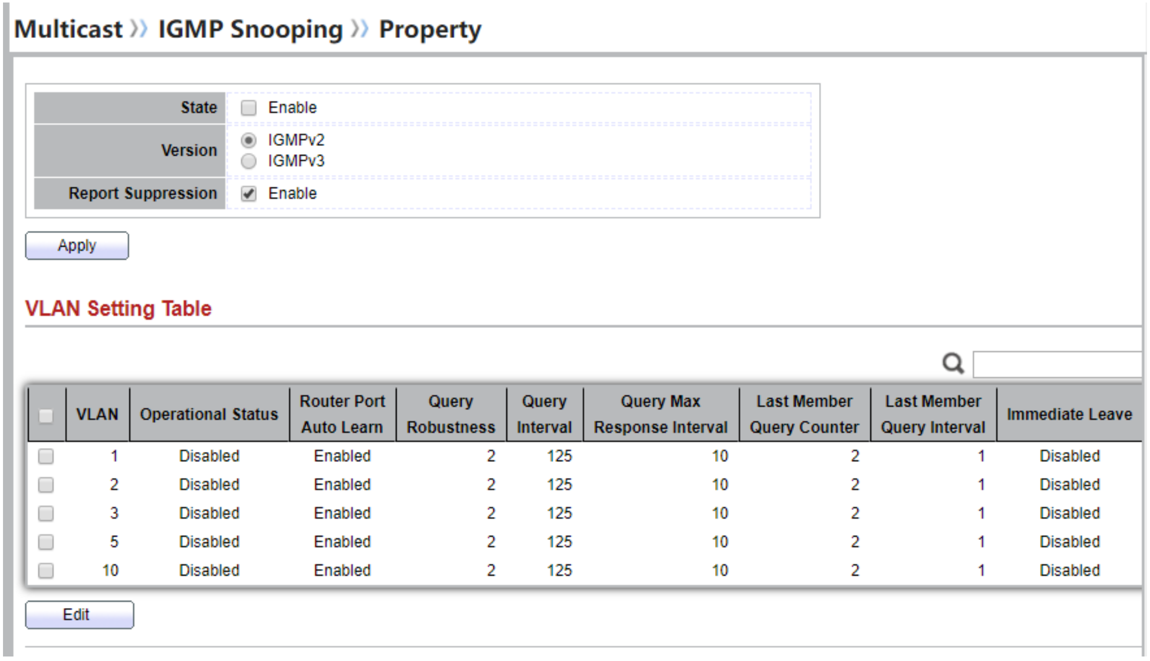
9.2. IGMP Snooping

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

9.2.1. Property

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

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



Multicast » IGMP Snooping » Property

State	☐ Enable
Version	● IGMPv2 ○ IGMPv3
Report Suppression	☑ Enable

VLAN Setting Table

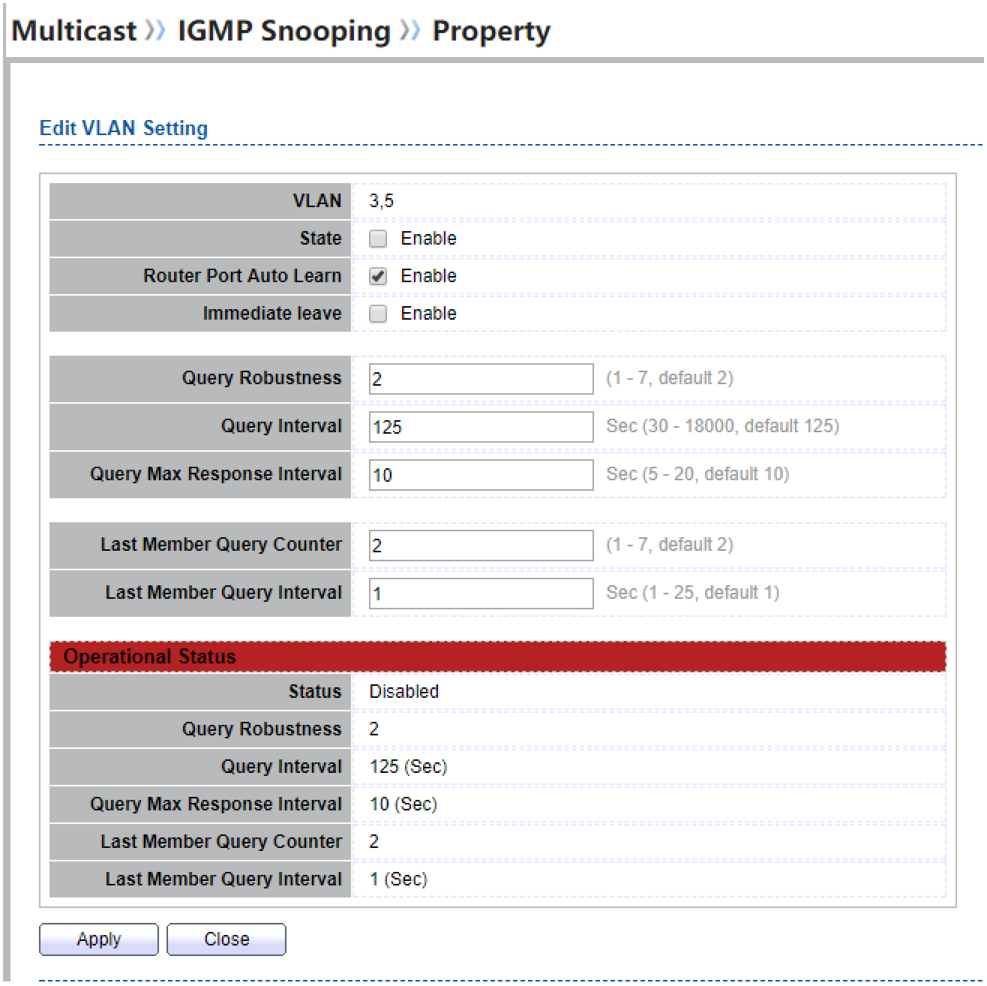
☐	VLAN	Operational Status	Router Port Auto Learn	Query Robustness	Query Interval	Query Max Response Interval	Last Member Query Counter	Last Member Query Interval	Immediate Leave
☐	1	Disabled	Enabled	2	125	10	2	1	Disabled
☐	2	Disabled	Enabled	2	125	10	2	1	Disabled
☐	3	Disabled	Enabled	2	125	10	2	1	Disabled
☐	5	Disabled	Enabled	2	125	10	2	1	Disabled
☐	10	Disabled	Enabled	2	125	10	2	1	Disabled

Figure 9-18 IGMP Snooping Property Page

Field	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 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 IGMP Leave message.

Table 9-18 IGMP Snooping Property Fields



Multicast » IGMP Snooping » Property

Edit VLAN Setting

VLAN	3,5
State	□ Enable
Router Port Auto Learn	☑ Enable
Immediate leave	□ Enable
Query Robustness	2 (1 - 7, default 2)
Query Interval	125 Sec (30 - 18000, default 125)
Query Max Response Interval	10 Sec (5 - 20, default 10)
Last Member Query Counter	2 (1 - 7, default 2)
Last Member Query Interval	1 Sec (1 - 25, default 1)

Operational Status

Status	Disabled
Query Robustness	2
Query Interval	125 (Sec)
Query Max Response Interval	10 (Sec)
Last Member Query Counter	2
Last Member Query Interval	1 (Sec)

Figure 9-19 IGMP Snooping VLAN Edit Page

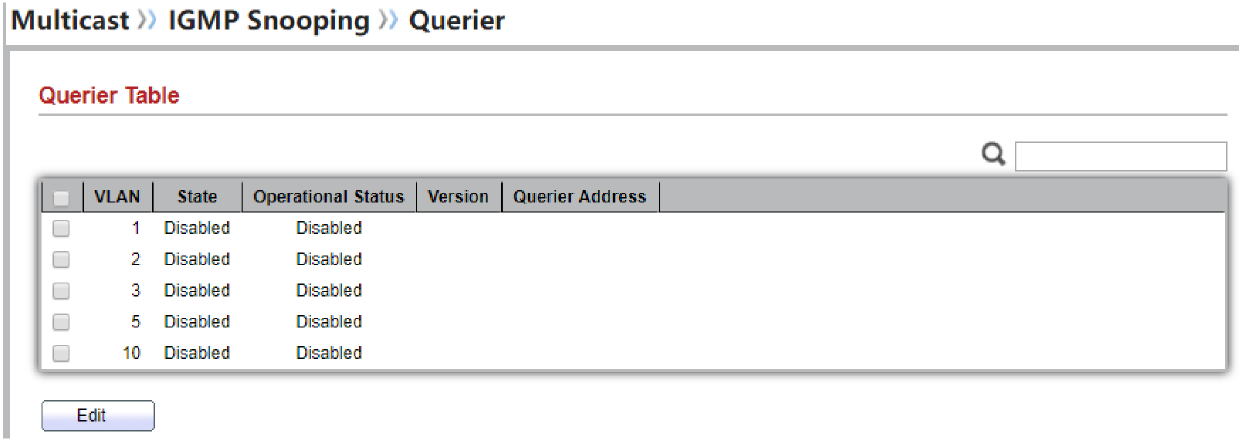
Field	Description
VLAN	The selected VLAN List
State	Set the enabling status of IGMP Snooping VLAN functionality • **Enable:** If Checked Enable IGMP Snooping VLAN, else is Disabled IGMP Snooping VLAN.
Router Port Auto Learn	Set the enabling status of IGMP Snooping router port learning • **Enable:** If checked Enable learning router port by query and PIM, DVRMP, else Disable the learning router port
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 Interval	Operational Query Max Response Interval
Last Member Query Counter	Operational Last Member Query Count

Last Member Query Interval	Operational Last Member Query Interval

Table 9-19 IGMP Snooping VLAN Edit Fields

9.2.2. Querier

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



Multicast » IGMP Snooping » Querier

Querier Table

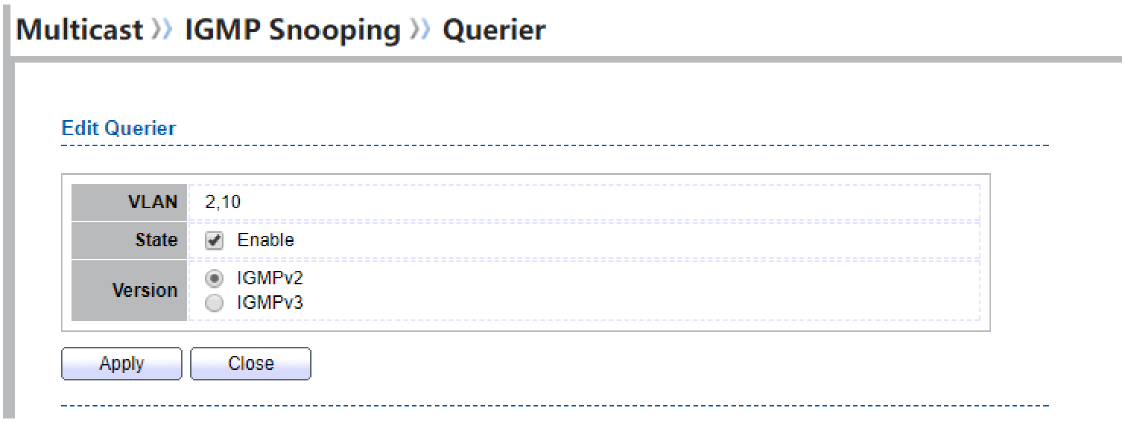
□	VLAN	State	Operational Status	Version	Querier Address
□	1	Disabled	Disabled		
□	2	Disabled	Disabled		
□	3	Disabled	Disabled		
□	5	Disabled	Disabled		
□	10	Disabled	Disabled		

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

Figure 9-20 IGMP Snooping Querier Table Page

Field	Description
VLAN	IGMP Snooping querier entry VLAN ID
State	The IGMP Snooping querier Admin State.
Operational Status	The IGMP Snooping querier operational status
Querier Version	The IGMP Snooping querier operational version.
Querier IP	The operational Querier IP address on the VLAN

Table 9-20 IGMP Snooping Querier Table Fields



VLAN	2,10
State	☑ Enable
Version	● IGMPv2 ○ IGMPv3

Figure 9-21 IGMP Snooping Querier Edit Page

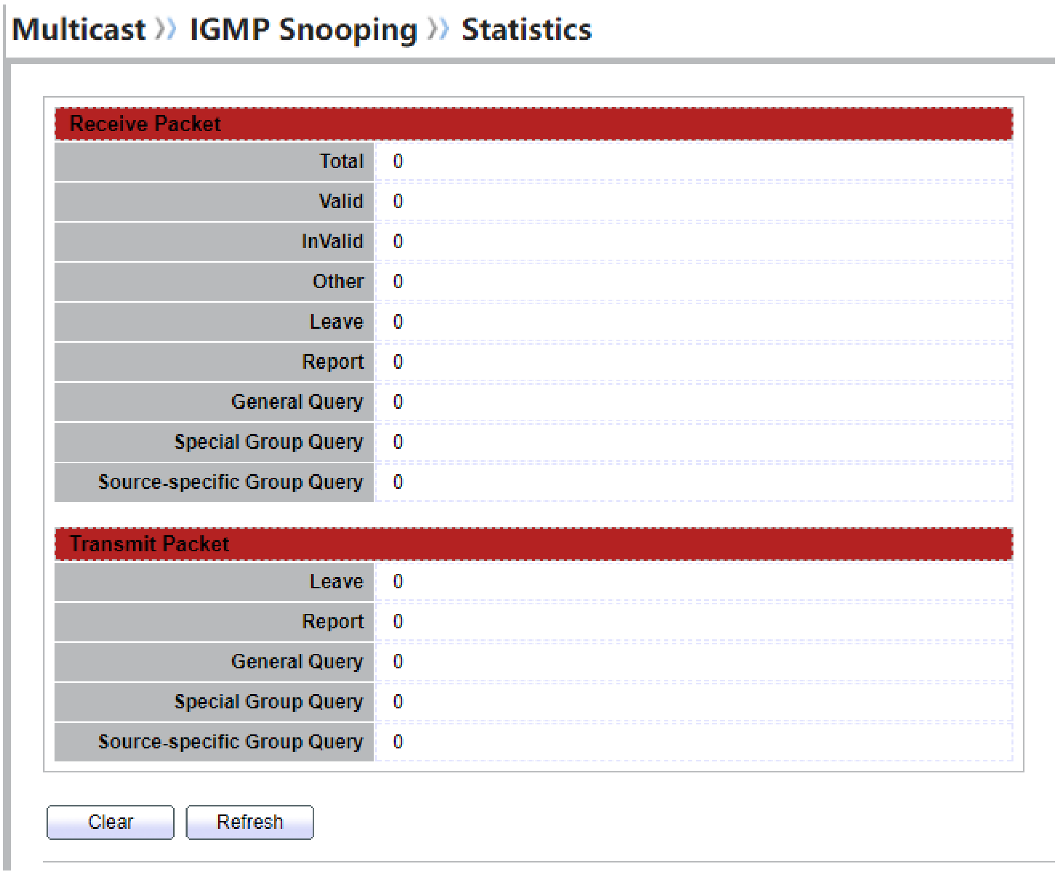
Field	Description
VLAN	The Selected Edit IGMP Snooping querier VLAN List
State	Set the enabling status of IGMP Querier Election on the chose VLANs • **Enabled:** if checked Enable IGMP Querier else Disable IGMP Querier
Version	Set the query version of IGMP Querier Election on the chose VLANs • **IGMPv2:**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

Table 9-21 IGMP Snooping Querier Edit Fields

9.2.3. Statistics

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

This page allow user to clear igmp snooping statics.



Multicast » IGMP Snooping » Statistics

Receive Packet	
Total	0
Valid	0
InValid	0
Other	0
Leave	0
Report	0
General Query	0
Special Group Query	0
Source-specific Group Query	0

Transmit Packet	
Leave	0
Report	0
General Query	0
Special Group Query	0
Source-specific Group Query	0

Figure 9-22 IGMP Snooping Statistics Page

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

Table 9-22 IGMP Snooping Statistics Fields

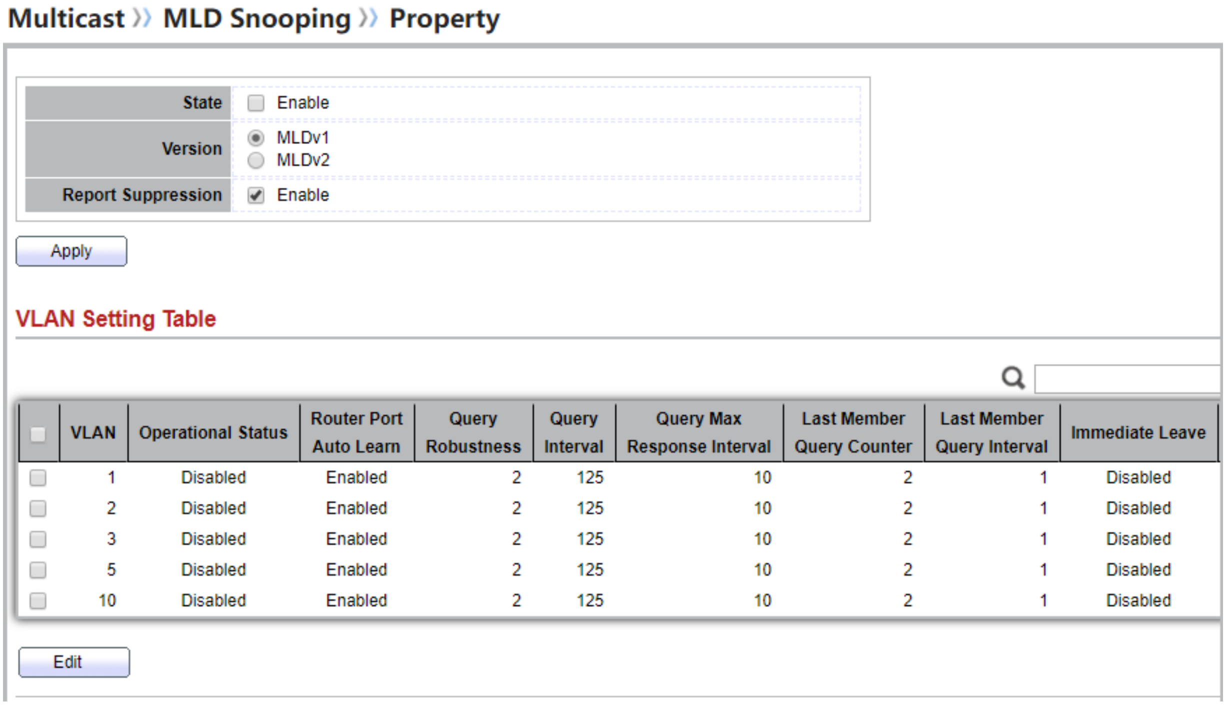
9.3. MLD Snooping

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

9.3.1. Property

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

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



Multicast >> MLD Snooping >> Property

State	□ Enable
Version	● MLDv1 ○ MLDv2
Report Suppression	☑ Enable

VLAN Setting Table

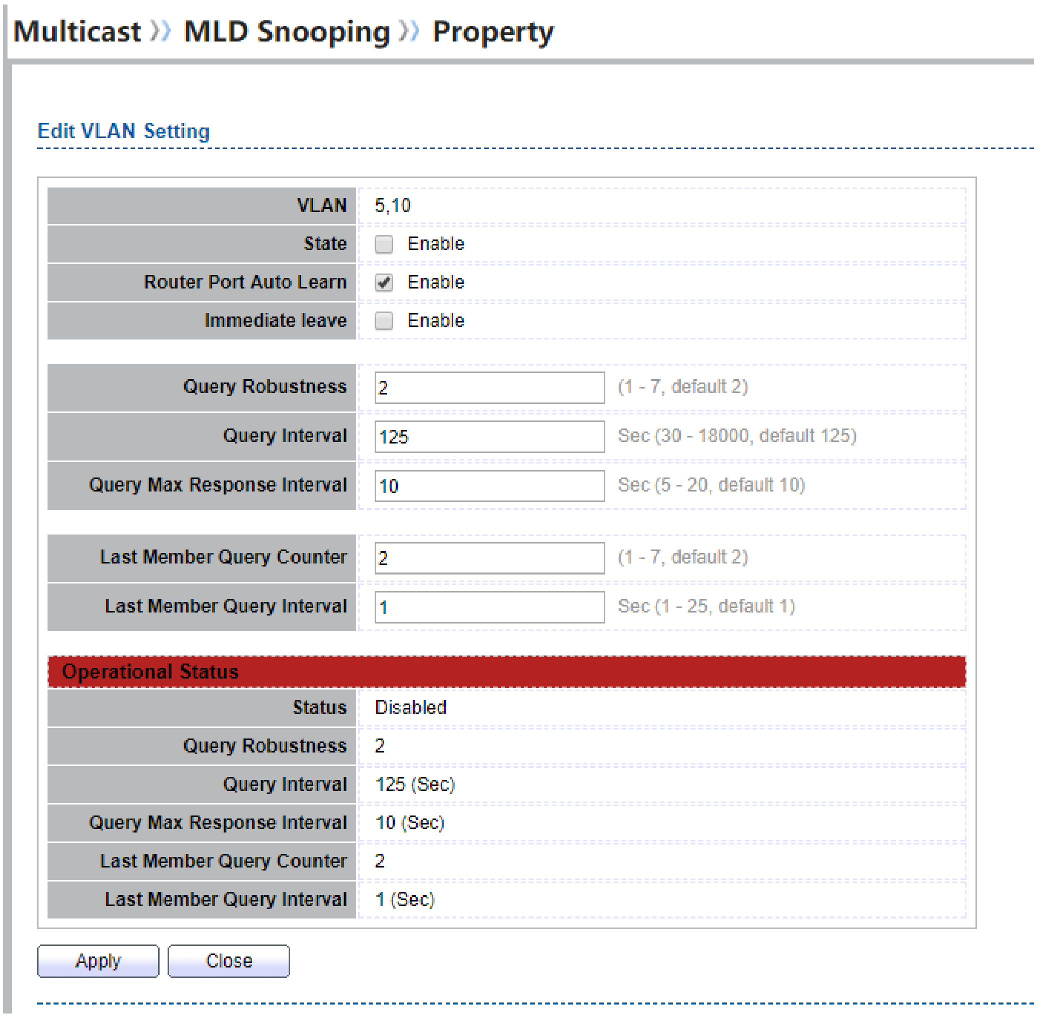
□	VLAN	Operational Status	Router Port Auto Learn	Query Robustness	Query Interval	Query Max Response Interval	Last Member Query Counter	Last Member Query Interval	Immediate Leave
□	1	Disabled	Enabled	2	125	10	2	1	Disabled
□	2	Disabled	Enabled	2	125	10	2	1	Disabled
□	3	Disabled	Enabled	2	125	10	2	1	Disabled
□	5	Disabled	Enabled	2	125	10	2	1	Disabled
□	10	Disabled	Enabled	2	125	10	2	1	Disabled

Figure 9-23 MLD Snooping Property Page

Field	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.

Table 9-23 MLD Snooping Property Fields



Multicast » MLD Snooping » Property

Edit VLAN Setting

VLAN	5,10
State	☐ Enable
Router Port Auto Learn	☑ Enable
Immediate leave	☐ Enable
Query Robustness	2 (1 - 7, default 2)
Query Interval	125 Sec (30 - 18000, default 125)
Query Max Response Interval	10 Sec (5 - 20, default 10)
Last Member Query Counter	2 (1 - 7, default 2)
Last Member Query Interval	1 Sec (1 - 25, default 1)

Operational Status

Status	Disabled
Query Robustness	2
Query Interval	125 (Sec)
Query Max Response Interval	10 (Sec)
Last Member Query Counter	2
Last Member Query Interval	1 (Sec)

Figure 9-24 MLD Snooping VLAN Edit Page

Field	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 router port
Immediate leave	Immediate Leave the group when receive MLD Leave message. • **Enable:** If checked Enable immediate leave, else disable

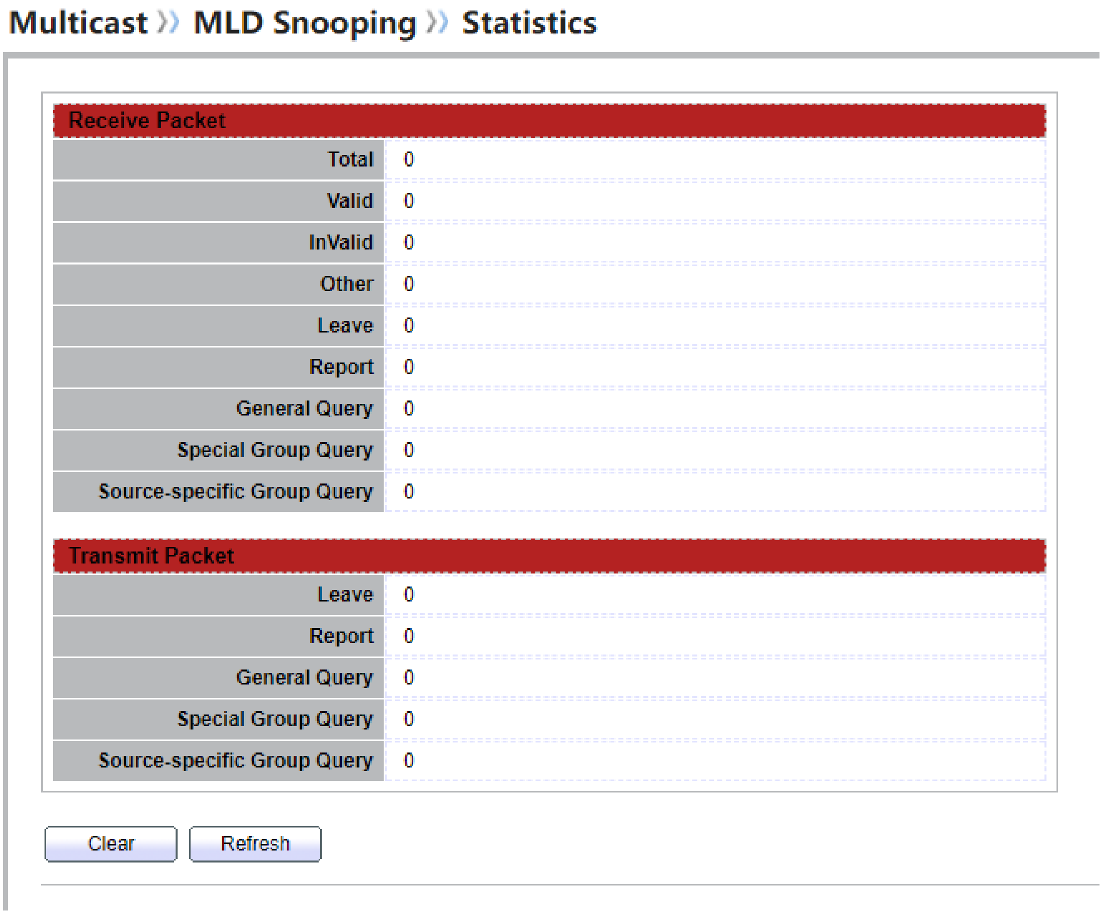
	immediate leave
Query Robustness	The Admin Query Robustness allows tuning for the expected packet loss on a subnet.
Query Interval	The Admin interval of querier to send general query
Query Max Response Interval	The Admin query max response interval， In Membership Query Messages, it specifies the maximum 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 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 Interval	Operational Query Max Response Interval
Last Member Query Counter	Operational Last Member Query Count
Last Member Query Interval	Operational Last Member Query Interval

Table 9-24 MLD Snooping VLAN Edit Fields

9.3.2. Statistics

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

This page allow user to clear MLD snooping statics.



Multicast » MLD Snooping » Statistics

Receive Packet	
Total	0
Valid	0
InValid	0
Other	0
Leave	0
Report	0
General Query	0
Special Group Query	0
Source-specific Group Query	0

Transmit Packet	
Leave	0
Report	0
General Query	0
Special Group Query	0
Source-specific Group Query	0

Figure 9-25 MLD Snooping Statistics Page

Field	Description
Receive Packet	
■Total	Total RX MLD packet, include ipv4 multicast data to CPU.
Valid	The valid MLD snooping process packet.
■InValid	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 Query	MLD special group query packet
■Source-specific Group Query	MLD Special Source and Group General Query packet

Table 9-25 MLD Snooping Statistics Fields

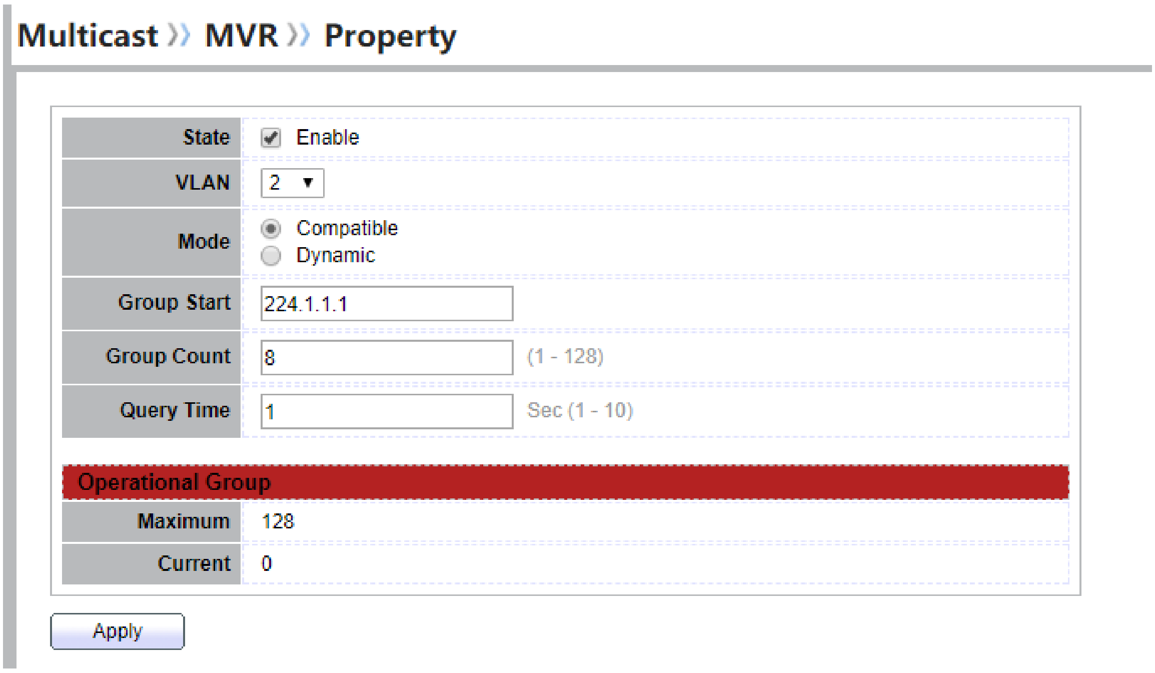
9.4. MVR

Use the MVR pages to configure settings of MVR function.

9.4.1. Property

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

This page allow user to set MVR property.



Multicast » MVR » Property

State	☑ Enable
VLAN	2 ▾
Mode	● Compatible ○ Dynamic
Group Start	224.1.1.1
Group Count	8 (1 - 128)
Query Time	1 Sec (1 - 10)

Operational Group

Maximum	128
Current	0

Figure 9-26 Multicast MVR Properties Page

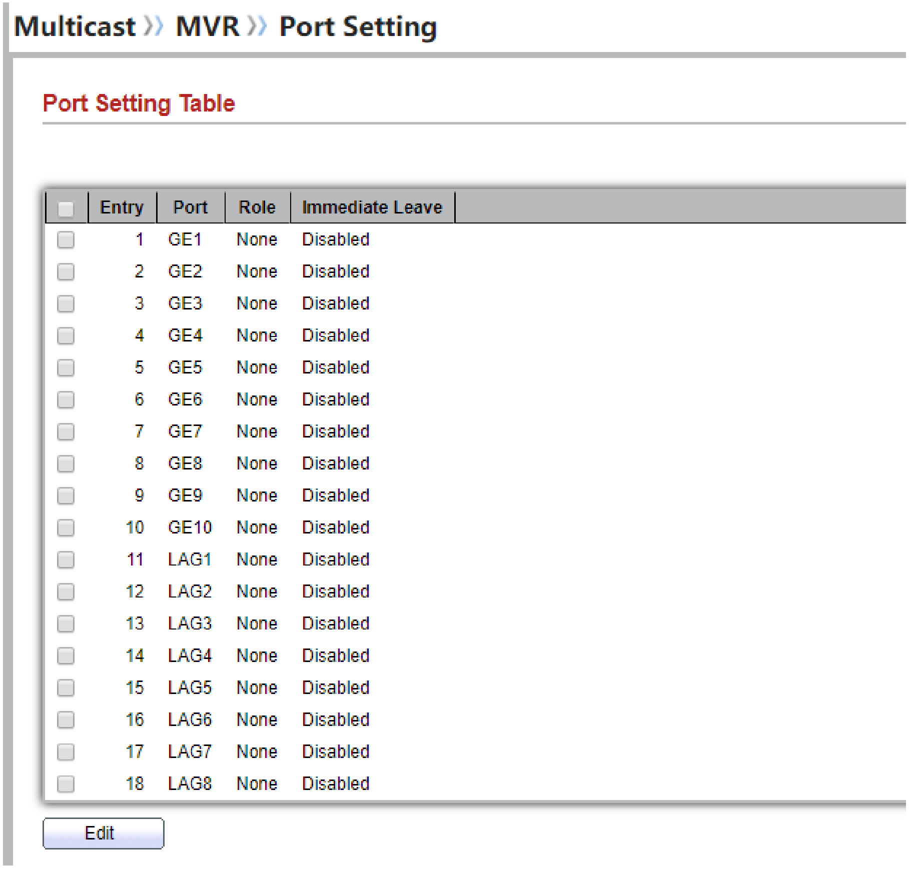
Field	Description
State	• **Enable:** if checked enable the MVR state, else disable the MVR state
VLAN	The MVR VLAN ID
Mode	Set the MVR mode. • **Compatible:** compatible mode • **Dynamic:** dynamic mode, will learn group member on source port
Group Start	MVR group range start
Group Count	MVR group continue 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

Table 9-27 MVR Property Fields

9.4.2. Port Setting

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

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



Multicast ›› MVR ›› Port Setting

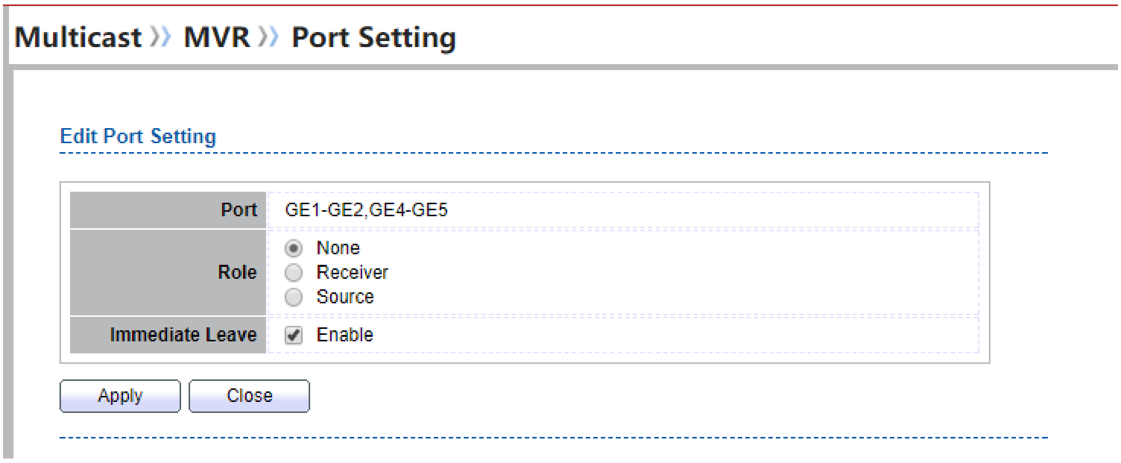
Port Setting Table

□	Entry	Port	Role	Immediate Leave
□	1	GE1	None	Disabled
□	2	GE2	None	Disabled
□	3	GE3	None	Disabled
□	4	GE4	None	Disabled
□	5	GE5	None	Disabled
□	6	GE6	None	Disabled
□	7	GE7	None	Disabled
□	8	GE8	None	Disabled
□	9	GE9	None	Disabled
□	10	GE10	None	Disabled
□	11	LAG1	None	Disabled
□	12	LAG2	None	Disabled
□	13	LAG3	None	Disabled
□	14	LAG4	None	Disabled
□	15	LAG5	None	Disabled
□	16	LAG6	None	Disabled
□	17	LAG7	None	Disabled
□	18	LAG8	None	Disabled

Figure 9-28 Multicast MVR Port Setting Table Page

Field	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

Table 9-29 MVR Port Setting Fields



Multicast ›› MVR ›› Port Setting

Edit Port Setting

Port	GE1-GE2,GE4-GE5
Role	● None ○ Receiver ○ Source
Immediate Leave	☑ Enable

Figure 9-30 Multicast MVR Port Setting Edit Page

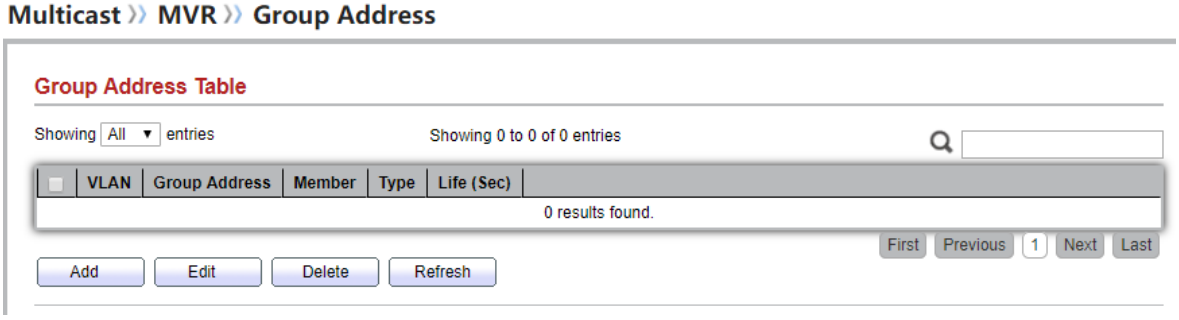
Field	Description
Port	Display the selected port list
Role	MVR port role • **None:** port role is none • **Receiver:** port role is receiver • **Source:** port role is source
Immediate Leave	MVR Port immediate leave • **Enable:** if checked is enable immediate leave, else disable immediate leave.

Table 9-31 MVR Port Setting Edit Fields

9.4.3. Group Address

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

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



Multicast » MVR » Group Address

Group Address Table

Showing All entries

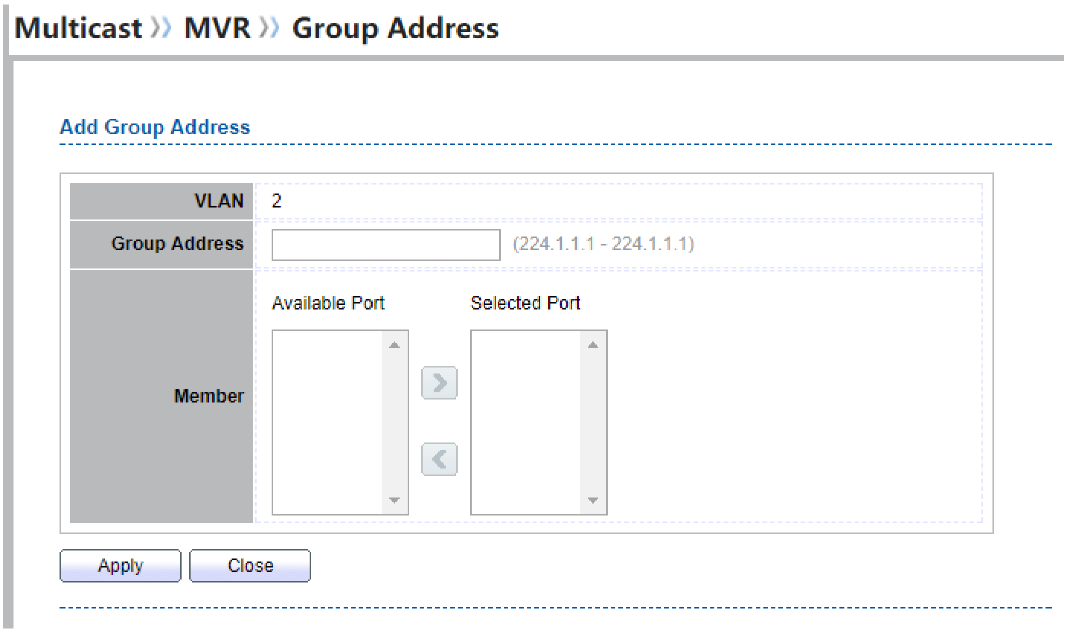
Showing 0 to 0 of 0 entries

□	VLAN	Group Address	Member	Type	Life (Sec)
0 results found.					

Figure 9-32 Multicast MVR Group Address Table Page

Field	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.

Table 9-33 MVR Group Address Table Fields



Multicast » MVR » Group Address

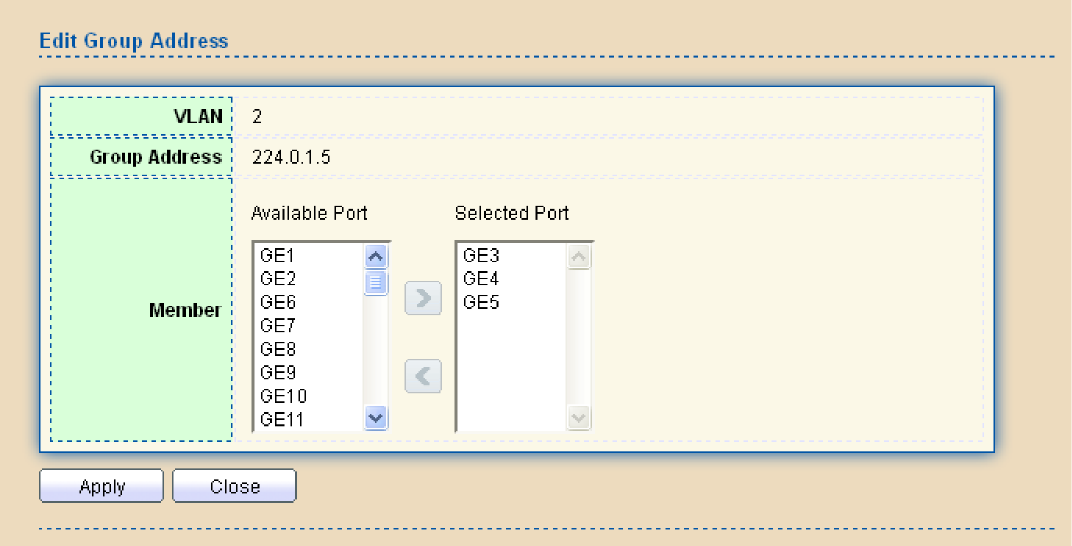
Add Group Address

VLAN	2
Group Address	(224.1.1.1 - 224.1.1.1)
Member	Available Port / Selected Port

Figure 9-34 Multicast MVR Group Address Add Page

Field	Description
VLAN	The VLAN ID of MVR group.
Group Address	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

Table 9-35 MVR Group Address Add Fields



Edit Group Address

VLAN	2
Group Address	224.0.1.5
Member	Available Port: GE1, GE2, GE6, GE7, GE8, GE9, GE10, GE11 Selected Port: GE3, GE4, GE5

Figure 9-36 Multicast MVR Group Address Edit Page

Field	Description
VLAN	The VLAN ID of edited MVR group.
Group Address	The edited 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

Table 9-37 MVR Group Address Edit Fields

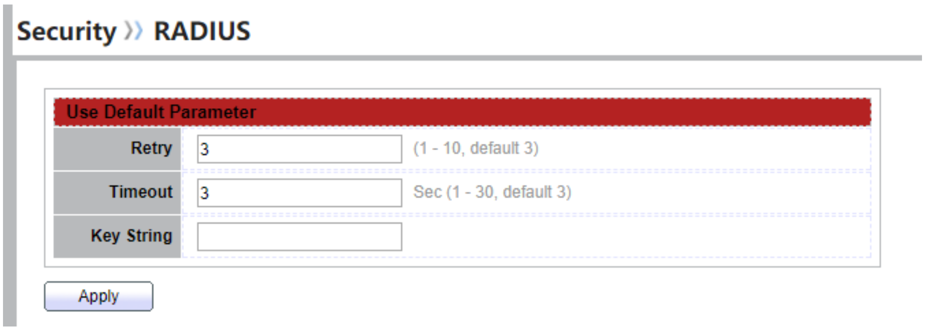
10. Security

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

10.1. RADIUS

To display RADIUS web page, click **Security > RADIUS**

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



Security » RADIUS

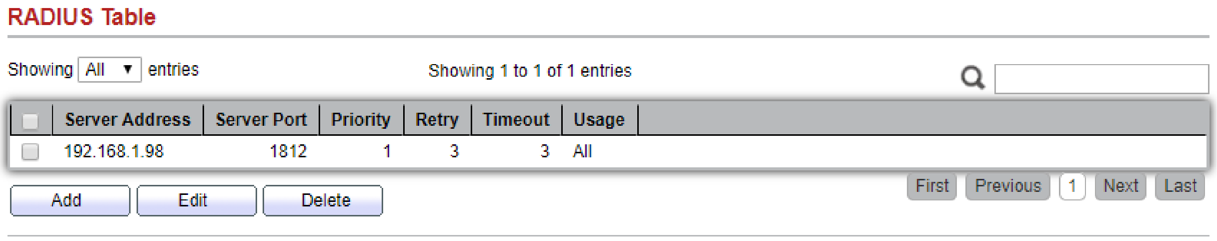
Use Default Parameter

Retry	3	(1 - 10, default 3)
Timeout	3	Sec (1 - 30, default 3)
Key String		

Figure 10-1 RADIUS Default Setting

Field	Description
Retry	Set default retry number
Timeout	Set default timeout value
Key String	Set default RADIUS key string

Table 10-1 RADIUS Default Setting Fields



RADIUS Table

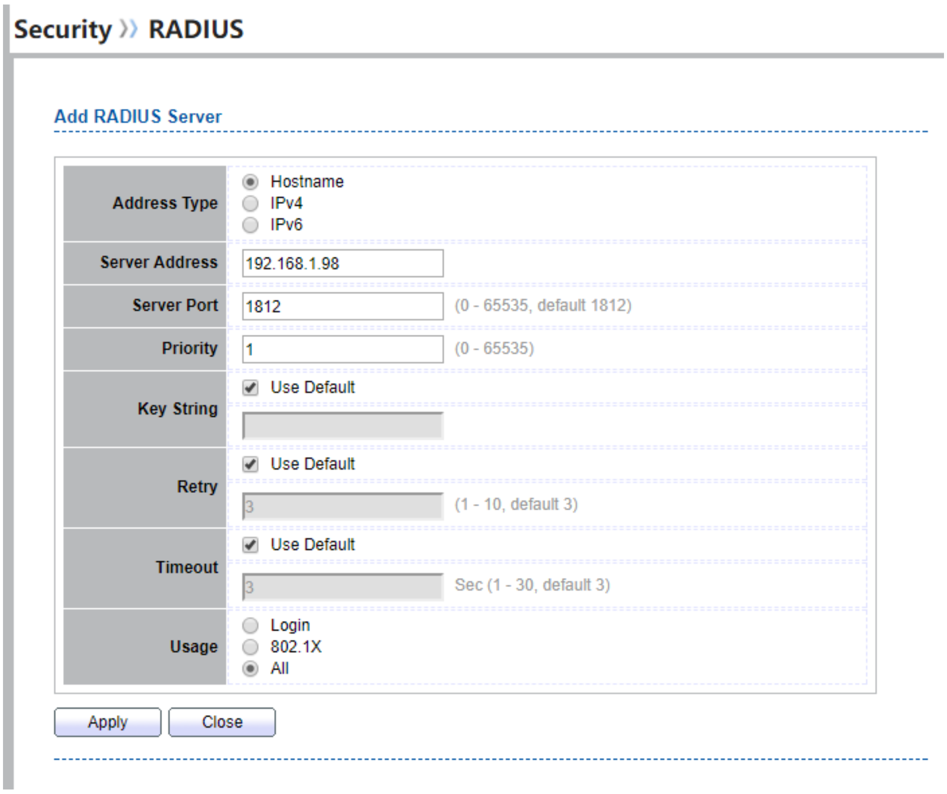
Showing All ▾ entries   Showing 1 to 1 of 1 entries

□	Server Address	Server Port	Priority	Retry	Timeout	Usage
□	192.168.1.98	1812	1	3	3	All

Figure 10-2 RADIUS Table

Field	Description
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 authentifation • **802.1x:** For 802.1x authentication • **All:** For alltypes

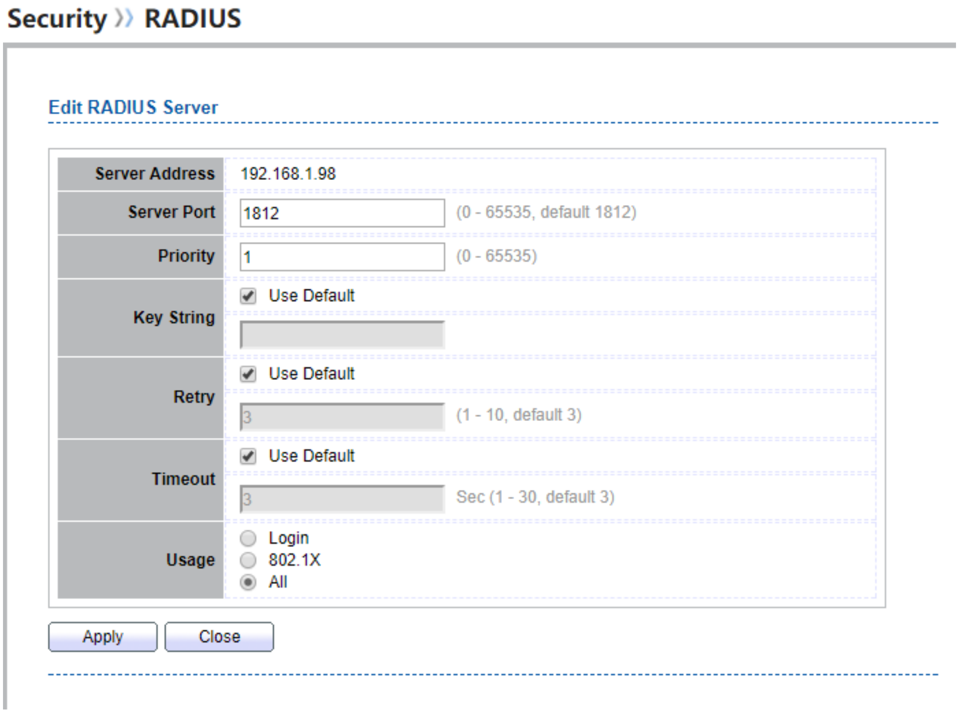
Table 10-2 RADIUS Table Fields



Security » RADIUS

Add RADIUS Server

Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	192.168.1.98
Server Port	1812 (0 - 65535, default 1812)
Priority	1 (0 - 65535)
Key String	☑ Use Default
Retry	☑ Use Default 3 (1 - 10, default 3)
Timeout	☑ Use Default 3 Sec (1 - 30, default 3)
Usage	○ Login ○ 802.1X ● All



Security » RADIUS

Edit RADIUS Server

Server Address	192.168.1.98
Server Port	1812 (0 - 65535, default 1812)
Priority	1 (0 - 65535)
Key String	☑ Use Default
Retry	☑ Use Default 3 (1 - 10, default 3)
Timeout	☑ Use Default 3 Sec (1 - 30, default 3)
Usage	○ Login ○ 802.1X ● All

Figure 10-3 Add/Edit RADIUS Server Dialog

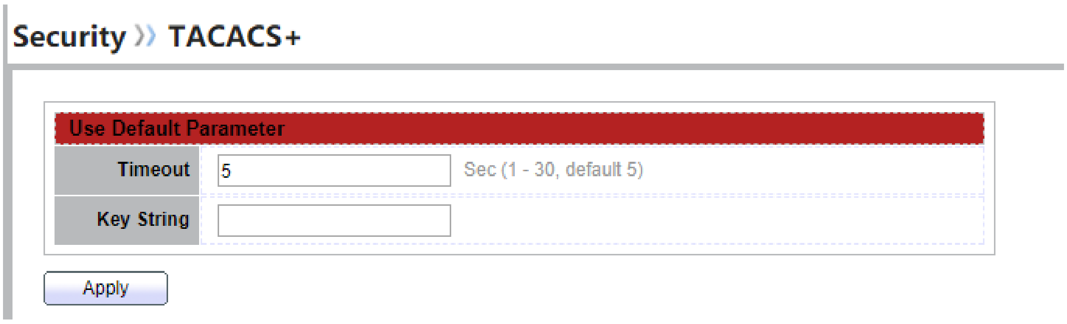
Field	Description
Address Type	In add dialog, user need to specify server Address Type • **Hostname:** Use domain name as server address • **IPv4:** Use IPv4 as server address • **IPv6:** Use IPv6 as server address
Server Address	In add dialog, user need to input server address based on address type. In edit dialog, it shows current edit server address.
Server Port	Set RADIUS server port
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 authentifation • **802.1x:** For 802.1x authentication • **All:** For alltypes

Table 10-3 Add/Edit RADIUS Server Fields

10.2. TACACS+

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

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


Security » TACACS+

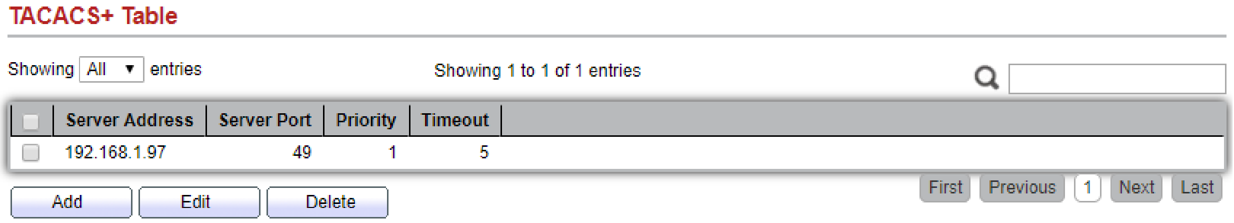
Use Default Parameter

Timeout	5	Sec (1 - 30, default 5)
Key String		

Figure 10-4 TACACS+ Default Setting

Field	Description
Timeout	Set default timeout value
Key String	Set default TACACS+ key string

Table 10-4 TACACS+ Default Setting Fields


TACACS+ Table

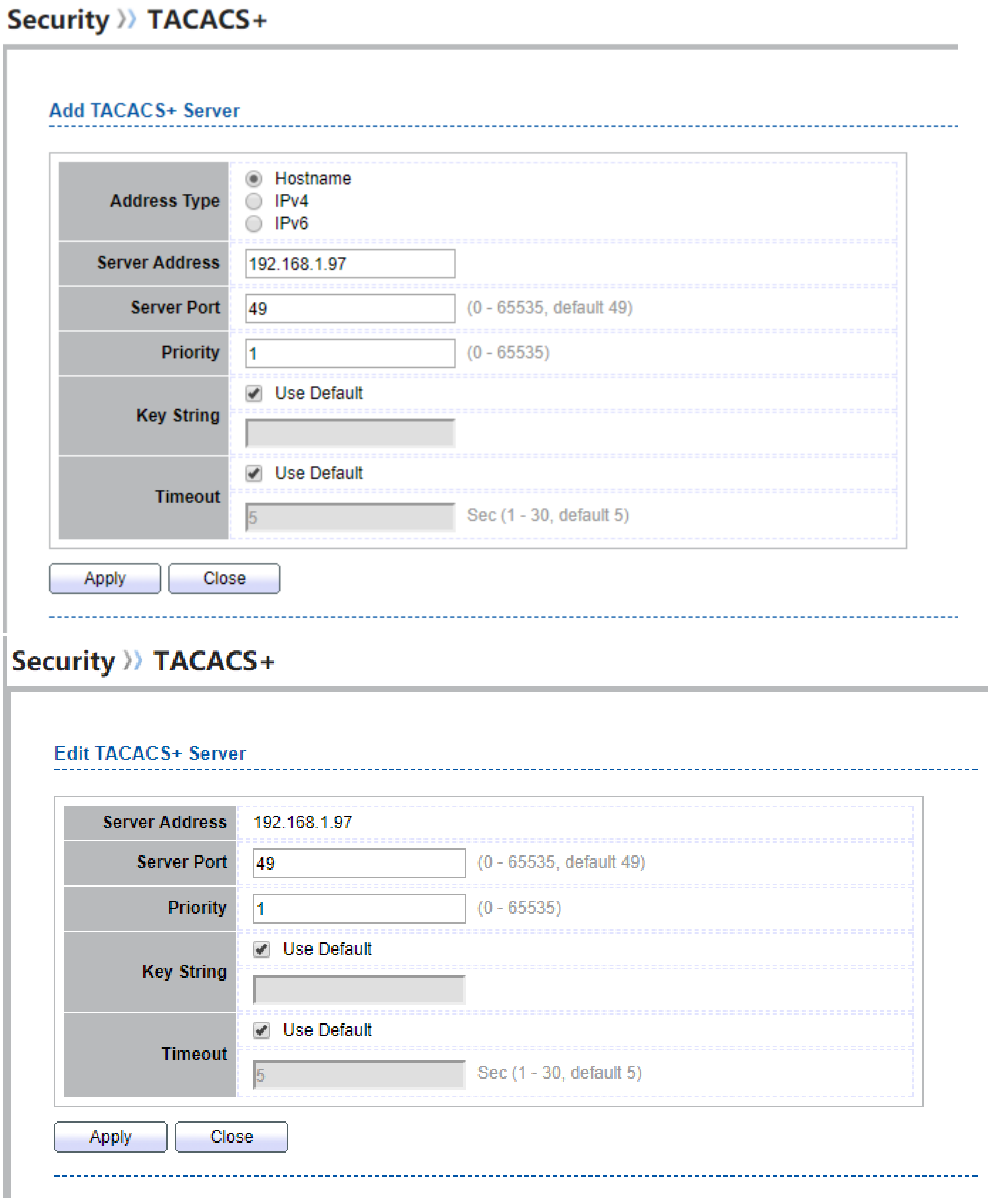
Showing All entries   Showing 1 to 1 of 1 entries

□	Server Address	Server Port	Priority	Timeout
□	192.168.1.97	49	1	5

Figure 10-5 TACACS+ Table

Field	Description
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.

Table 10-5 RADIUS Table Fields



Security » TACACS+

Add TACACS+ Server

Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	192.168.1.97
Server Port	49 (0 - 65535, default 49)
Priority	1 (0 - 65535)
Key String	☑ Use Default
Timeout	☑ Use Default 5 Sec (1 - 30, default 5)

Security » TACACS+

Edit TACACS+ Server

Server Address	192.168.1.97
Server Port	49 (0 - 65535, default 49)
Priority	1 (0 - 65535)
Key String	☑ Use Default
Timeout	☑ Use Default 5 Sec (1 - 30, default 5)

Figure 10-6 Add/Edit TACACS+ Server Dialog

Field	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.
Timeout	Set TACACS+ server timeout value. If it is fail to connect to server, it will keep trying until timeout.

Table 10-6 Add/Edit TACACS+ Server Fields

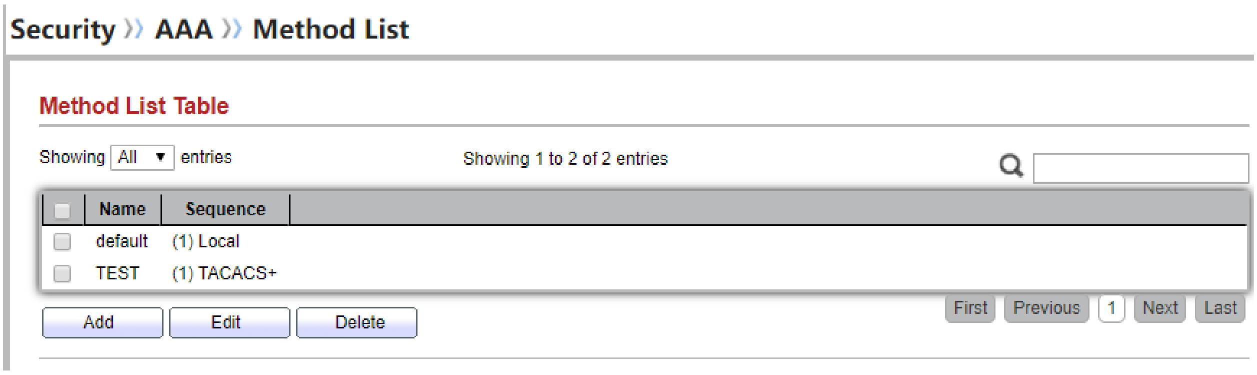
10.3. AAA

10.3.1. Method List

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



Security » AAA » Method List

Method List Table

Showing All ▾ entries

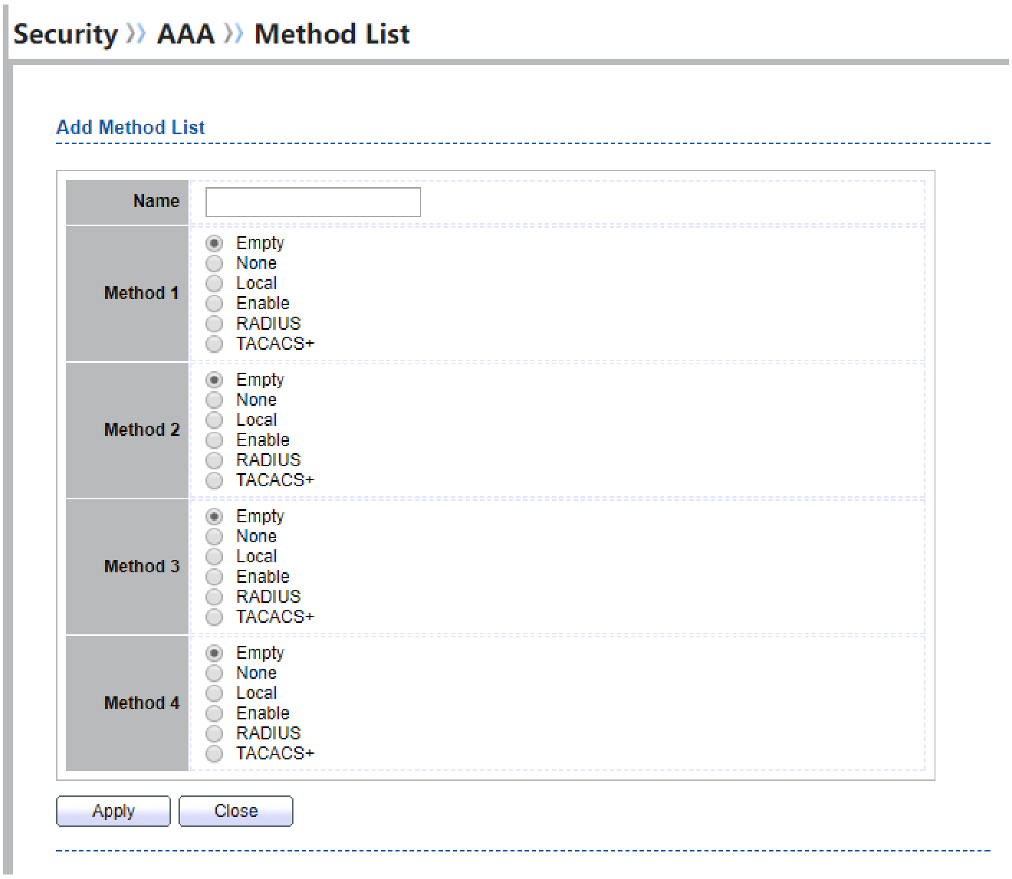
Showing 1 to 2 of 2 entries

□	Name	Sequence
□	default	(1) Local
□	TEST	(1) TACACS+

Figure 10-7 Method List Table

Field	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

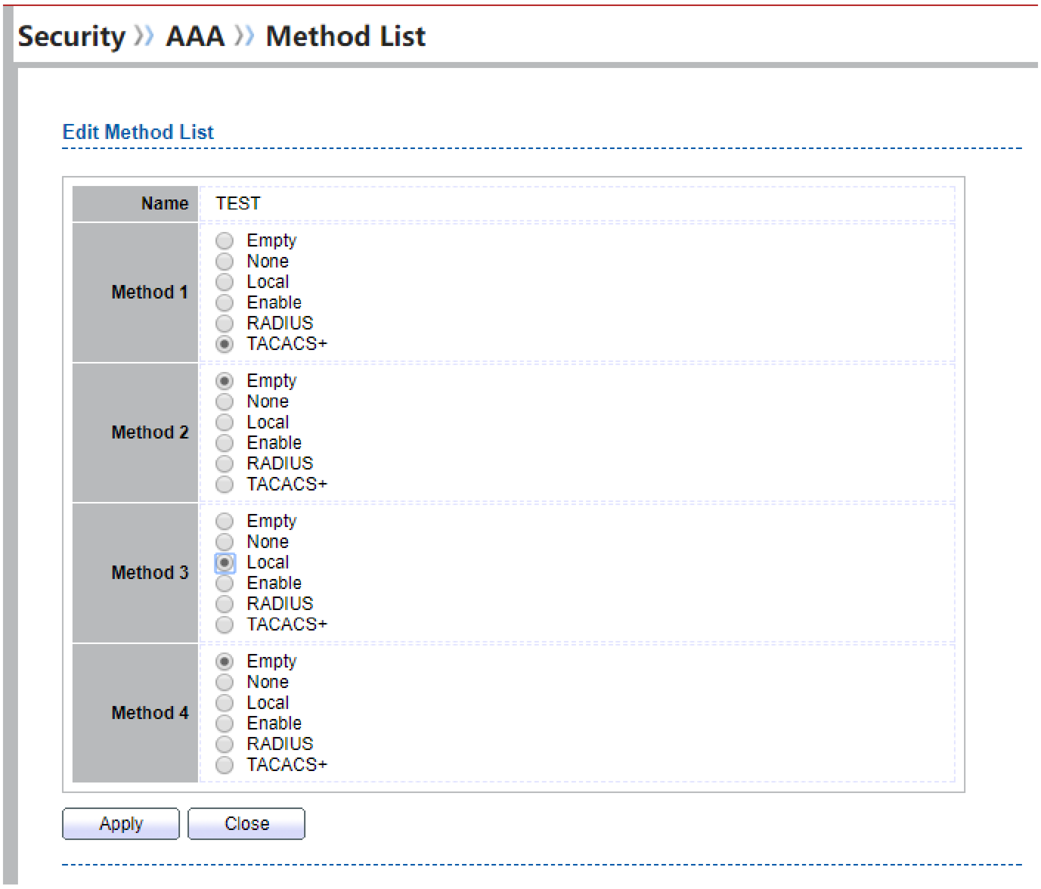
Table 10-7 Method List Table Fields



Security » AAA » Method List

Add Method List

Name	
Method 1	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+
Method 2	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+
Method 3	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+
Method 4	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+



Security » AAA » Method List

Edit Method List

Name	TEST
Method 1	○ Empty ○ None ○ Local ○ Enable ○ RADIUS ● TACACS+
Method 2	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+
Method 3	○ Empty ○ None ● Local ○ Enable ○ RADIUS ○ TACACS+
Method 4	● Empty ○ None ○ Local ○ Enable ○ RADIUS ○ TACACS+

Figure 10-8 Add/Edit Method List Dialog

Field	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.

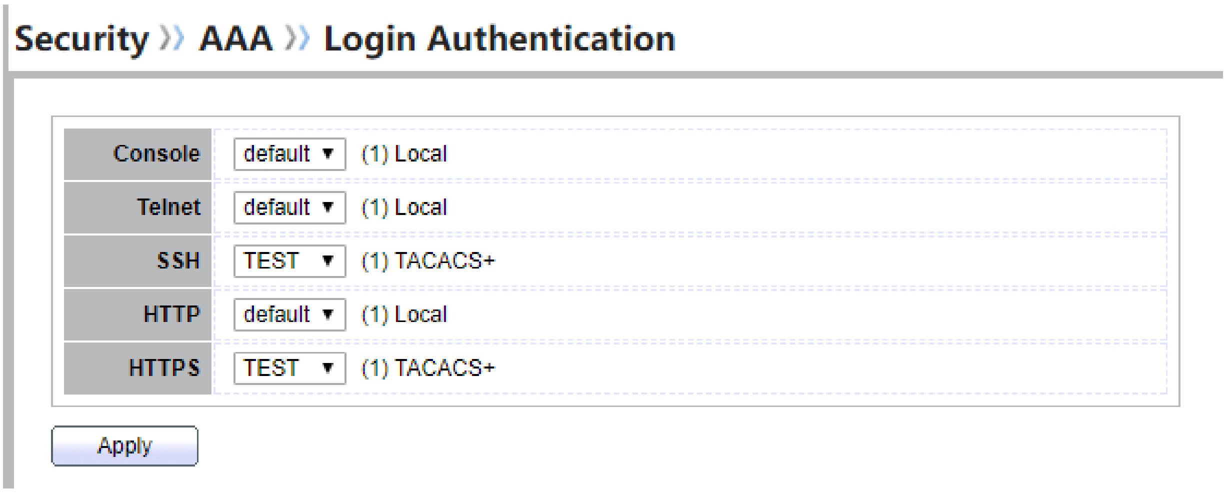
	• **RADIUS:** Use remote Radius server to authenticate. • **Enable:** Use local enable password to authenticate
Method 3	Select thrid priority of login authentication method. • **None:** Authenticated with any condition. • **Local:** Use local accounts database to authenticate • **TACACS+:** Use remote 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

Table 10-8 Add/Edit Method List Fields

10.3.2. Login Authentication

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

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



Security >> AAA >> Login Authentication

Console	default ▼	(1) Local
Telnet	default ▼	(1) Local
SSH	TEST ▼	(1) TACACS+
HTTP	default ▼	(1) Local
HTTPS	TEST ▼	(1) TACACS+

Figure 10-9: Login Authentication Page

Field	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

Table 10-9: Login Authentication Page Fields

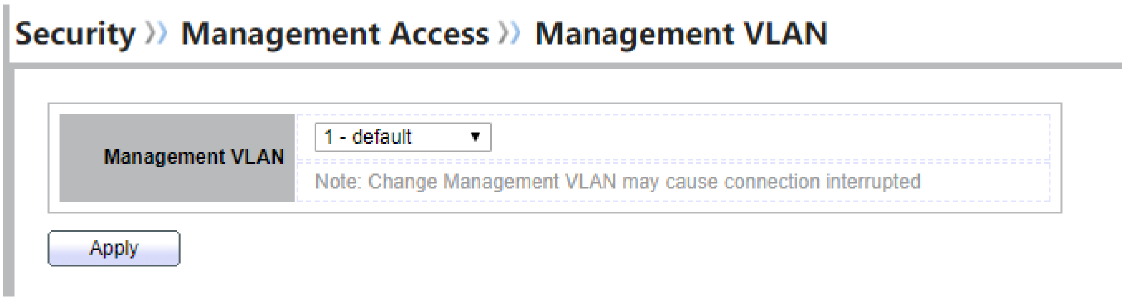
10.4. Management Access

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

10.4.1. Management VLAN

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

This page allow user to change management VLAN.



Security >> Management Access >> Management VLAN

Management VLAN: 1 - default

Note: Change Management VLAN may cause connection interrupted

Figure 10-10 Management VLAN Page

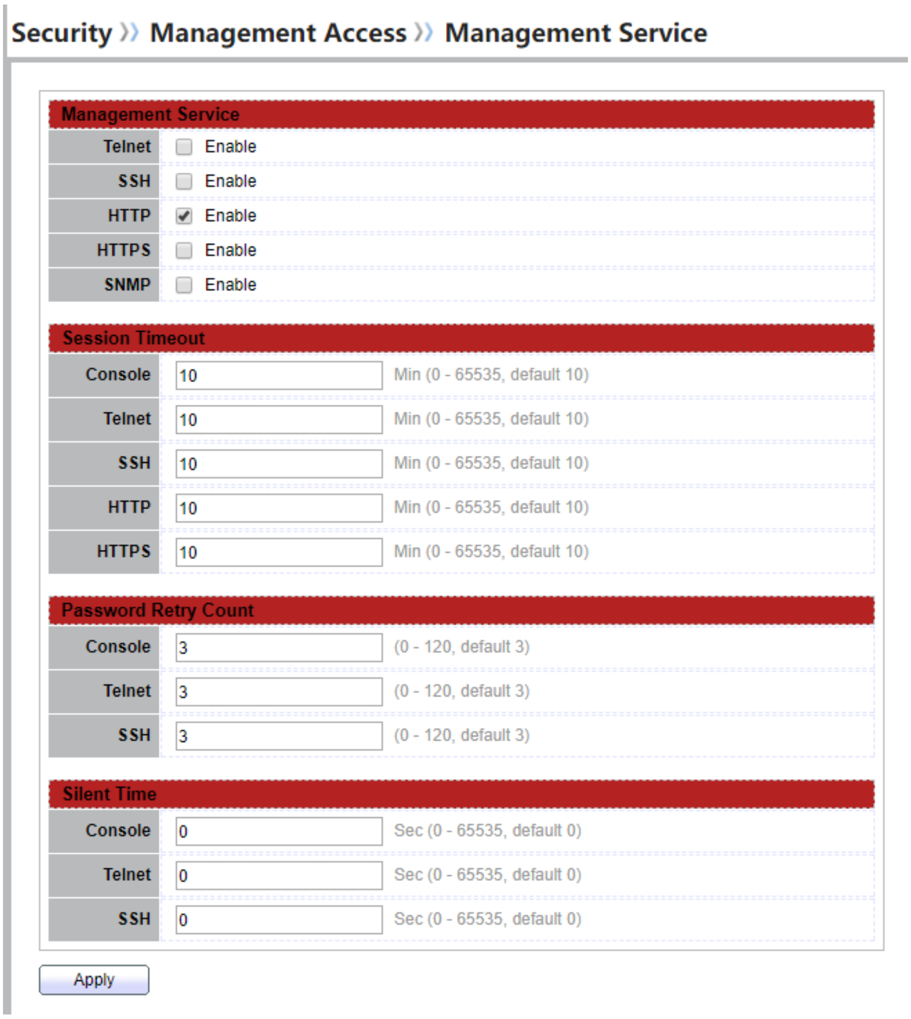
Field	Description
Management VLAN	Select management VLAN in option list. Management connection, such as http, https, snmp etc.., has the same VLAN of management VLAN are allow connecting to device. Others will be dropped.

Table 10-10 Management VLAN Fields

10.4.2. Management Service

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

This page allow user to change management services related configurations.



Security » Management Access » Management Service

Management Service	
Telnet	☐ Enable
SSH	☐ Enable
HTTP	☑ Enable
HTTPS	☐ Enable
SNMP	☐ Enable

Session Timeout		
Console	10	Min (0 - 65535, default 10)
Telnet	10	Min (0 - 65535, default 10)
SSH	10	Min (0 - 65535, default 10)
HTTP	10	Min (0 - 65535, default 10)
HTTPS	10	Min (0 - 65535, default 10)

Password Retry Count		
Console	3	(0 - 120, default 3)
Telnet	3	(0 - 120, default 3)
SSH	3	(0 - 120, default 3)

Silent Time		
Console	0	Sec (0 - 65535, default 0)
Telnet	0	Sec (0 - 65535, default 0)
SSH	0	Sec (0 - 65535, default 0)

Figure 10-11 Management Service Page

Field	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.

Table 10-11 Management Service Fields

10.4.3. Management ACL

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

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

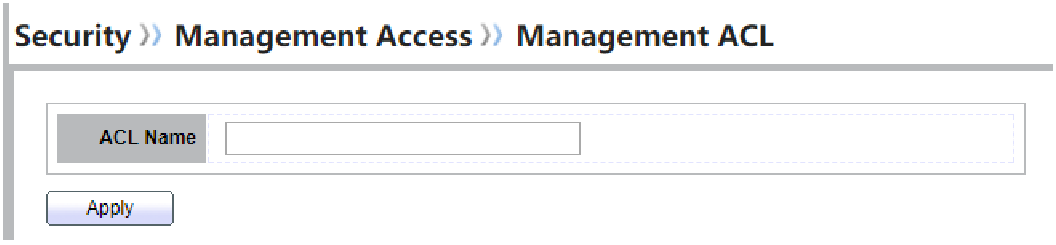
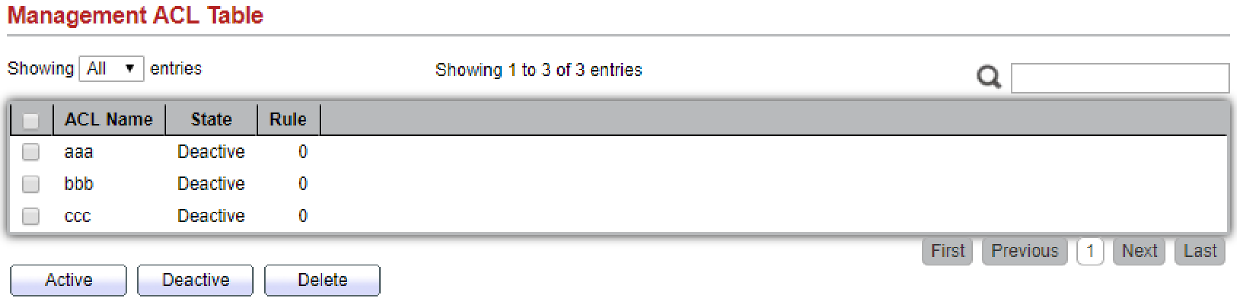


Figure 10-12 Management ACL Page

Field	Description
ACL Name	Input MAC ACL name

Table 10-12 Management ACL Fields



Management ACL Table

Showing All entries Showing 1 to 3 of 3 entries

□	ACL Name	State	Rule
□	aaa	Deactive	0
□	bbb	Deactive	0
□	ccc	Deactive	0

Figure 10-13 Management ACL Table Page

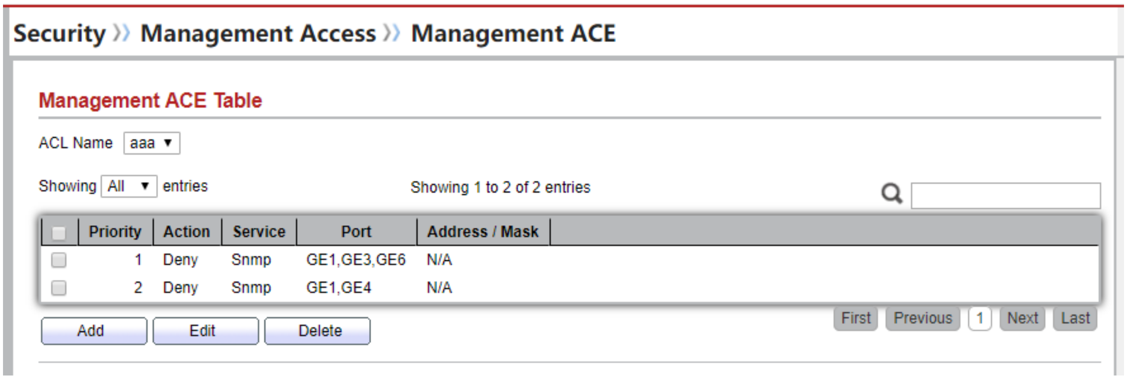
Field	Description
ACL Name	Display Management ACL name
State	Display Management ACL whether active.
Rule	Display the number Management ACE rule of ACL

Table 10-13 Management ACL Table Fields

10.4.4. Management ACE

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



Security » Management Access » Management ACE

Management ACE Table

ACL Name aaa

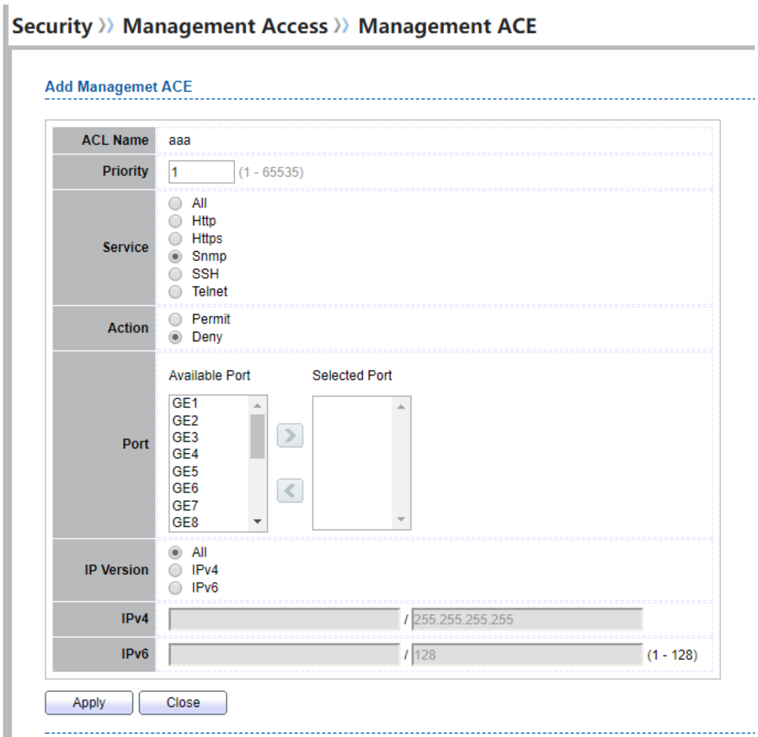
Showing All entries Showing 1 to 2 of 2 entries

□	Priority	Action	Service	Port	Address / Mask
□	1	Deny	Snmp	GE1,GE3,GE6	N/A
□	2	Deny	Snmp	GE1,GE4	N/A

Figure 10-14 Management ACE Page

Field	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.

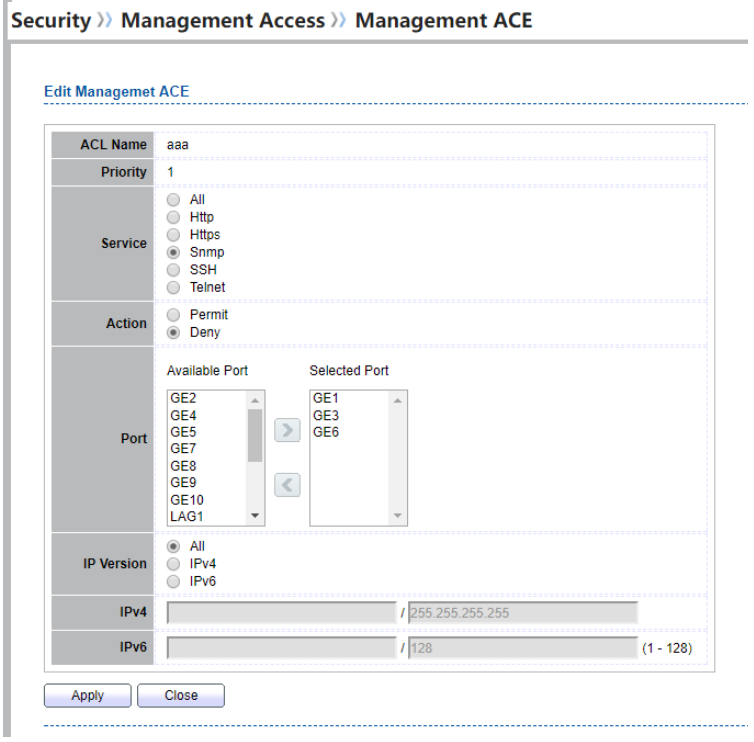
Table 10-14 Management ACE Fields



Security » Management Access » Management ACE

Add Managemet ACE

ACL Name	aaa
Priority	1 (1 - 65535)
Service	○ All ○ Http ○ Https ● Snmp ○ SSH ○ Telnet
Action	○ Permit ● Deny
Port	Available Port: GE1, GE2, GE3, GE4, GE5, GE6, GE7, GE8 Selected Port:
IP Version	● All ○ IPv4 ○ IPv6
IPv4	/ 255.255.255.255
IPv6	/ 128 (1 - 128)



Security » Management Access » Management ACE

Edit Managemet ACE

ACL Name	aaa
Priority	1
Service	○ All ○ Http ○ Https ● Snmp ○ SSH ○ Telnet
Action	○ Permit ● Deny
Port	Available Port: GE2, GE4, GE5, GE7, GE8, GE9, GE10, LAG1 Selected Port: GE1, GE3, GE6
IP Version	● All ○ IPv4 ○ IPv6
IPv4	/ 255.255.255.255
IPv6	/ 128 (1 - 128)

Figure 10-15 Add and Edit Management ACE Dialog

Field	Description
ACL Name	Display the ACL name to which an ACE is being added.
Priority	Specify the priority of the ACE. ACEs 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.

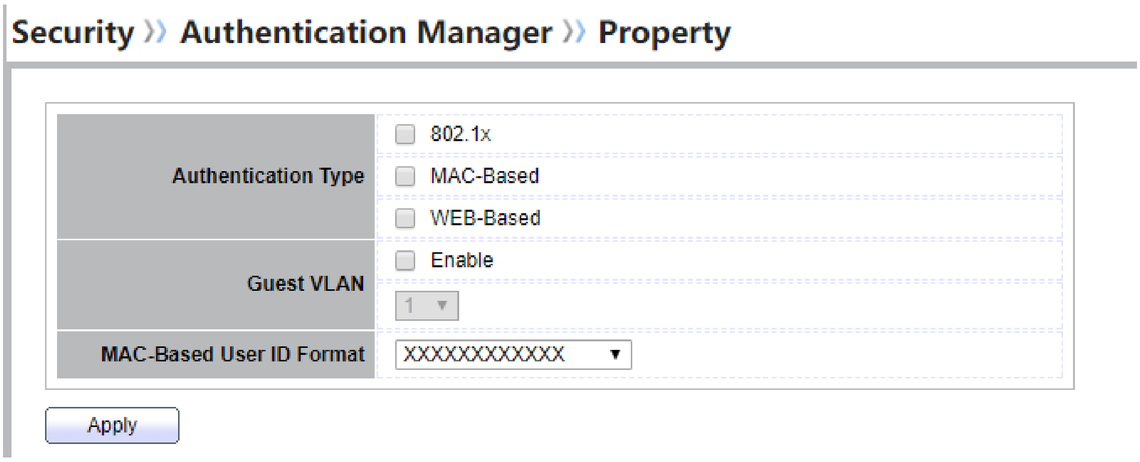
Table 10-15 Add and Edit Management ACE Fields

10.5. Authentication Manager

10.5.1. Property

To display authentication manager property web page, click **Security > Authentication Manger > Property**

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



Security >> Authentication Manager >> Property

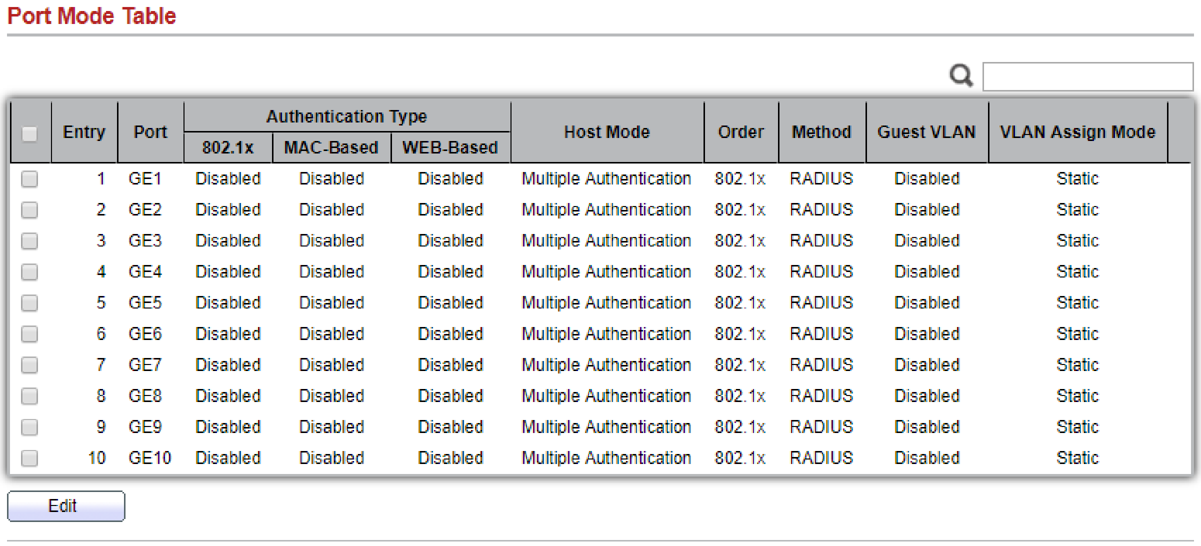
Authentication Type	□ 802.1x □ MAC-Based □ WEB-Based
Guest VLAN	□ Enable 1 ▼
MAC-Based User ID Format	XXXXXXXXXXXX ▼

Figure 10-16 Authentication Manager Global Setting

Field	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** • xxxxxxxxxxxx • 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 • XXXX-XXXX-XXXX • xxxx-xxxx-xxxx • XXXX.XXXX.XXXX • xxxx.xxxx.xxxx • XXXXXX:XXXXXX • xxxxxx:xxxxxx • XXXXXX-XXXXX • xxxxxx-xxxxxx

	• XXXXXX.XXXXXX • xxxxxx.xxxxxx

Table 10-16 Authentication Manager Global Setting Fields



Port Mode Table

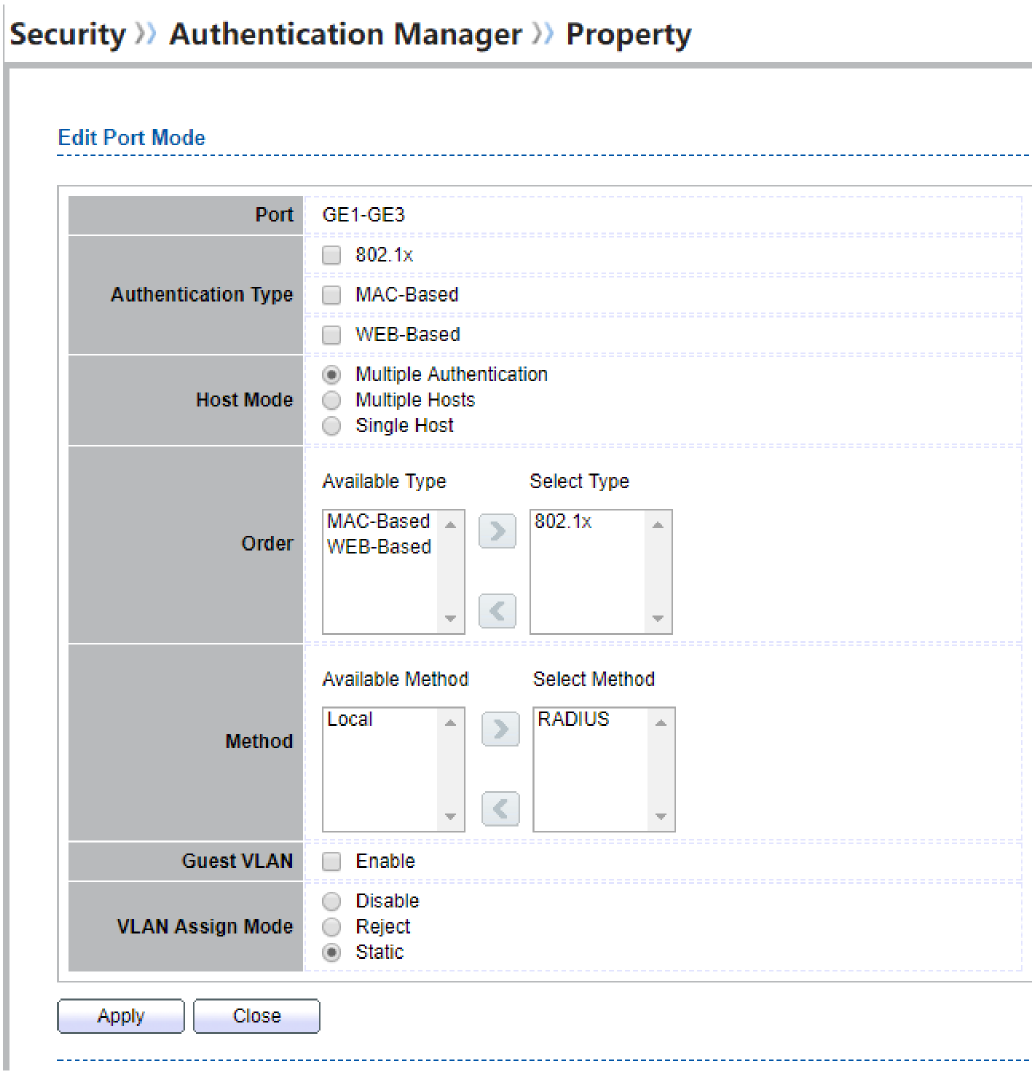
☐	Entry	Port	Authentication Type			Host Mode	Order	Method	Guest VLAN	VLAN Assign Mode
			802.1x	MAC-Based	WEB-Based					
☐	1	GE1	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	2	GE2	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	3	GE3	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	4	GE4	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	5	GE5	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	6	GE6	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	7	GE7	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	8	GE8	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	9	GE9	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static
☐	10	GE10	Disabled	Disabled	Disabled	Multiple Authentication	802.1x	RADIUS	Disabled	Static

Figure 10-17 Port Mode Table

Field	Description
Port	Port name
Authentication Type (802.1X)	802.1 X 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** • **802.1x WEB-Based MAC-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.

Table 10-17 Port Mode Table Fields



Security » Authentication Manager » Property

Edit Port Mode

Port	GE1-GE3
Authentication Type	□ 802.1x □ MAC-Based □ WEB-Based
Host Mode	● Multiple Authentication ○ Multiple Hosts ○ Single Host
Order	Available Type: MAC-Based, WEB-Based Select Type: 802.1x
Method	Available Method: Local Select Method: RADIUS
Guest VLAN	□ Enable
VLAN Assign Mode	○ Disable ○ Reject ● Static

Figure 10-18 Edit Port Mode Dialog

Field	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.

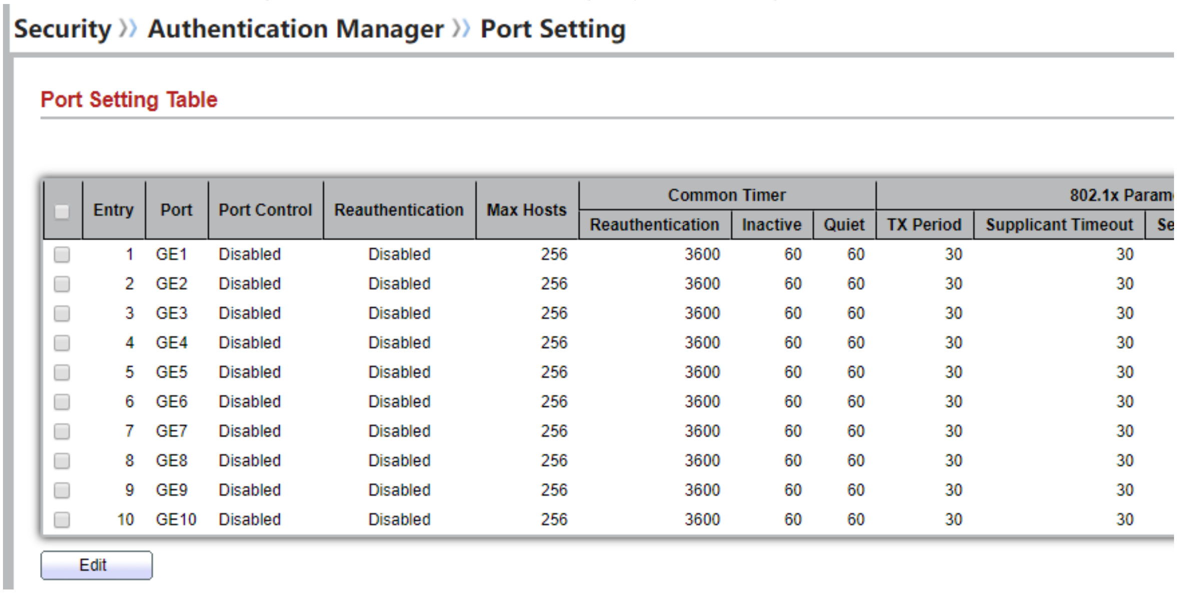
	• **Multiple Hosts:** In this mode, only one client need to be authenticated and other clients will get the same access accessibility. Web-auth cannot be enabled in this mode. • **Single Host:** In this mode, only one host is allowed to be authenticated. It is the same as Multi-auth mode with max hosts 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** • **802.1x WEB-Based MAC-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.

Table 10-18 Edit Port Mode Fields

10.5.2. Port Setting

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

This page allow user to configure authentication manger port settings



Security 》 Authentication Manager 》 Port Setting

Port Setting Table

□	Entry	Port	Port Control	Reauthentication	Max Hosts	Common Timer			802.1x Param		
						Reauthentication	Inactive	Quiet	TX Period	Supplicant Timeout	Se
□	1	GE1	Disabled	Disabled	256	3600	60	60	30	30	
□	2	GE2	Disabled	Disabled	256	3600	60	60	30	30	
□	3	GE3	Disabled	Disabled	256	3600	60	60	30	30	
□	4	GE4	Disabled	Disabled	256	3600	60	60	30	30	
□	5	GE5	Disabled	Disabled	256	3600	60	60	30	30	
□	6	GE6	Disabled	Disabled	256	3600	60	60	30	30	
□	7	GE7	Disabled	Disabled	256	3600	60	60	30	30	
□	8	GE8	Disabled	Disabled	256	3600	60	60	30	30	
□	9	GE9	Disabled	Disabled	256	3600	60	60	30	30	
□	10	GE10	Disabled	Disabled	256	3600	60	60	30	30	

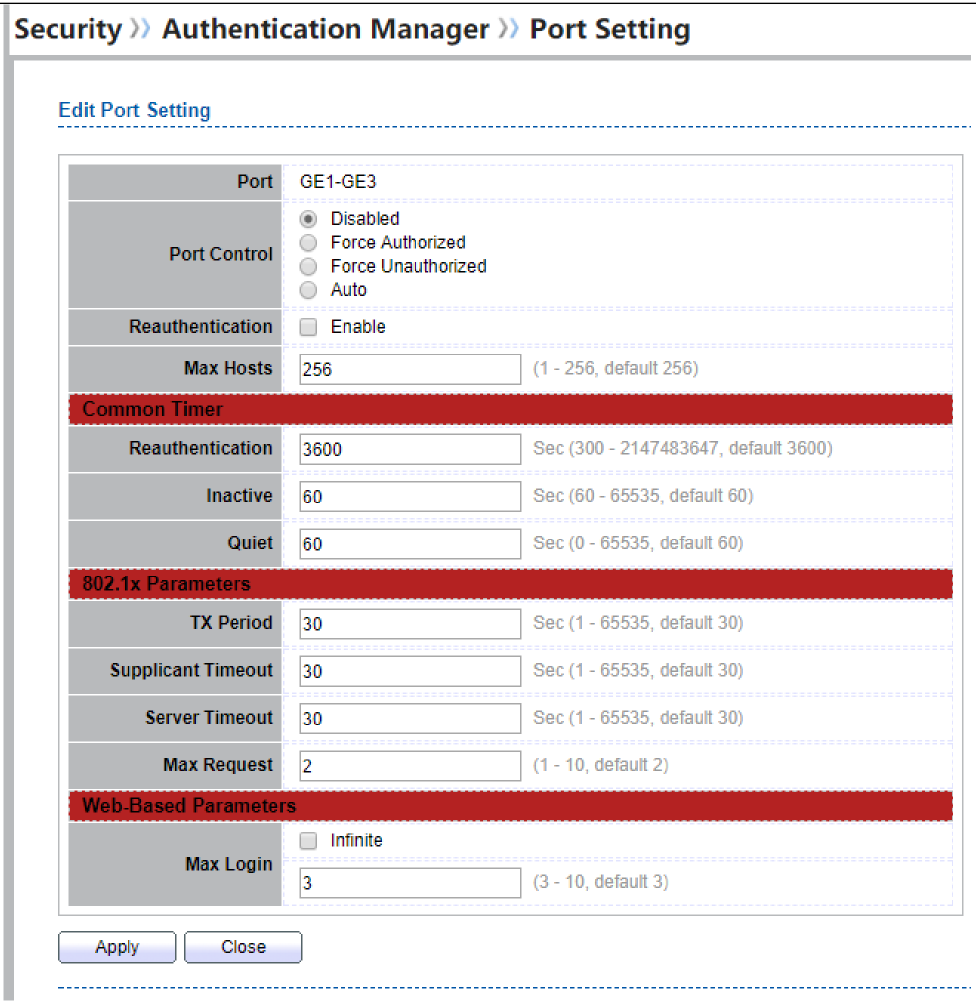
Figure 10-19: Authentication Manager Port Setting Table

Field	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	Reautheticate state • **Enabled:** Host will be reauthenticated after reauthentication period • **Disabled:** Host will not be reauthenticated 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

	and not all packets on the port.
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 Param (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.

Table 10-19: Authentication Manager Port Setting Table Fields



Security >> Authentication Manager >> Port Setting

Edit Port Setting

Port	GE1-GE3
Port Control	● Disabled ○ Force Authorized ○ Force Unauthorized ○ Auto
Reauthentication	□ Enable
Max Hosts	256 (1 - 256, default 256)
Common Timer	
Reauthentication	3600 Sec (300 - 2147483647, default 3600)
Inactive	60 Sec (60 - 65535, default 60)
Quiet	60 Sec (0 - 65535, default 60)
802.1x Parameters	
TX Period	30 Sec (1 - 65535, default 30)
Supplicant Timeout	30 Sec (1 - 65535, default 30)
Server Timeout	30 Sec (1 - 65535, default 30)
Max Request	2 (1 - 10, default 2)
Web-Based Parameters	
Max Login	□ Infinite 3 (3 - 10, default 3)

Figure 10-20: Authentication Manager Port Setting Dialog

Field	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.

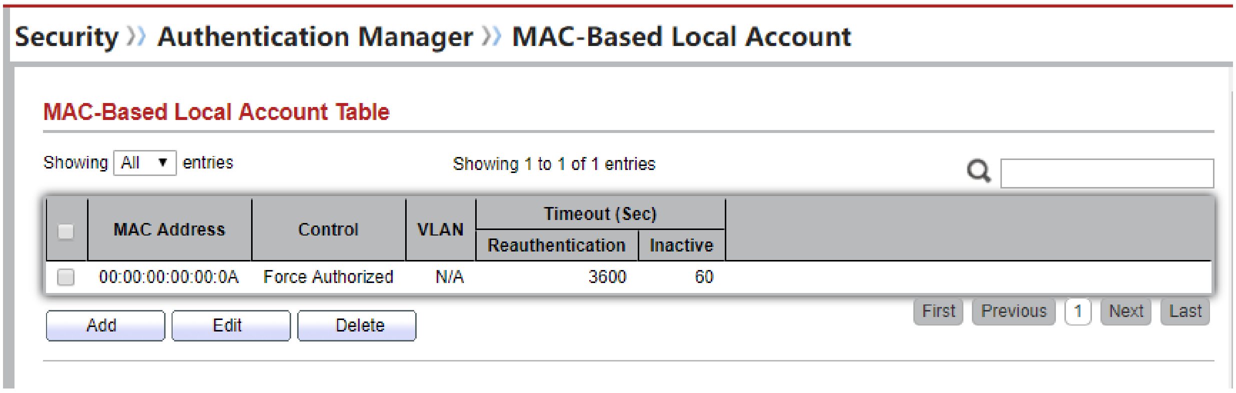
	• **Auto:** Need passing authentication procedure to get network accessibility.
Reauthentication	Set checkbox to enable/disable reuauthentication
Max Hosts	In Multiple Authentication mode, total host number cannot not exceed max hosts number
Common Timer (Reauthentication)	After re-authenticate period, host will return to initial state and need to pass authentication procedure again.
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 and not all packets on the port.
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 Param (Max Login)	Set checkbox to set max login number to be infinite or specify max login number.

Table 10-20: Authentication Manager Port Setting Table Fields

10.5.3. MAC-Based Local Account

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

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



Security » Authentication Manager » MAC-Based Local Account

MAC-Based Local Account Table

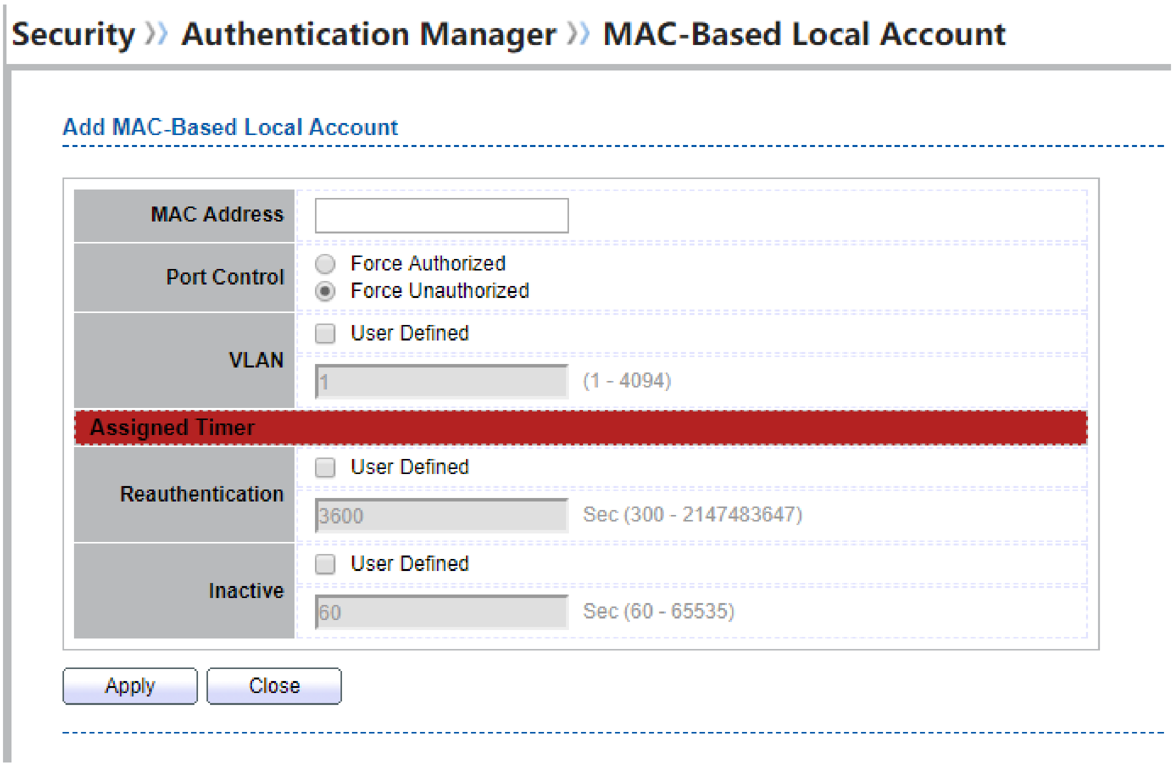
Showing All ▾ entries   Showing 1 to 1 of 1 entries

□	MAC Address	Control	VLAN	Timeout (Sec)	
				Reauthentication	Inactive
□	00:00:00:00:00:0A	Force Authorized	N/A	3600	60

Figure 10-21 MAC-Based Local Account Table

Field	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.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

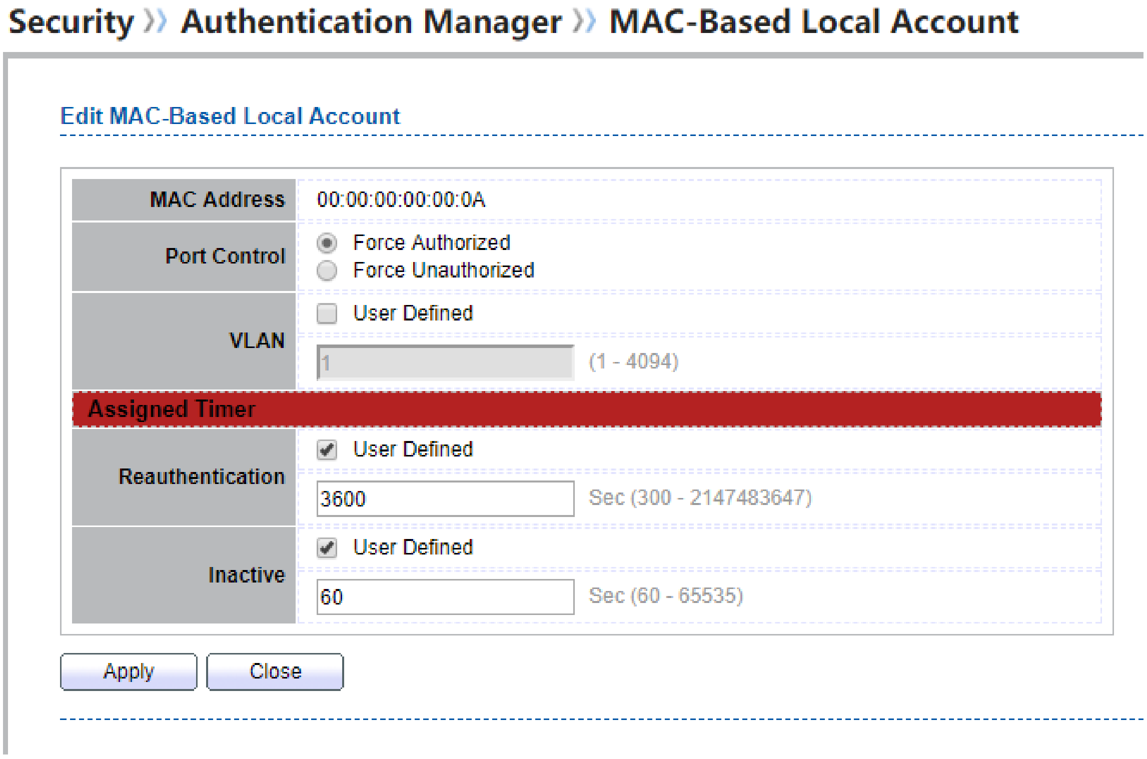
Table 10-21 MAC-Based Local Account Table Fields



Security » Authentication Manager » MAC-Based Local Account

Add MAC-Based Local Account

MAC Address	
Port Control	○ Force Authorized ● Force Unauthorized
VLAN	□ User Defined 1 (1 - 4094)
Assigned Timer	
Reauthentication	□ User Defined 3600 Sec (300 - 2147483647)
Inactive	□ User Defined 60 Sec (60 - 65535)



Security » Authentication Manager » MAC-Based Local Account

Edit MAC-Based Local Account

MAC Address	00:00:00:00:00:0A
Port Control	● Force Authorized ○ Force Unauthorized
VLAN	□ User Defined 1 (1 - 4094)
Assigned Timer	
Reauthentication	☑ User Defined 3600 Sec (300 - 2147483647)
Inactive	☑ User Defined 60 Sec (60 - 65535)

Figure 10-22 Add/Edit MAC-Based Local Account Dialog

Field	Description

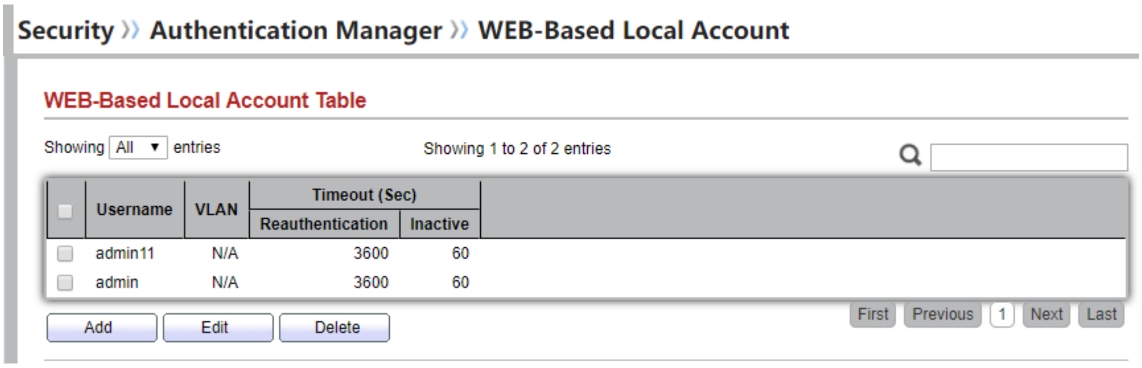
MAC Address	Authenticated host MAC address, and each MAC allow only one entry in local database.
Control	Control Type • **Force Authorized:** Host will be force authorized • **Force Unauthorized:** Host will be force unauthorized
VLAN	Assigned VLAN ID for the authenticated host.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

Table 10-22 Add/Edit MAC-Based Local Account Fields

10.5.4. WEB-Based Local Account

To display WEB-Based Local Account web page, click **Security > Authentication Manger > WEB-Based Local Account**

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



Security » Authentication Manager » WEB-Based Local Account

WEB-Based Local Account Table

Showing All entries

Showing 1 to 2 of 2 entries

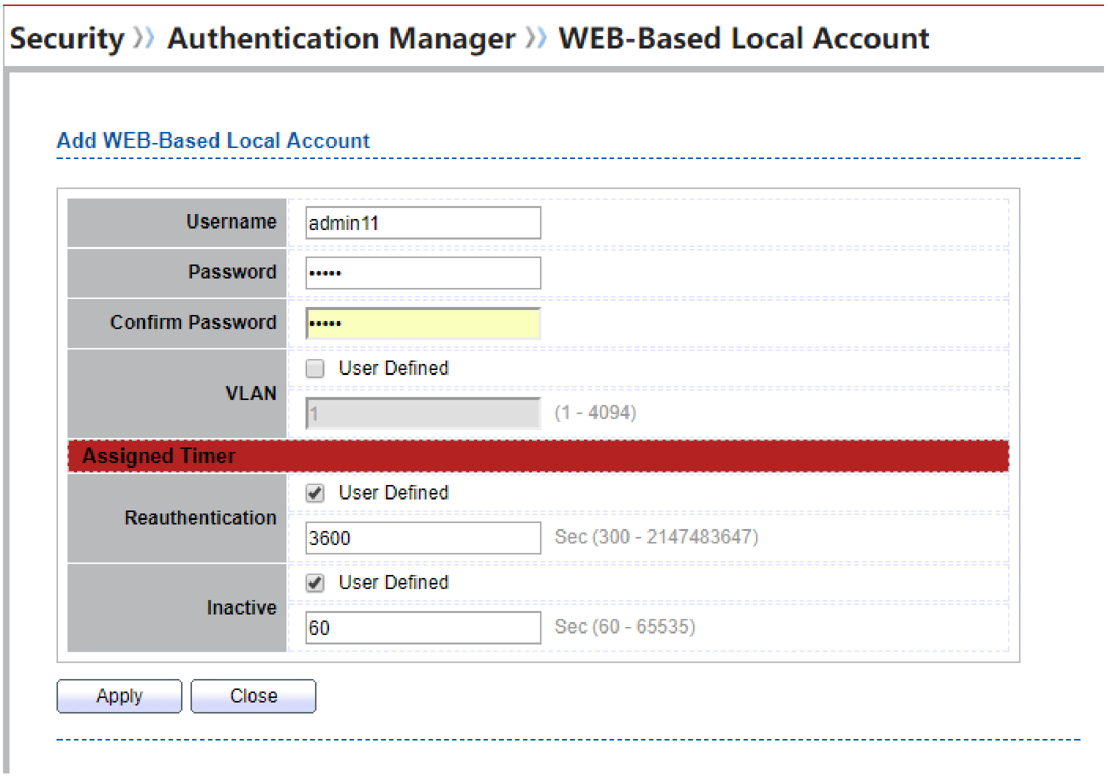
□	Username	VLAN	Timeout (Sec)	
			Reauthentication	Inactive
□	admin11	N/A	3600	60
□	admin	N/A	3600	60

Figure 10-23 WEB-Based Local Account Table

Field	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.

Table 10-23 WEB-Based Local Account Table Fields

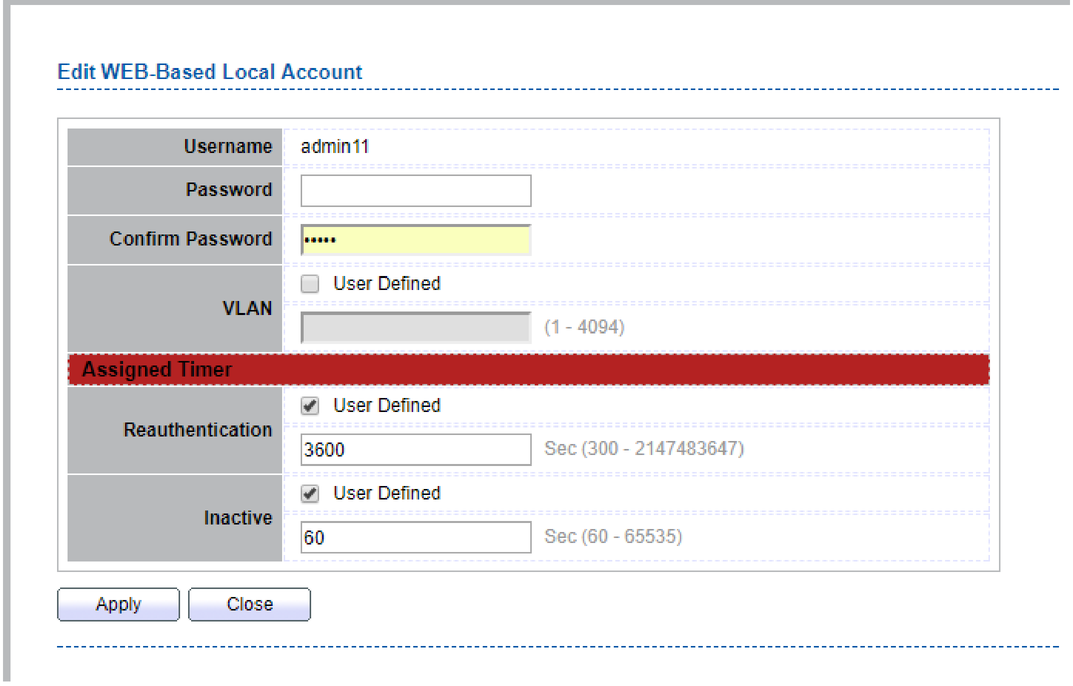


Security » Authentication Manager » WEB-Based Local Account

Add WEB-Based Local Account

Username	admin11	
Password	•••••	
Confirm Password	•••••	
VLAN	☐ User Defined	
	1	(1 - 4094)
Assigned Timer		
Reauthentication	☑ User Defined	
	3600	Sec (300 - 2147483647)
Inactive	☑ User Defined	
	60	Sec (60 - 65535)

Security » Authentication Manager » WEB-Based Local Account



Edit WEB-Based Local Account

Username	admin11
Password	
Confirm Password	•••••
VLAN	□ User Defined (1 - 4094)
Assigned Timer	
Reauthentication	☑ User Defined 3600 Sec (300 - 2147483647)
Inactive	☑ User Defined 60 Sec (60 - 65535)

Figure 10-24 Add/Edit WEB-Based Local Account Dialog

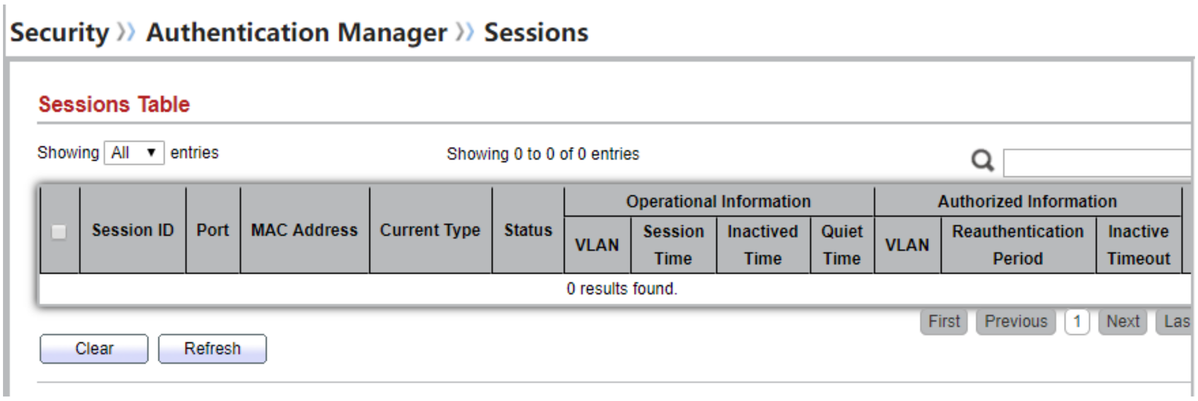
Field	Description
Username	Authenticating account user name
Password	Authenticating account password
Confirm Password	Confirm authenticating account password
VLAN	Assigned VLAN ID for the authenticated host.
Timeout (Reauthentication)	Assigned reauthentication period for the authenticated host.
Timeout (Inactive)	Assigned inactive timeout for the authenticated host.

Table 10-24 Add/Edit WEB-Based Local Account Fields

10.5.5. Sessions

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

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



Security >> Authentication Manager >> Sessions

Sessions Table

Showing All ▾ entries

Showing 0 to 0 of 0 entries

□	Session ID	Port	MAC Address	Current Type	Status	Operational Information				Authorized Information		
						VLAN	Session Time	Inactived Time	Quiet Time	VLAN	Reauthentication Period	Inactive Timeout
0 results found.												

Figure 10-25 Sessions Table

Field	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 • **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

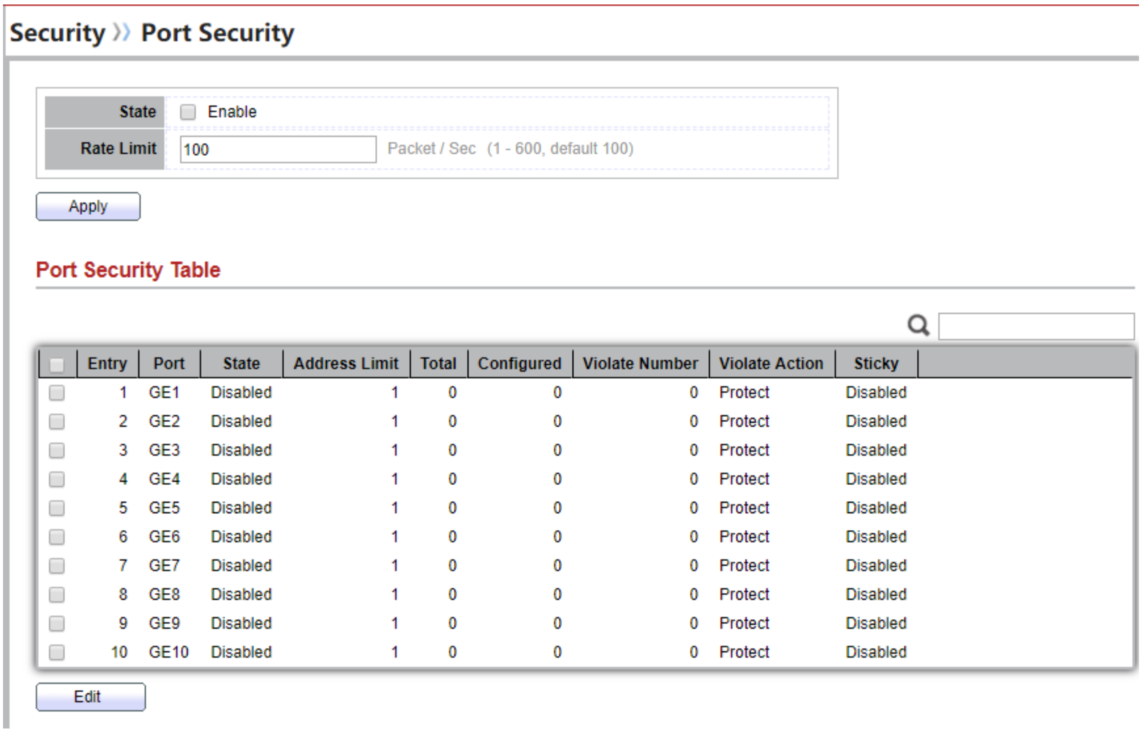
	authenticating until quiet period. • **Guest:** Host is in the guest VLAN.
Operational (VLAN)	Shows host operational VLAN ID.
Operational (Session Time)	In “Authorized” state, it shows total time after authorized.
Operational (Inactived)	In “Authorized” state, it shows how long the host do not send any 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.

Table 10-25 Sessions Table Fields

10.6. Port Security

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



Security » Port Security

State	☐ Enable
Rate Limit	100 Packet / Sec (1 - 600, default 100)

Port Security Table

☐	Entry	Port	State	Address Limit	Total	Configured	Violate Number	Violate Action	Sticky
☐	1	GE1	Disabled	1	0	0	0	Protect	Disabled
☐	2	GE2	Disabled	1	0	0	0	Protect	Disabled
☐	3	GE3	Disabled	1	0	0	0	Protect	Disabled
☐	4	GE4	Disabled	1	0	0	0	Protect	Disabled
☐	5	GE5	Disabled	1	0	0	0	Protect	Disabled
☐	6	GE6	Disabled	1	0	0	0	Protect	Disabled
☐	7	GE7	Disabled	1	0	0	0	Protect	Disabled
☐	8	GE8	Disabled	1	0	0	0	Protect	Disabled
☐	9	GE9	Disabled	1	0	0	0	Protect	Disabled
☐	10	GE10	Disabled	1	0	0	0	Protect	Disabled

Figure 10-26 Port Security Page

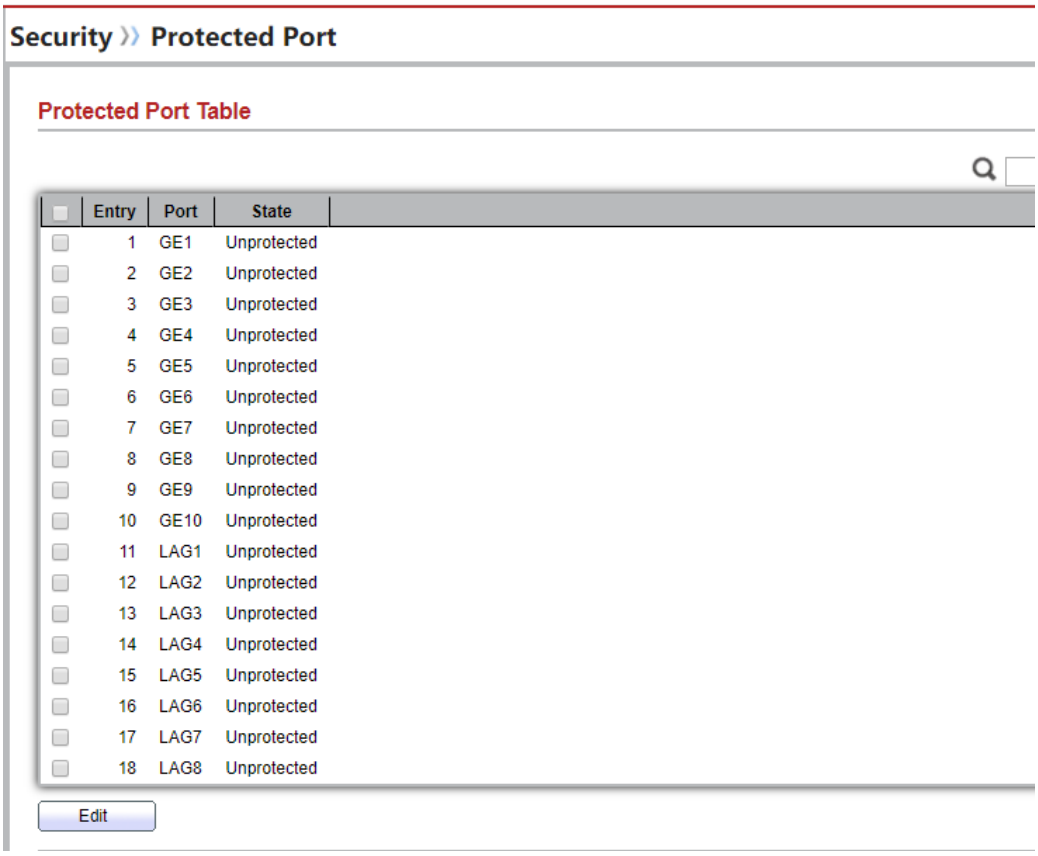
Field	Description
Port	Select one or multiple ports to configure.
State	Select the status of port security • **Disable:** Disable port security function. • **Enable:** Enable port security function.
MAC Address	Specify the number of how many mac addresses can be learned.
Action	Select the action if learned 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.

Table 10-26 Port Security Fields

10.7. Protected Port

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



Security » Protected Port

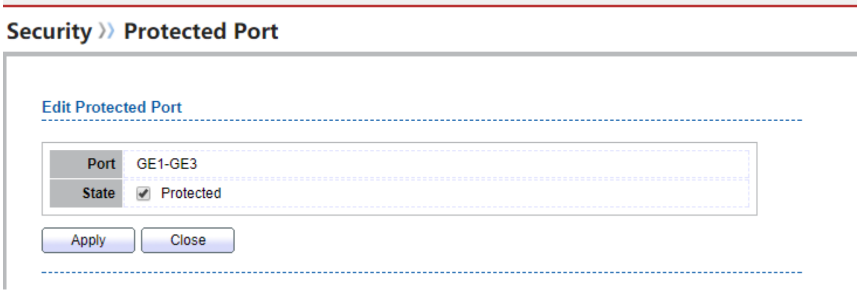
Protected Port Table

□	Entry	Port	State
□	1	GE1	Unprotected
□	2	GE2	Unprotected
□	3	GE3	Unprotected
□	4	GE4	Unprotected
□	5	GE5	Unprotected
□	6	GE6	Unprotected
□	7	GE7	Unprotected
□	8	GE8	Unprotected
□	9	GE9	Unprotected
□	10	GE10	Unprotected
□	11	LAG1	Unprotected
□	12	LAG2	Unprotected
□	13	LAG3	Unprotected
□	14	LAG4	Unprotected
□	15	LAG5	Unprotected
□	16	LAG6	Unprotected
□	17	LAG7	Unprotected
□	18	LAG8	Unprotected

Figure 10-27 Protected Port Table

Field	Description
Port	Port Name
State	Port protected admin state. • **Protected:** Port is protected. • **Unprotected:** Port is unprotected

Table 10-27 Protected Port Table Fields



Security » Protected Port

Edit Protected Port

Port	GE1-GE3
State	☑ Protected

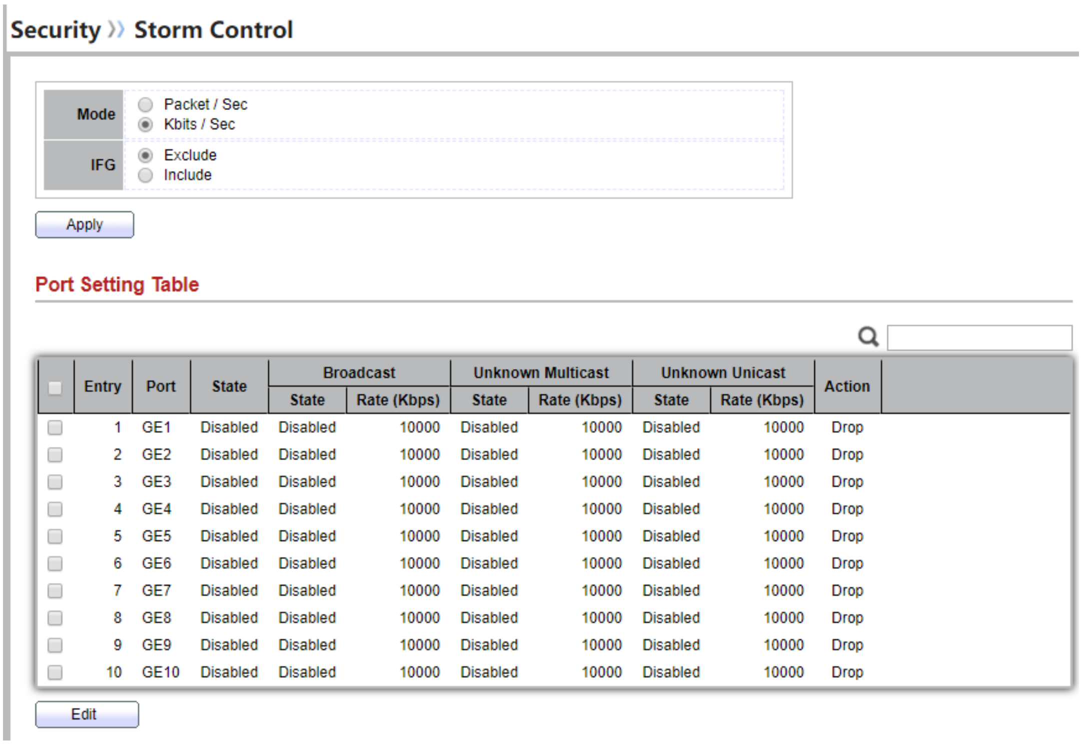
Figure 10-28 Edit Protected Port dialog

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

Table 10-28 Edit Protected Port Fields

10.8. Storm Control

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



Security >> Storm Control

Mode	○ Packet / Sec ● Kbits / Sec
IFG	● Exclude ○ Include

Apply

Port Setting Table

□	Entry	Port	State	Broadcast		Unknown Multicast		Unknown Unicast		Action
				State	Rate (Kbps)	State	Rate (Kbps)	State	Rate (Kbps)	
□	1	GE1	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	2	GE2	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	3	GE3	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	4	GE4	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	5	GE5	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	6	GE6	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	7	GE7	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	8	GE8	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	9	GE9	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop
□	10	GE10	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop

Edit

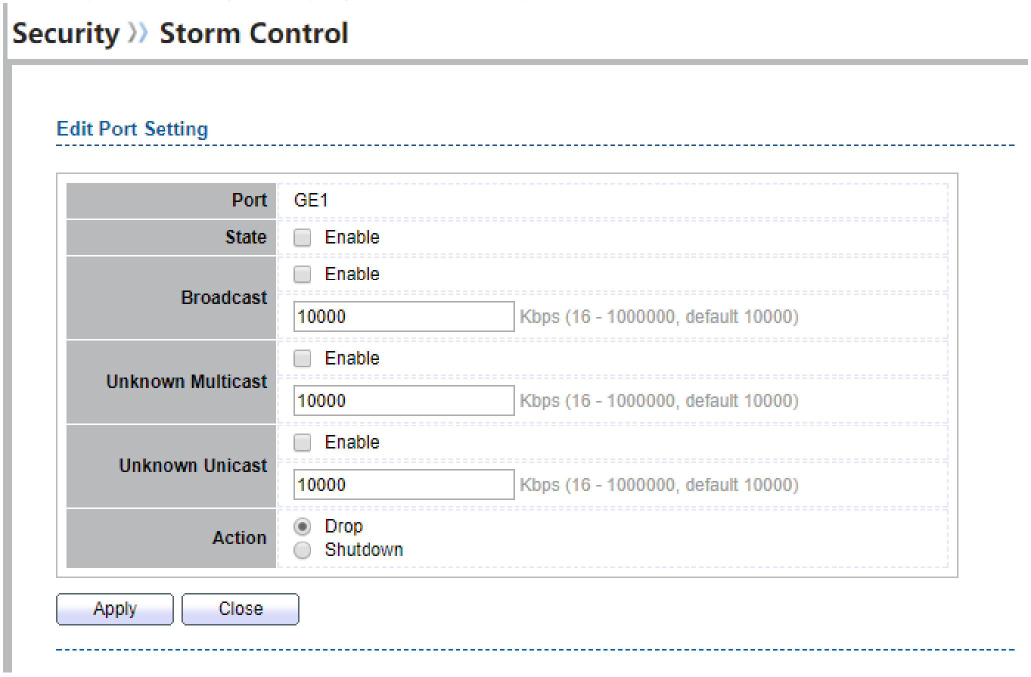
Figure 10-29 Storm Control Setting Page

Field	Description
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.

Table 10-29 Storm Control Global Setting Fields

To Edit Storm Control port setting web page, select the port which to set, click button **Edit**



Security » Storm Control

Edit Port Setting

Port	GE1
State	□ Enable
Broadcast	□ Enable 10000 Kbps (16 - 1000000, default 10000)
Unknown Multicast	□ Enable 10000 Kbps (16 - 1000000, default 10000)
Unknown Unicast	□ Enable 10000 Kbps (16 - 1000000, default 10000)
Action	● Drop ○ Shutdown

Figure 10-30 Storm Control Edit Port Setting Page

Field	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.

Table 10-30 Storm Control Port Setting Fields

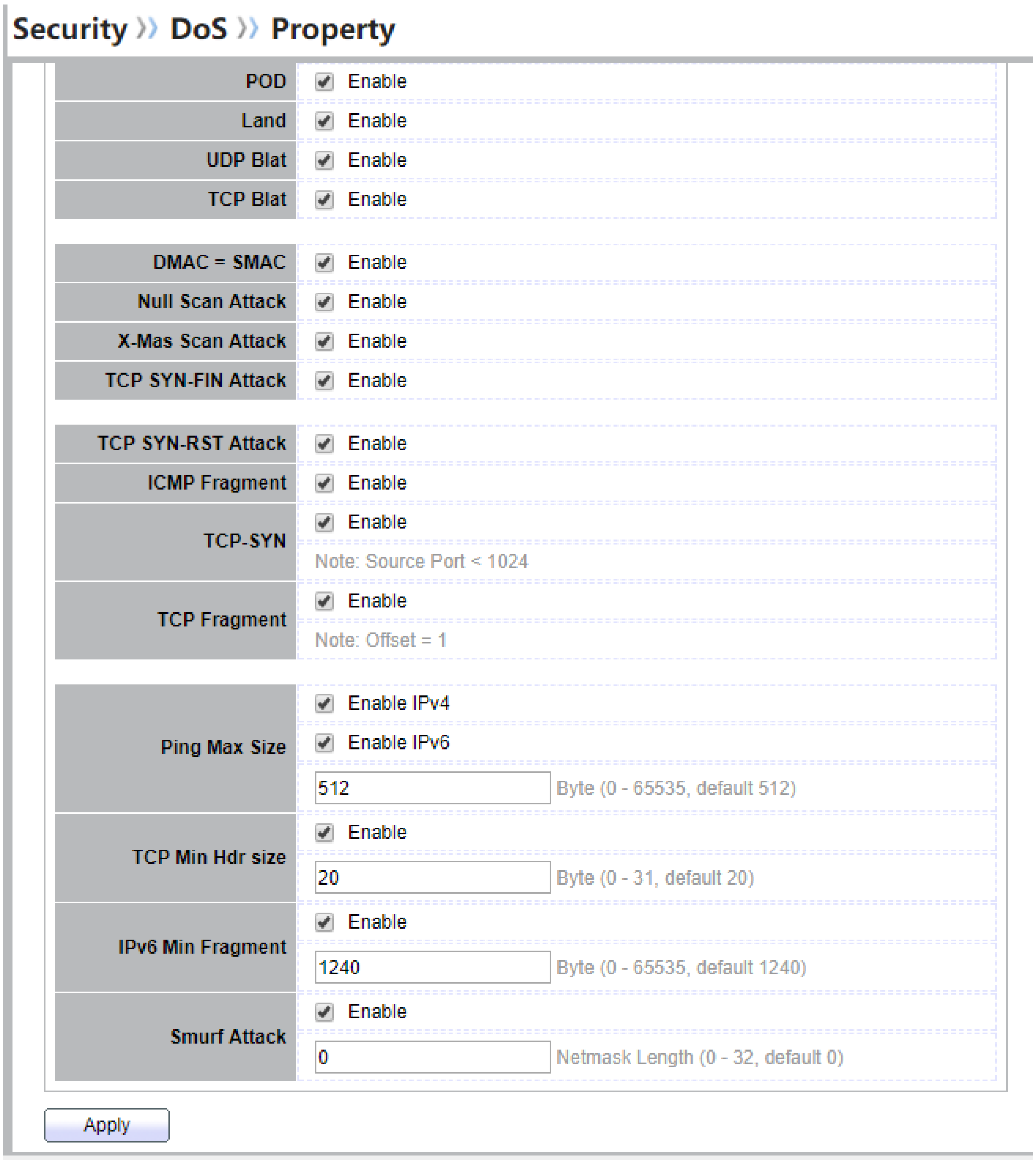
10.9. DoS

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.

10.9.1. Property

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



Security » DoS » Property

POD	☑ Enable
Land	☑ Enable
UDP Blat	☑ Enable
TCP Blat	☑ Enable
DMAC = SMAC	☑ Enable
Null Scan Attack	☑ Enable
X-Mas Scan Attack	☑ Enable
TCP SYN-FIN Attack	☑ Enable
TCP SYN-RST Attack	☑ Enable
ICMP Fragment	☑ Enable
TCP-SYN	☑ Enable Note: Source Port < 1024
TCP Fragment	☑ Enable Note: Offset = 1
Ping Max Size	☑ Enable IPv4 ☑ Enable IPv6 512 Byte (0 - 65535, default 512)
TCP Min Hdr size	☑ Enable 20 Byte (0 - 31, default 20)
IPv6 Min Fragment	☑ Enable 1240 Byte (0 - 65535, default 1240)
Smurf Attack	☑ Enable 0 Netmask Length (0 - 32, default 0)

Apply

Figure 10-31 DoS Property Page

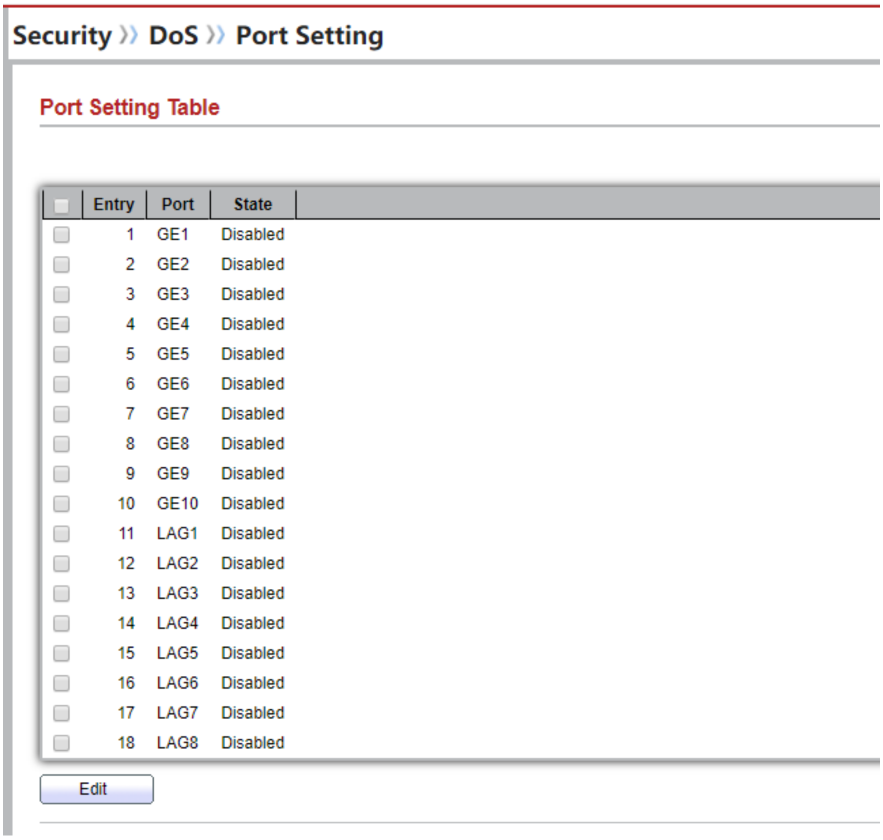
Field	Description
POD	Avoids ping of death attack.
Land	Drops the packets if the source IP address is equal to the destination IP address.
UDP Blat	Drops the packets if the UDP source port equals to the UDP destination port.
TCP Blat	Drops the packages if the TCP source port is equal to the TCP destination 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 FIN 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.
IPv4 Ping Max Size	Checks the maximum size of ICMP ping packets, and drops the packets larger than the maximum packet size.
IPv6 Ping Max Size	Checks the maximum size of ICMPv6 ping packets, and drops the packets larger than the maximum packet size.
TCP Min Hdr Size	Checks the minimum TCP header and drops the TCP packets with the header smaller than the minimum size. The length range is from 0 to 31 bytes, and default length is 20 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.

Table 10-31: DoS Property fields.

10.9.2. Port Setting

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



□	Entry	Port	State
□	1	GE1	Disabled
□	2	GE2	Disabled
□	3	GE3	Disabled
□	4	GE4	Disabled
□	5	GE5	Disabled
□	6	GE6	Disabled
□	7	GE7	Disabled
□	8	GE8	Disabled
□	9	GE9	Disabled
□	10	GE10	Disabled
□	11	LAG1	Disabled
□	12	LAG2	Disabled
□	13	LAG3	Disabled
□	14	LAG4	Disabled
□	15	LAG5	Disabled
□	16	LAG6	Disabled
□	17	LAG7	Disabled
□	18	LAG8	Disabled

Figure 10-32: Port Setting page.

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

Table 10-32: Port Setting fields.

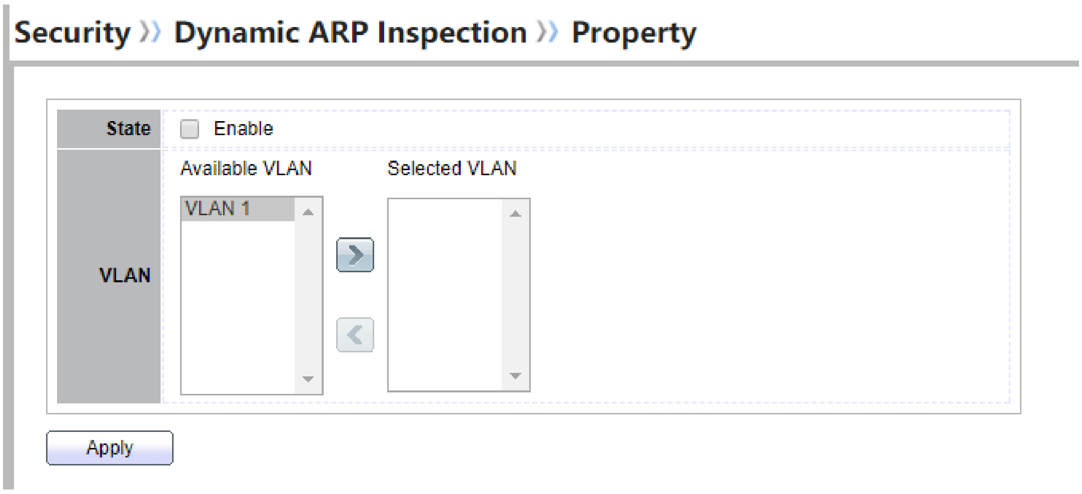
10.10. Dynamic ARP Inspection

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

10.10.1. Property

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

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



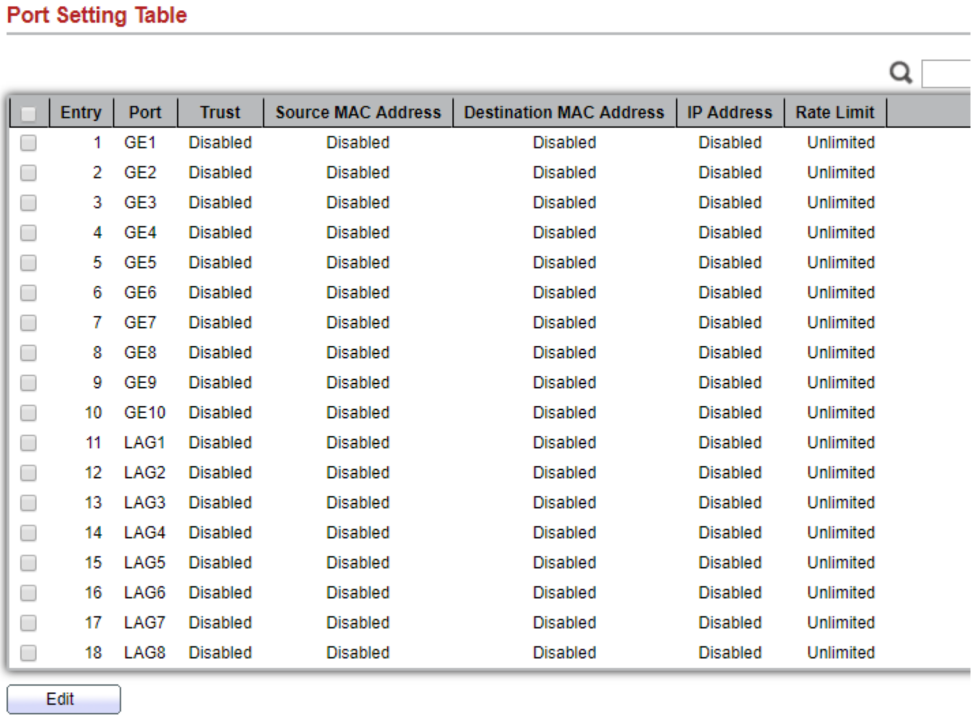
Security » Dynamic ARP Inspection » Property

State	□ Enable
VLAN	Available VLAN: VLAN 1 Selected VLAN:

Figure 10-33 Property Page

Field	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.

Table 10-33 Property Fields



Port Setting Table

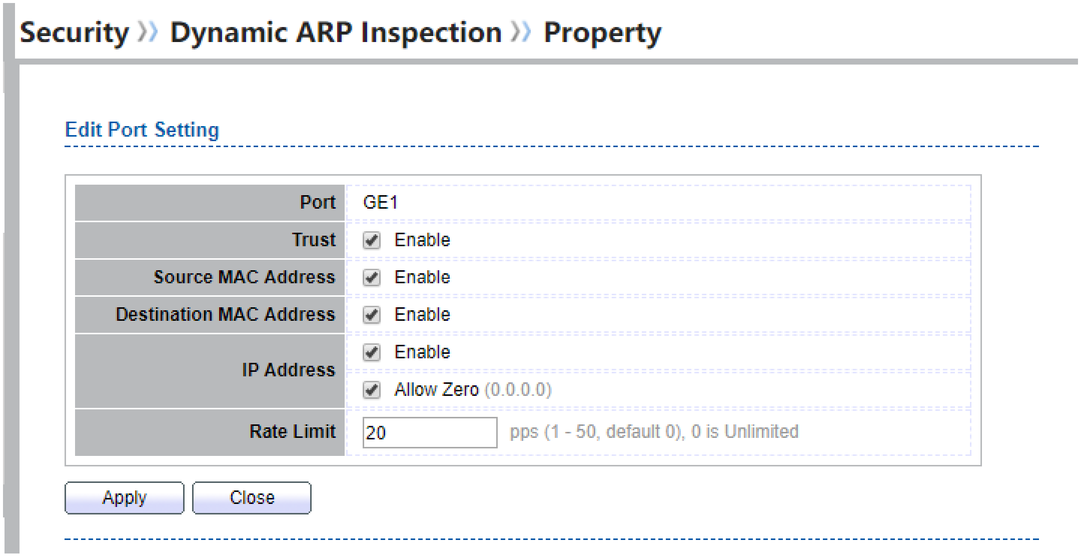
□	Entry	Port	Trust	Source MAC Address	Destination MAC Address	IP Address	Rate Limit
□	1	GE1	Disabled	Disabled	Disabled	Disabled	Unlimited
□	2	GE2	Disabled	Disabled	Disabled	Disabled	Unlimited
□	3	GE3	Disabled	Disabled	Disabled	Disabled	Unlimited
□	4	GE4	Disabled	Disabled	Disabled	Disabled	Unlimited
□	5	GE5	Disabled	Disabled	Disabled	Disabled	Unlimited
□	6	GE6	Disabled	Disabled	Disabled	Disabled	Unlimited
□	7	GE7	Disabled	Disabled	Disabled	Disabled	Unlimited
□	8	GE8	Disabled	Disabled	Disabled	Disabled	Unlimited
□	9	GE9	Disabled	Disabled	Disabled	Disabled	Unlimited
□	10	GE10	Disabled	Disabled	Disabled	Disabled	Unlimited
□	11	LAG1	Disabled	Disabled	Disabled	Disabled	Unlimited
□	12	LAG2	Disabled	Disabled	Disabled	Disabled	Unlimited
□	13	LAG3	Disabled	Disabled	Disabled	Disabled	Unlimited
□	14	LAG4	Disabled	Disabled	Disabled	Disabled	Unlimited
□	15	LAG5	Disabled	Disabled	Disabled	Disabled	Unlimited
□	16	LAG6	Disabled	Disabled	Disabled	Disabled	Unlimited
□	17	LAG7	Disabled	Disabled	Disabled	Disabled	Unlimited
□	18	LAG8	Disabled	Disabled	Disabled	Disabled	Unlimited

Figure 10-34 Property Port Page

Field	Description
Port	Display port ID.
Trust	Display enable/disabled trust attribute of interface

Source MAC Address	Display enable/disabled source mac address validation attribute of interface
Destination 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.

Table 10-34 Property Port Fields



Security >> Dynamic ARP Inspection >> Property

Edit Port Setting

Port	GE1
Trust	☑ Enable
Source MAC Address	☑ Enable
Destination MAC Address	☑ Enable
IP Address	☑ Enable ☑ Allow Zero (0.0.0.0)
Rate Limit	20 pps (1 - 50, default 0), 0 is Unlimited

Figure 10-35 Edit Property Port Dialog

Field	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.

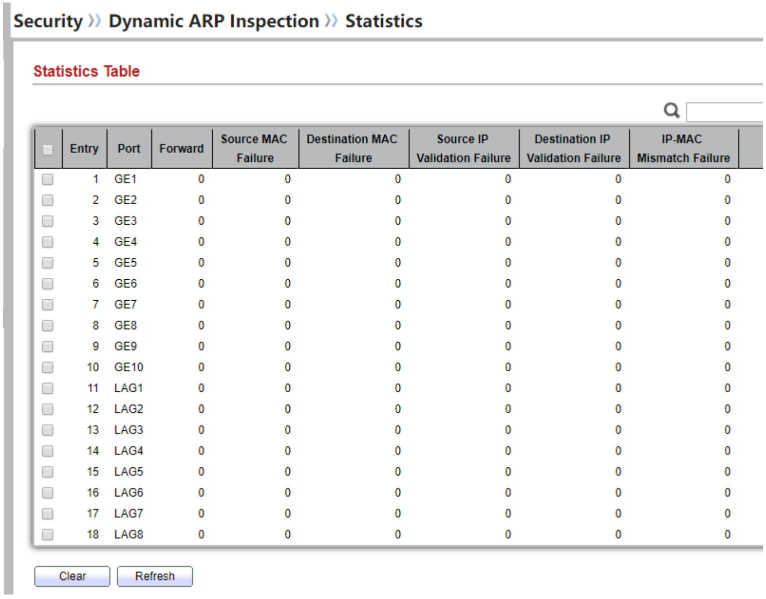
IP Address	Set checkbox to enable or disable IP address validation of interface. All ARP packets will be checked whether IP address is 0.0.0.0, 255.255.255.255 or multicast address. Default is disabled.

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.

le 10-35 Edit Property Port Fields

10.10.2. Statistics

To display Statistics page, click **Security > Dynamic ARP Inspection > Statistics**



Security » Dynamic ARP Inspection » Statistics

Statistics Table

□	Entry	Port	Forward	Source MAC Failure	Destination MAC Failure	Source IP Validation Failure	Destination IP Validation Failure	IP-MAC Mismatch Failure
□	1	GE1	0	0	0	0	0	0
□	2	GE2	0	0	0	0	0	0
□	3	GE3	0	0	0	0	0	0
□	4	GE4	0	0	0	0	0	0
□	5	GE5	0	0	0	0	0	0
□	6	GE6	0	0	0	0	0	0
□	7	GE7	0	0	0	0	0	0
□	8	GE8	0	0	0	0	0	0
□	9	GE9	0	0	0	0	0	0
□	10	GE10	0	0	0	0	0	0
□	11	LAG1	0	0	0	0	0	0
□	12	LAG2	0	0	0	0	0	0
□	13	LAG3	0	0	0	0	0	0
□	14	LAG4	0	0	0	0	0	0
□	15	LAG5	0	0	0	0	0	0
□	16	LAG6	0	0	0	0	0	0
□	17	LAG7	0	0	0	0	0	0
□	18	LAG8	0	0	0	0	0	0

This page allow user to browse all statistics that recorded by Dynamic ARP Inspection function.

Figure 10-36 Statistics Page

Field	Description
Port	Display port ID
Forwarded	Display how many packets forwarded normally.
Source MAC Failures	Display how many packets dropped by source MAC validation.
Destination MAC Failures	Display how many packets dropped by destination MAC validation.
Source IP Validation Failures	Display how many packets dropped by source IP validation.

Destination IP Validation Failures	Display how many packets dropped by destination IP validation

IP-MAC Mismatch Failures	Display how many packets dropped by IP-MAC doesn't match in IP Source Guard binding table.

Table 10-36 Statistics Fields

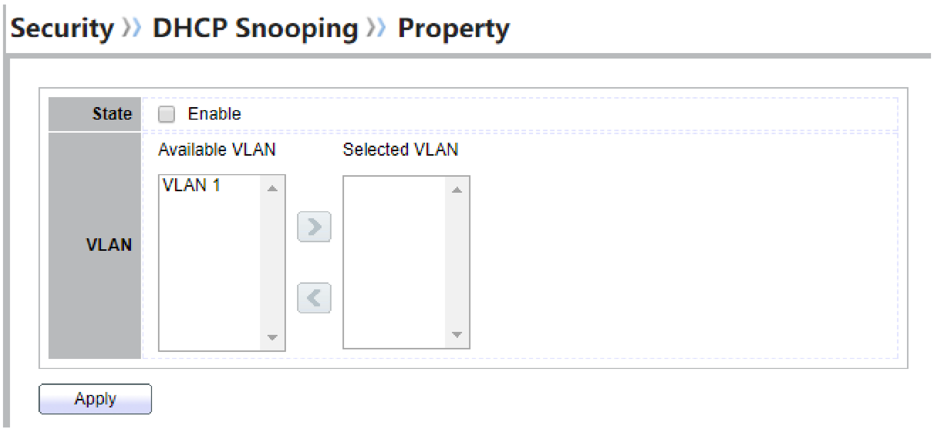
10.11. DHCP Snooping

Use the DHCP Snooping pages to configure settings of DHCP Snooping

10.11.1. Property

To display property page, click **Security > DHCP Snooping > Property**

This page allow user to configure global and per interface settings of DHCP Snooping.



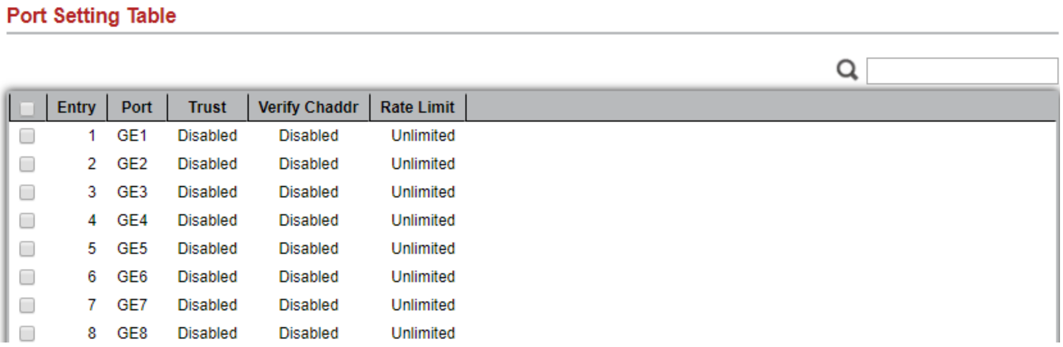
Security » DHCP Snooping » Property

State	□ Enable
VLAN	Available VLAN: VLAN 1 Selected VLAN:

Figure 10-37 Property Page

Field	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.

Table 10-37 Property Fields



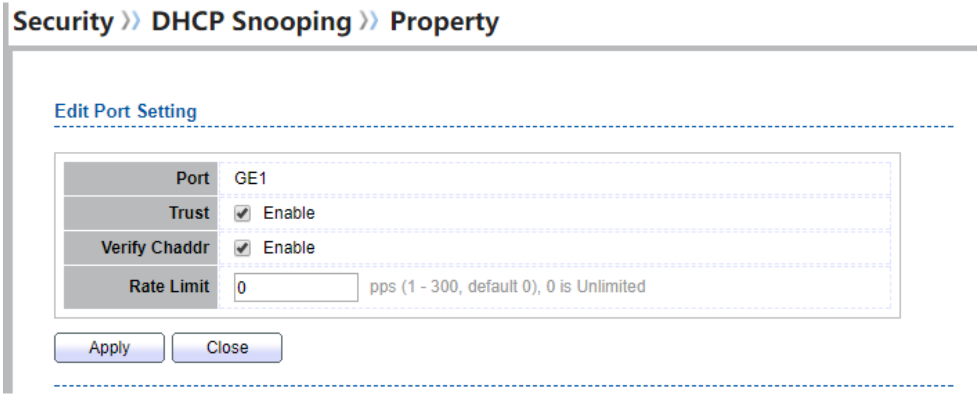
Port Setting Table

□	Entry	Port	Trust	Verify Chaddr	Rate Limit
□	1	GE1	Disabled	Disabled	Unlimited
□	2	GE2	Disabled	Disabled	Unlimited
□	3	GE3	Disabled	Disabled	Unlimited
□	4	GE4	Disabled	Disabled	Unlimited
□	5	GE5	Disabled	Disabled	Unlimited
□	6	GE6	Disabled	Disabled	Unlimited
□	7	GE7	Disabled	Disabled	Unlimited
□	8	GE8	Disabled	Disabled	Unlimited

Figure 10-38 Property Port Page

Field	Description
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.

Table 10-38 Property Port Fields



Security ›› DHCP Snooping ›› Property

Edit Port Setting

Port	GE1
Trust	☑ Enable
Verify Chaddr	☑ Enable
Rate Limit	0 pps (1 - 300, default 0), 0 is Unlimited

Figure 10-39 Edit Property Port Dialog

Field	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 chaddr validation of interface. All DHCP packets will be checked whether client hardware mac address is same as source mac in Ethernet header if enable chaddr

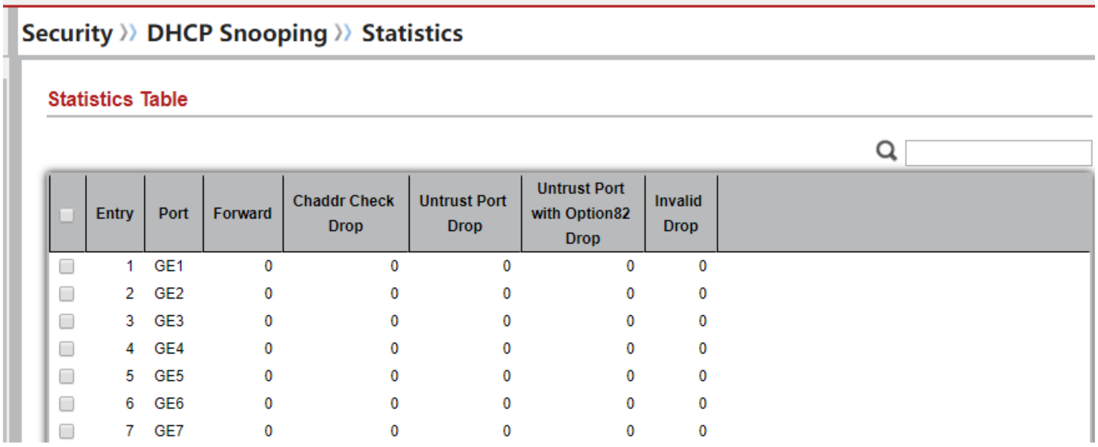
	validation. Default is disabled.
Rate Limit	Input rate limitation of DHCP packets. The unit is pps. 0 means unlimited. Default is unlimited.

le 10-39 Edit Property Port Fields

10.11.2. Statistics

To display Statistics page, click **Security > DHCP Snooping > Statistic**

This page allow user to browse all statistics that recorded by DHCP snooping function.



Security » DHCP Snooping » Statistics

Statistics Table

☐	Entry	Port	Forward	Chaddr Check Drop	Untrust Port Drop	Untrust Port with Option82 Drop	Invalid Drop
☐	1	GE1	0	0	0	0	0
☐	2	GE2	0	0	0	0	0
☐	3	GE3	0	0	0	0	0
☐	4	GE4	0	0	0	0	0
☐	5	GE5	0	0	0	0	0
☐	6	GE6	0	0	0	0	0
☐	7	GE7	0	0	0	0	0

Figure 10-40 DHCP Snooping Statistics Page

Field	Description
Port	Display port ID
Forwarded	Display how 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 Drop	Display how many packets dropped by untrusted port with option82 checking.

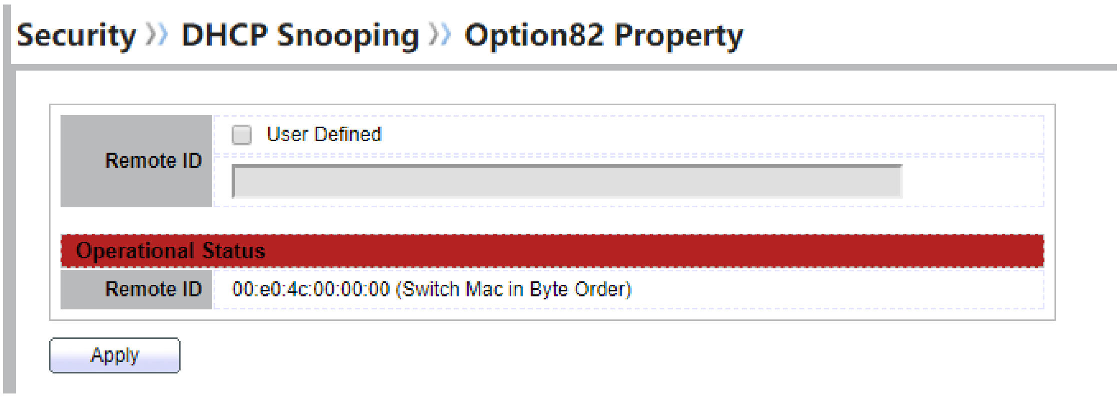
Invalid Drop	Display how many packets dropped by invalid checking.

Table 10-40 Statistics Fields

10.11.3. Option82 Property

To display Option82 Property page, click **Security > DHCP Snooping > Option82 Property**

This page allow user to set string of DHCP option82 remote ID filed. The string will attach in option82 if option inserted.



Security » DHCP Snooping » Option82 Property

Remote ID	□ User Defined

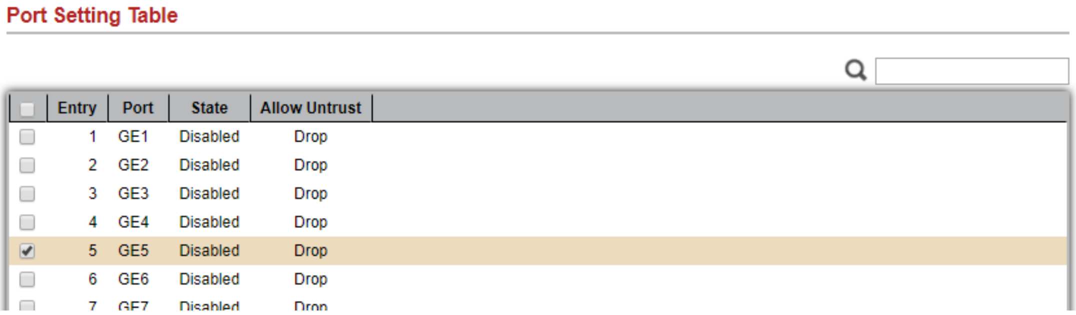
Operational Status

Remote ID	00:e0:4c:00:00:00 (Switch Mac in Byte Order)

Figure 10-41 Option82 Property Page

Field	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

Table 10-41 DHCP Snooping Option82 Fields



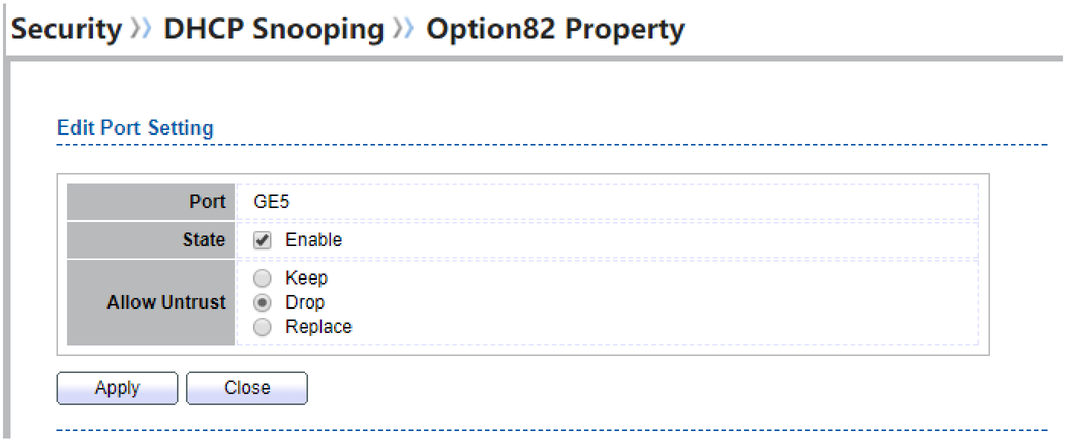
Port Setting Table

□	Entry	Port	State	Allow Untrust
□	1	GE1	Disabled	Drop
□	2	GE2	Disabled	Drop
□	3	GE3	Disabled	Drop
□	4	GE4	Disabled	Drop
☑	5	GE5	Disabled	Drop
□	6	GE6	Disabled	Drop
□	7	GE7	Disabled	Drop

Figure 10-42 Option82 Port Page

Field	Description
Port	Display port ID
Enable	Display option82 enable/disable status of interface
Allow untrusted	Display allow untrusted action of interface

Table 10-42 Option82 Port Fields



Port	GE5
State	☑ Enable
Allow Untrust	○ Keep ● Drop ○ Replace

Figure 10-43 Edit Option82 Port Dialog

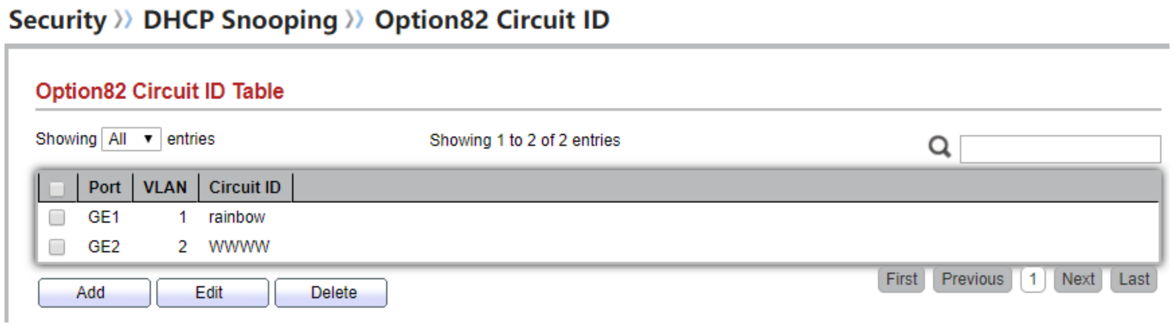
Field	Description
Port	Display selected port to be edited
State	Set checkbox to enable/disable option82 function of interface
Allow untrusted	Select the action perform when untrusted port receive DHCP packet has option82 filed. Default is drop. • **Keep**: Keep original option82 content. • **Replace**: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

Table 10-43 Edit Option82 Port Fields

10.11.4. Option82 Circuit ID

To display Option82 Circuit ID page, click **Security > DHCP Snooping > 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.


Security » DHCP Snooping » Option82 Circuit ID
Option82 Circuit ID Table
Add
Edit
Delete
First
Previous
1
Next
Last

Showing All entries

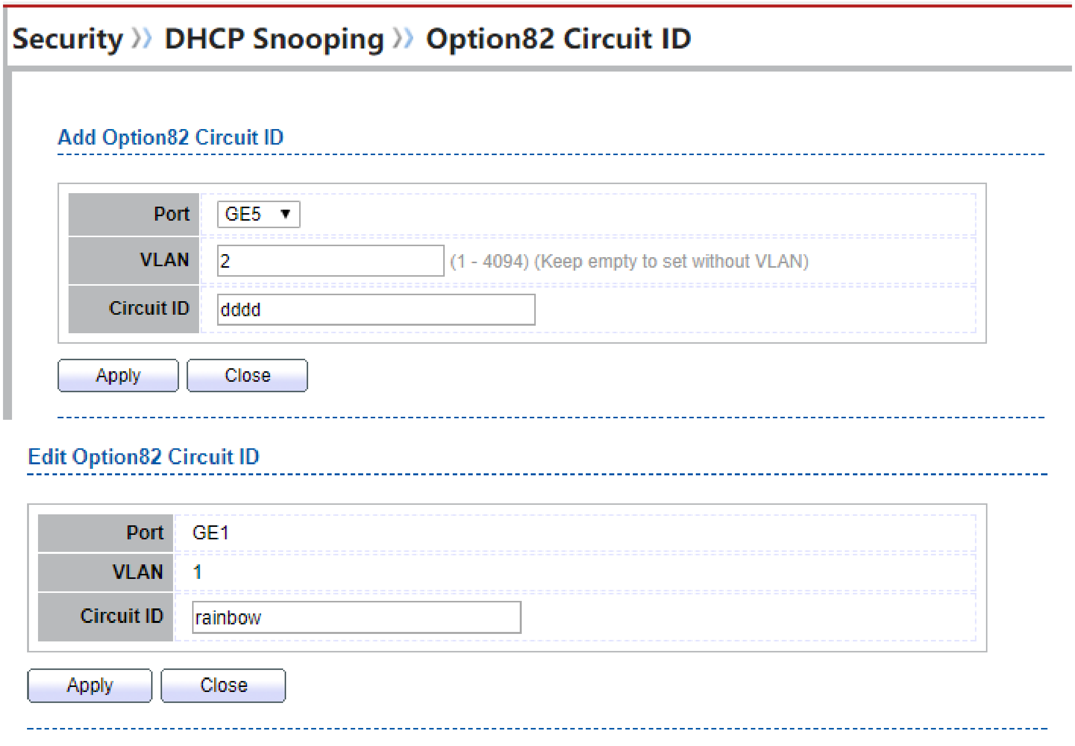
Showing 1 to 2 of 2 entries

□	Port	VLAN	Circuit ID
□	GE1	1	rainbow
□	GE2	2	WWWW

Figure 10-44 Option82 Circuit ID Page

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

Table 10-44 Option82 Circuit ID Fields



Add Option82 Circuit ID

Port	GE5
VLAN	2 (1 - 4094) (Keep empty to set without VLAN)
Circuit ID	dddd

Edit Option82 Circuit ID

Port	GE1
VLAN	1
Circuit ID	rainbow

Figure 10-45 Add and Edit Option82 Circuit ID Dialog

Field	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.

Table 10-45 Option82 Circuit ID Fields

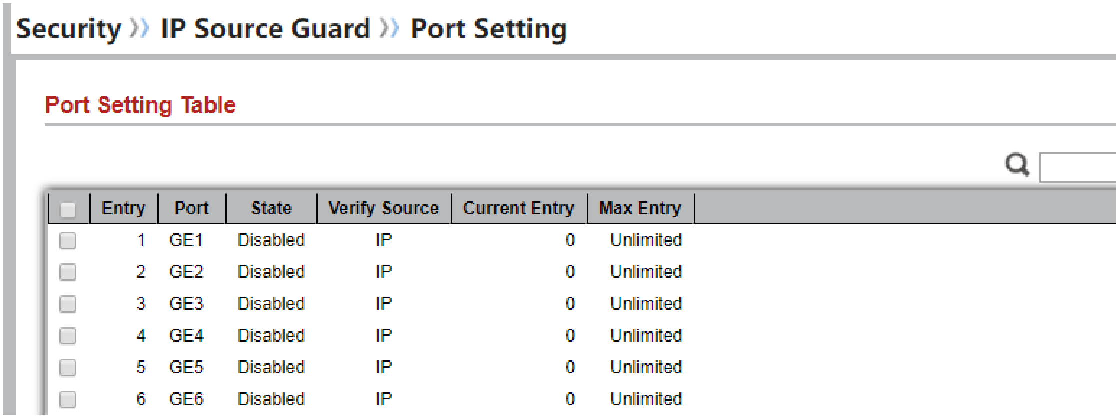
10.12. IP Source Guard

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

10.12.1. Port Setting

To display Port Setting page, click **Security > IP Source Guard > Port Setting**

This page allow user to configure per port settings of IP Source Guard.



Security » IP Source Guard » Port Setting

Port Setting Table

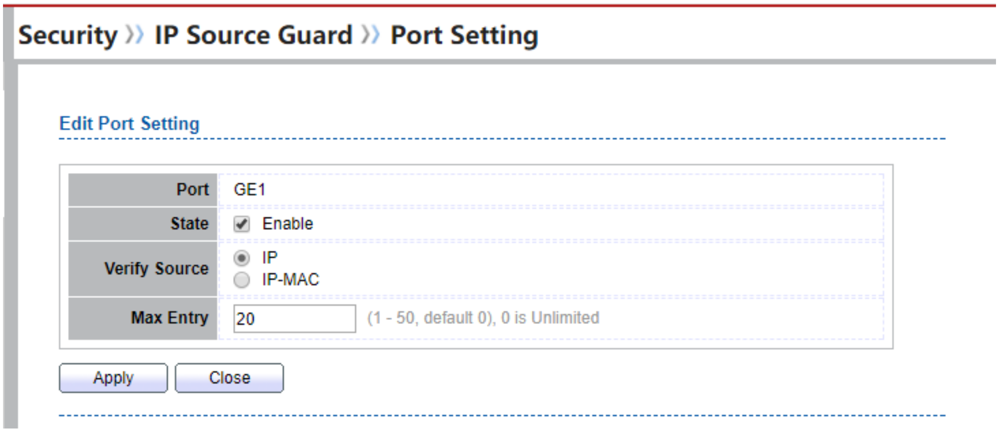
□	Entry	Port	State	Verify Source	Current Entry	Max Entry
□	1	GE1	Disabled	IP	0	Unlimited
□	2	GE2	Disabled	IP	0	Unlimited
□	3	GE3	Disabled	IP	0	Unlimited
□	4	GE4	Disabled	IP	0	Unlimited
□	5	GE5	Disabled	IP	0	Unlimited
□	6	GE6	Disabled	IP	0	Unlimited

Figure 10-46 Port Setting Page

Field	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

Table 10-46 Port Setting Fields



Security >> IP Source Guard >> Port Setting

Edit Port Setting

Port	GE1
State	☑ Enable
Verify Source	● IP ○ IP-MAC
Max Entry	20 (1 - 50, default 0), 0 is Unlimited

Figure 10-47 Edit Port Setting Dialog

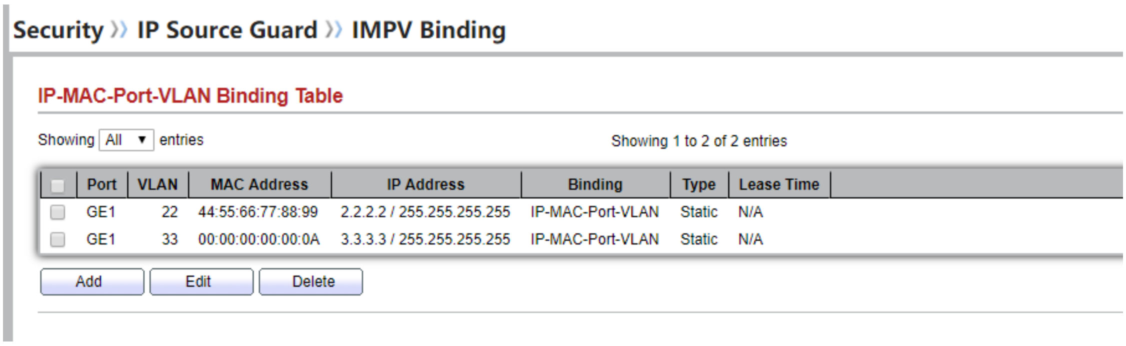
Field	Description
Port	Display selected port to be edited.
Status	Set checkbox to enable or disable IP Source Guard function. Default is disabled
Verify Source	Select the mode of IP Source Guard verification • **IP:** Only verify source IP address of packet • **IP-MAC:** Verify source IP and source MAC address of packet
Max Binding 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.

Table 10-47 Edit Port Setting Fields

10.12.2. IMPV Binding

To display IPMV Binding page, click **Security > IP Source Guard > 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.



Security » IP Source Guard » IMPV Binding

IP-MAC-Port-VLAN Binding Table

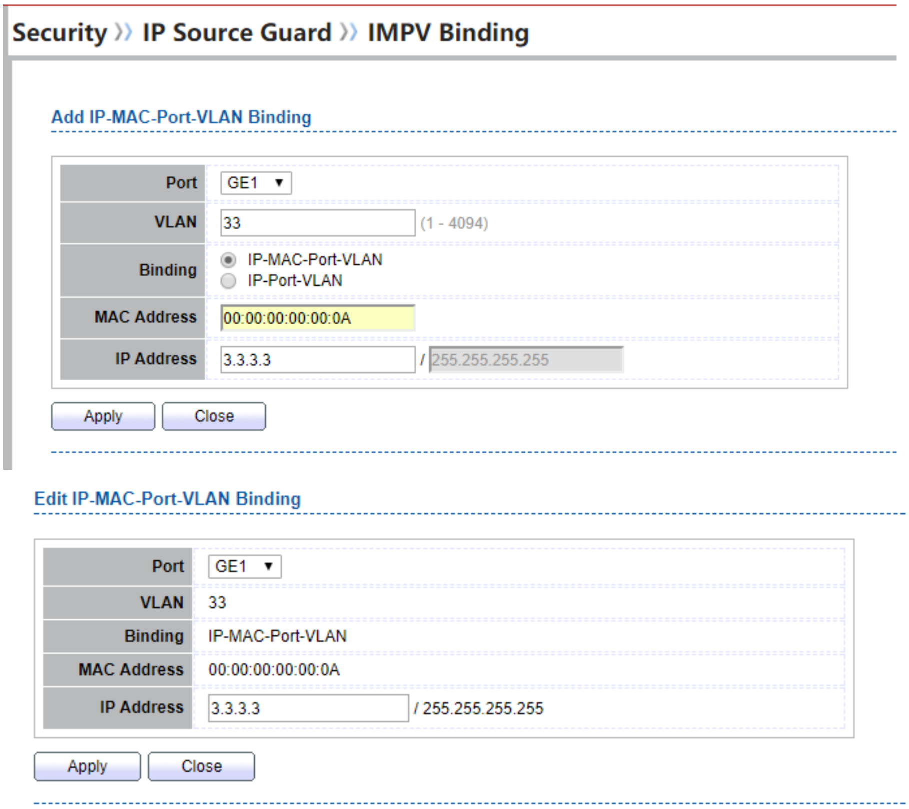
Showing All ▾ entries Showing 1 to 2 of 2 entries

□	Port	VLAN	MAC Address	IP Address	Binding	Type	Lease Time
□	GE1	22	44:55:66:77:88:99	2.2.2.2 / 255.255.255.255	IP-MAC-Port-VLAN	Static	N/A
□	GE1	33	00:00:00:00:00:0A	3.3.3.3 / 255.255.255.255	IP-MAC-Port-VLAN	Static	N/A

Figure 10-48 IPMV Binding Page

Field	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.

Table 10-48 IPMV Binding Fields



Security » IP Source Guard » IMPV Binding

Add IP-MAC-Port-VLAN Binding

Port	GE1 ▾
VLAN	33 (1 - 4094)
Binding	● IP-MAC-Port-VLAN ○ IP-Port-VLAN
MAC Address	00:00:00:00:00:0A
IP Address	3.3.3.3 / 255.255.255.255

Edit IP-MAC-Port-VLAN Binding

Port	GE1 ▾
VLAN	33
Binding	IP-MAC-Port-VLAN
MAC Address	00:00:00:00:00:0A
IP Address	3.3.3.3 / 255.255.255.255

Figure 10-49 Add and Edit IPMV Binding Dialog

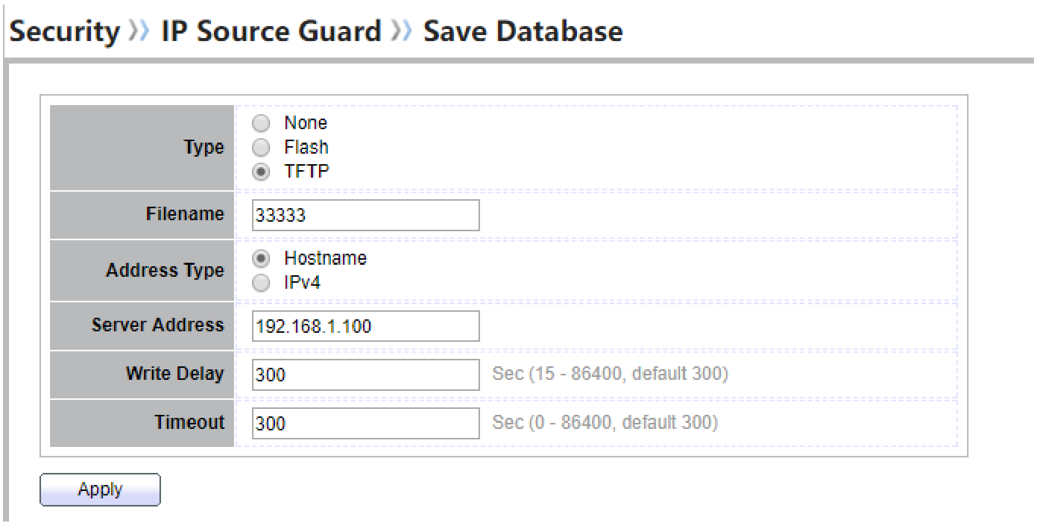
Field	Description
Port	Select port from list of a binding entry.
VLAN	Specify a VLAN ID of a binding entry
Binding	Select matching mode of binding entry • **IP-MAC-Port-VLAN:** packet must match IP address 、 MAC address、 Port and VLAN ID. • **IP-Port-VLAN:** packet must match IP address or subnet 、 Port 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.

Table 10-49 Add and Edit IPMV Binding Fields

10.12.3. Save Database

To display Save Database page, click **Security > DHCP Snooping > Save Database**

This page allow user to configure DHCP snooping database which can backup and restore dynamic DHCP snooping entries.



Security » IP Source Guard » Save Database

Type	○ None ○ Flash ● TFTP
Filename	33333
Address Type	● Hostname ○ IPv4
Server Address	192.168.1.100
Write Delay	300 Sec (15 - 86400, default 300)
Timeout	300 Sec (0 - 86400, default 300)

Figure 10-50 Save Database Page

Field	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.

Table 10-50 Save Database Fields

11. ACL

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

11.1. MAC ACL

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

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

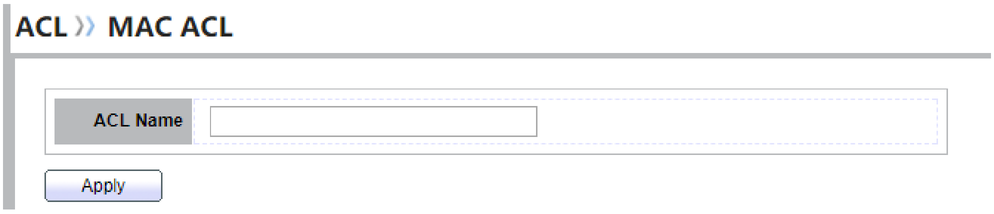
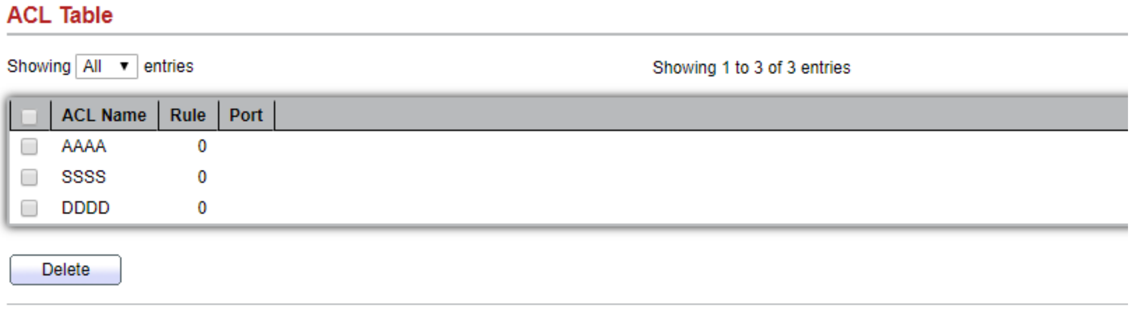


Figure 11-1 MAC ACL Page

Field	Description
ACL Name	Input MAC ACL name

Table 11-1 MAC ACL Fields


ACL Table

Showing All entries

Showing 1 to 3 of 3 entries

□	ACL Name	Rule	Port
□	AAAA	0	
□	SSSS	0	
□	DDDD	0	

Figure 11-2 MAC ACL Table Page

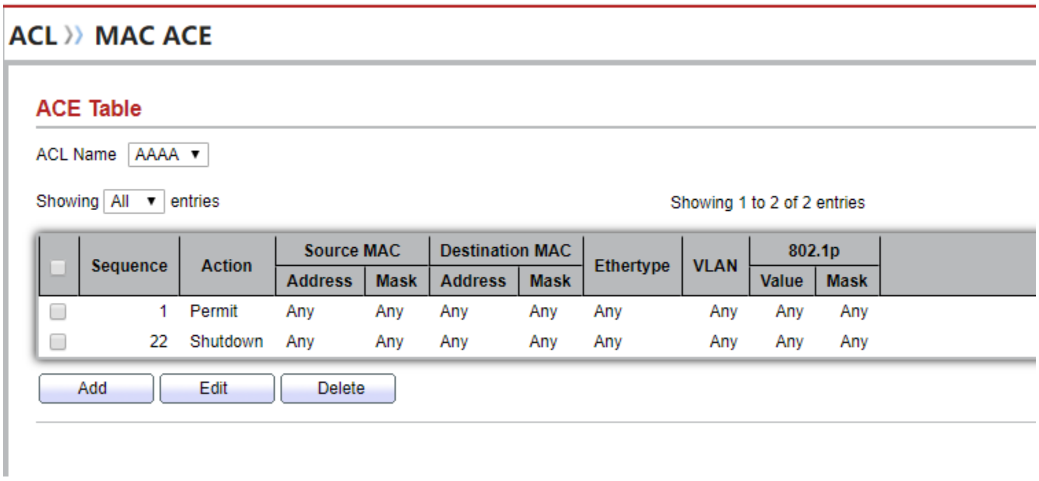
Field	Description
ACL Name	Display MAC ACL name
Rule	Display the number ACE rule of ACL
Port	Display the port list that bind this ACL

Table 11-2 MAC ACL Table Fields

11.2. MAC ACE

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



ACL » MAC ACE

ACE Table

ACL Name AAAA ▾

Showing All ▾ entries

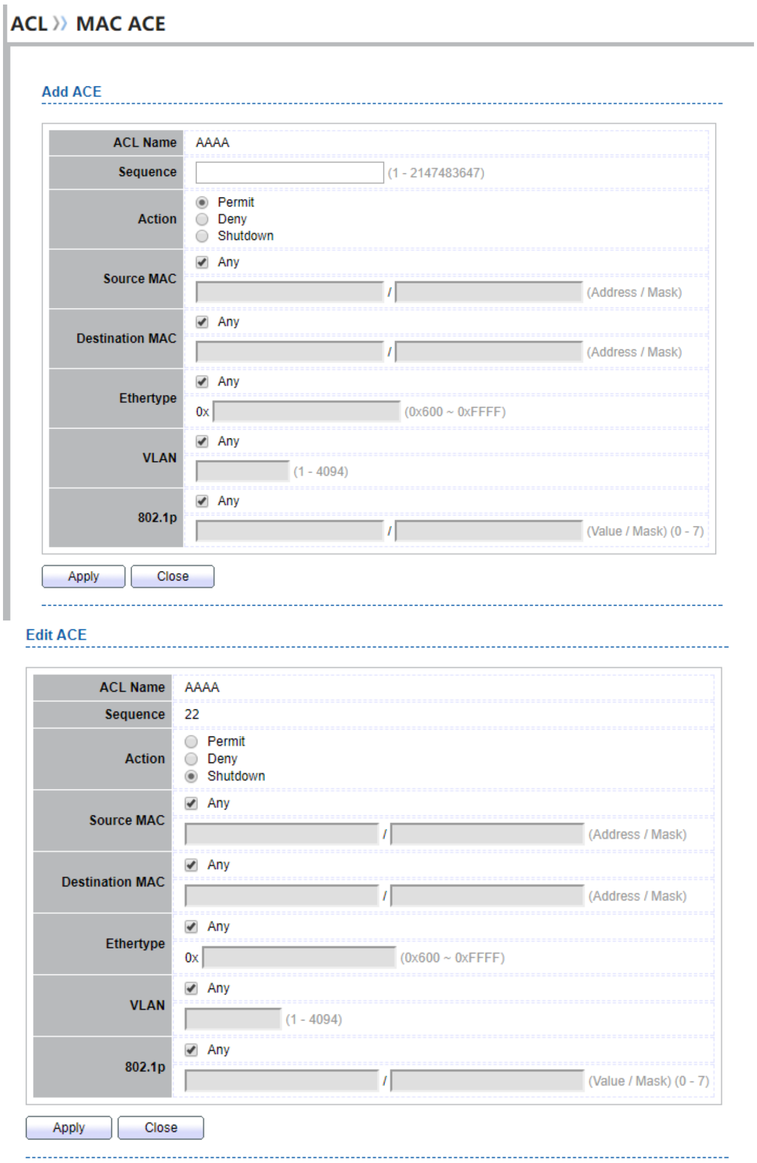
Showing 1 to 2 of 2 entries

□	Sequence	Action	Source MAC		Destination MAC		Ethertype	VLAN	802.1p	
			Address	Mask	Address	Mask			Value	Mask
□	1	Permit	Any	Any	Any	Any	Any	Any	Any	Any
□	22	Shutdown	Any	Any	Any	Any	Any	Any	Any	Any

Figure 11-3 MAC ACE Page

Field	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.

Table 11-3 MAC ACE Fields



ACL » MAC ACE

Add ACE

ACL Name	AAAA
Sequence	(1 - 2147483647)
Action	● Permit ○ Deny ○ Shutdown
Source MAC	☑ Any / (Address / Mask)
Destination MAC	☑ Any / (Address / Mask)
Ethertype	☑ Any 0x (0x600 ~ 0xFFFF)
VLAN	☑ Any (1 - 4094)
802.1p	☑ Any / (Value / Mask) (0 - 7)

Edit ACE

ACL Name	AAAA
Sequence	22
Action	○ Permit ○ Deny ● Shutdown
Source MAC	☑ Any / (Address / Mask)
Destination MAC	☑ Any / (Address / Mask)
Ethertype	☑ Any 0x (0x600 ~ 0xFFFF)
VLAN	☑ Any (1 - 4094)
802.1p	☑ Any / (Value / Mask) (0 - 7)

Figure 11-4 Add and Edit MAC ACE Dialog

Field	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 ID	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.

Table 11-4 Add and Edit MAC ACE Fields

11.3. IPv4 ACL

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

This page allow user to add or delete Ipv4 ACL rule. A rule cannot be deleted if under binding.

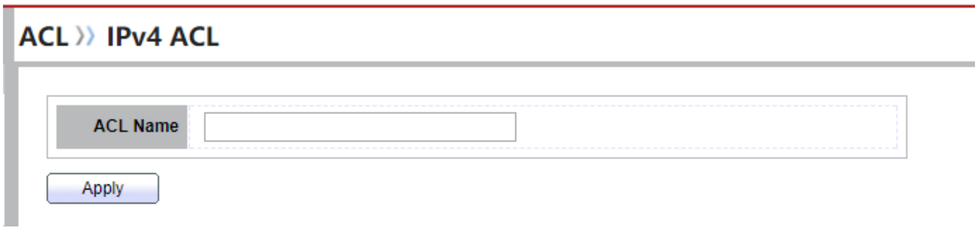
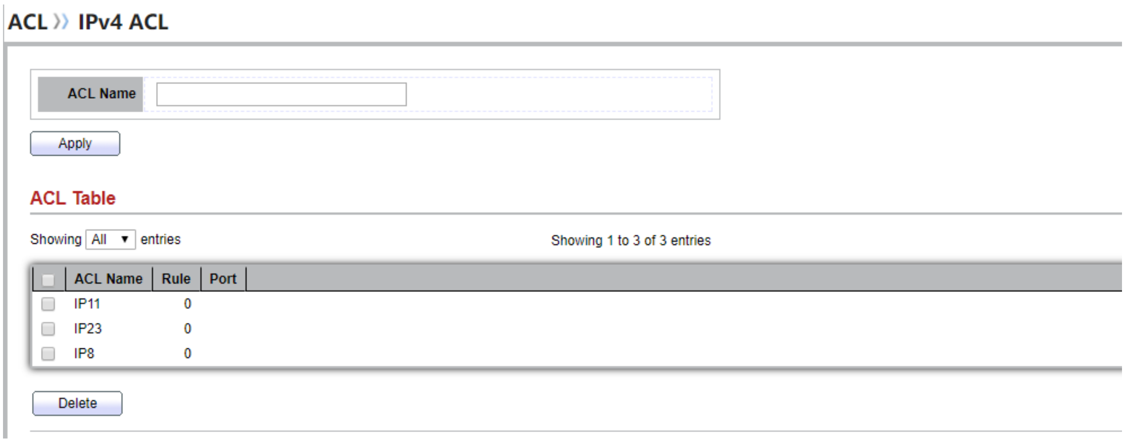


Figure 11-5 IPv4 ACL Page

Field	Description
ACL Name	Input IPv4 ACL name

Table 11-5 IPv4 ACL Fields



□	ACL Name	Rule	Port
□	IP11	0	
□	IP23	0	
□	IP8	0	

Figure 11-6 IPv4 ACL Table Page

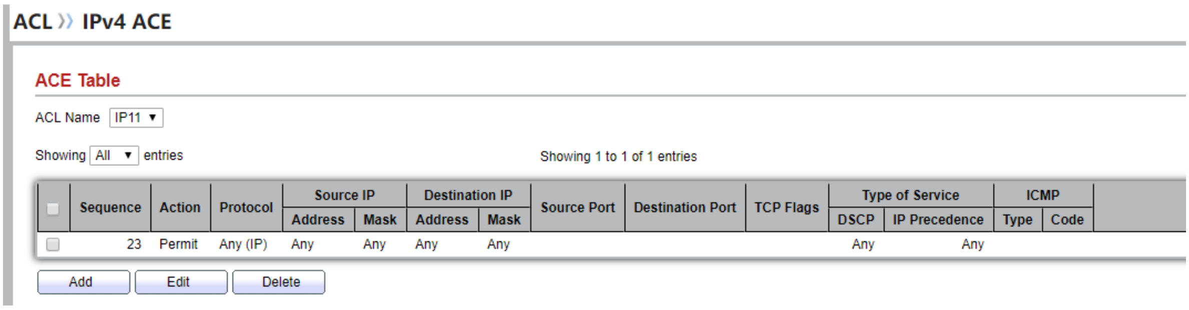
Field	Description
ACL Name	Display IPv4 ACL name
Rule	Display the number ACE rule of ACL
Port	Display the port list that bind this ACL

Table 11-6 IPv4 ACL Table Fields

11.4. IPv4 ACE

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



ACL » IPv4 ACE

ACE Table

ACL Name IP11 ▼

Showing All ▼ entries

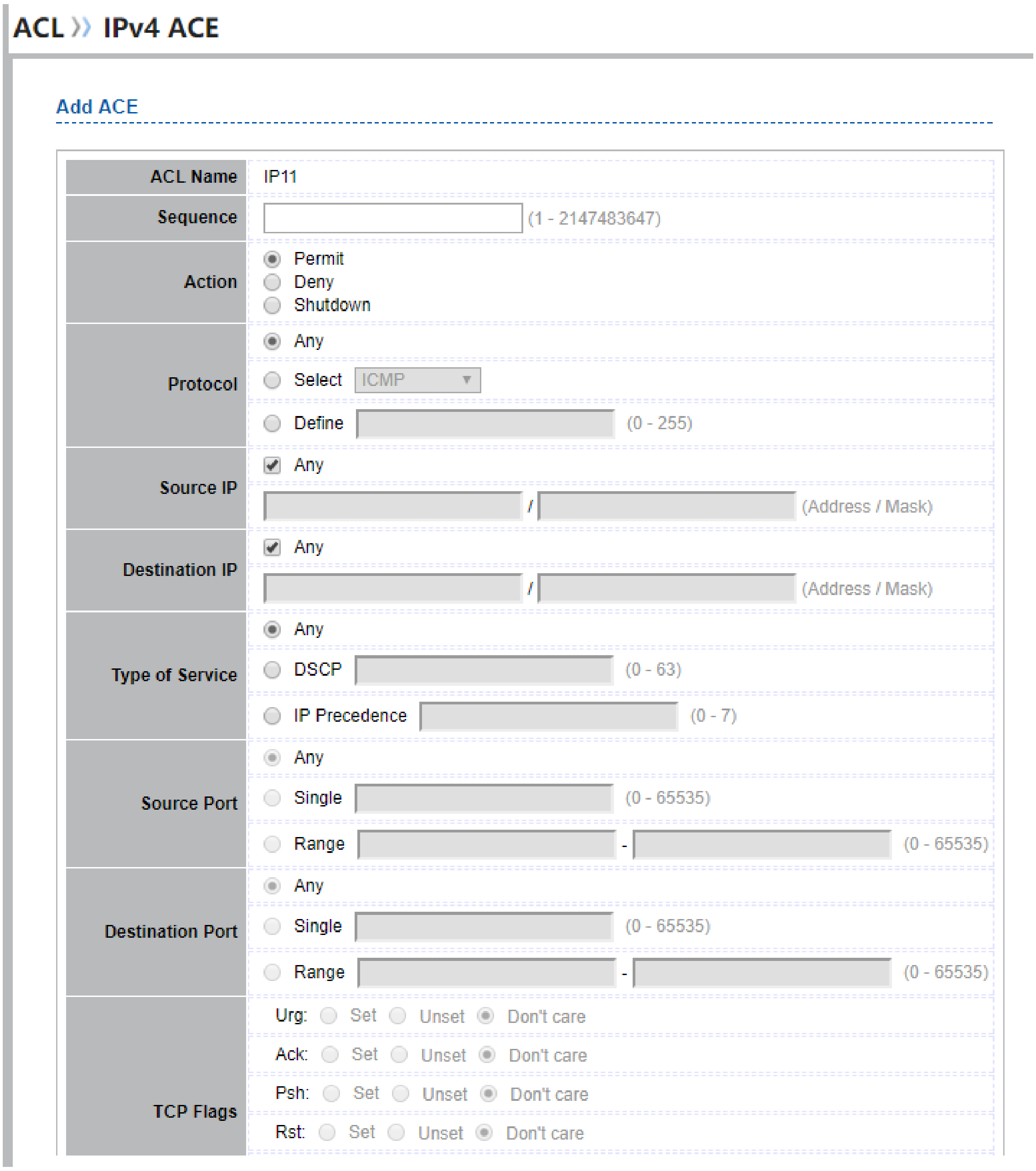
Showing 1 to 1 of 1 entries

□	Sequence	Action	Protocol	Source IP		Destination IP		Source Port	Destination Port	TCP Flags	Type of Service		ICMP	
				Address	Mask	Address	Mask				DSCP	IP Precedence	Type	Code
□	23	Permit	Any (IP)	Any	Any	Any	Any				Any	Any		

Figure 11-7 IPv4 ACE Page

Field	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

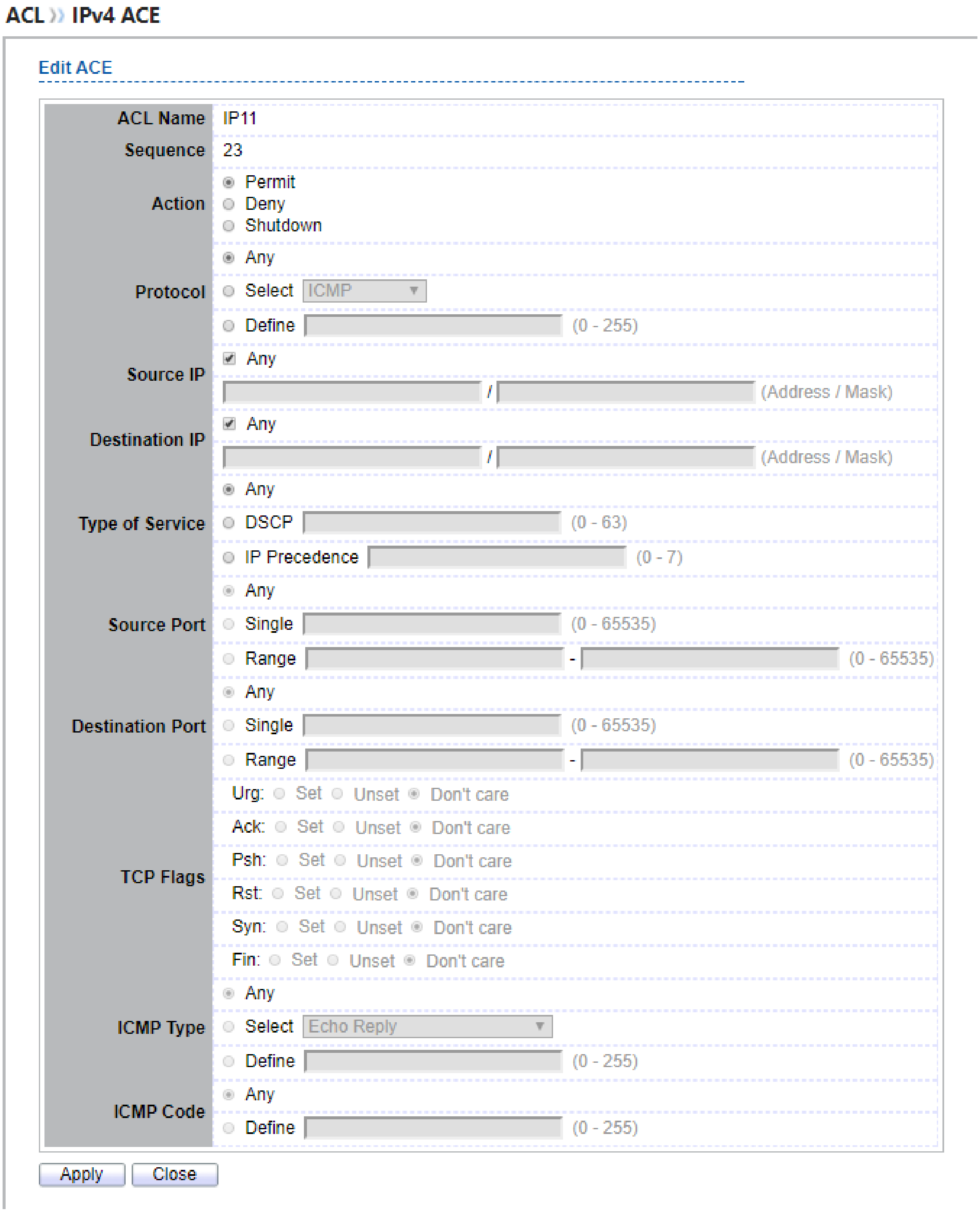
Table 11-7 IPv4 ACL Fields



ACL » IPv4 ACE

Add ACE

ACL Name	IP11
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



ACL » IPv4 ACE

Edit ACE

ACL Name	IP11
Sequence	23
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)

Figure 11-8 Add and Edit IPv4 ACE Dialog

Field	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 for a match. • **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) • **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.

Table 11-8 Add and Edit IPv4 ACL Fields

11.5. IPv6 ACL

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

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

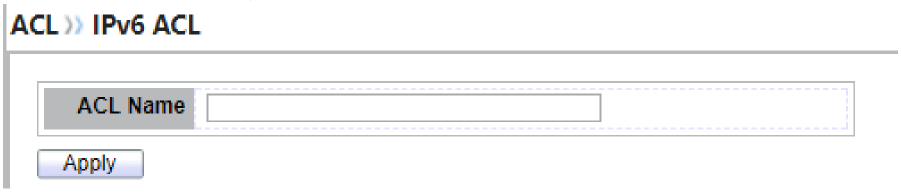
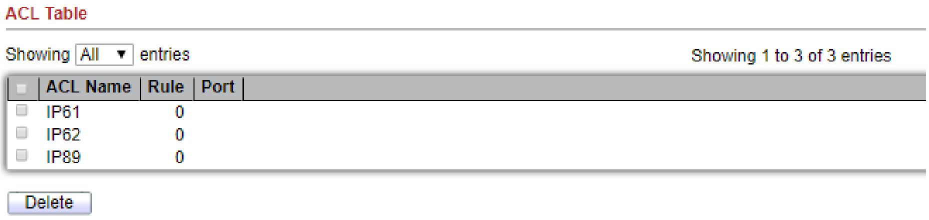


Figure 11-9 IPv6 ACL Page

Field	Description
ACL Name	Input IPv6 ACL name

Table 11-9 IPv6 ACL Fields



ACL Table

Showing All ▾ entries Showing 1 to 3 of 3 entries

□	ACL Name	Rule	Port
□	IP61	0	
□	IP62	0	
□	IP89	0	

Figure 11-10 IPv6 ACL Table Page

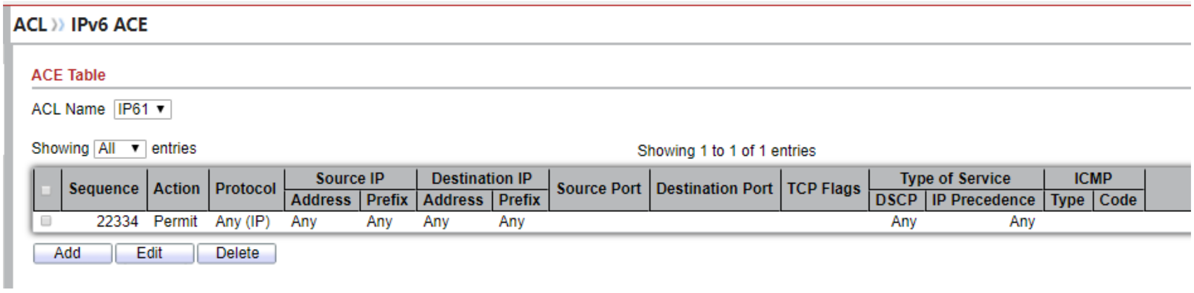
Field	Description
ACL Name	Display IPv6 ACL name
Rule	Display the number ACE rule of ACL
Port	Display the port list that bind this ACL

Table 11-10 IPv6 ACL Table Fields

11.6. IPv6 ACE

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



ACL » IPv6 ACE

ACE Table

ACL Name IP61 ▾

Showing All ▾ entries Showing 1 to 1 of 1 entries

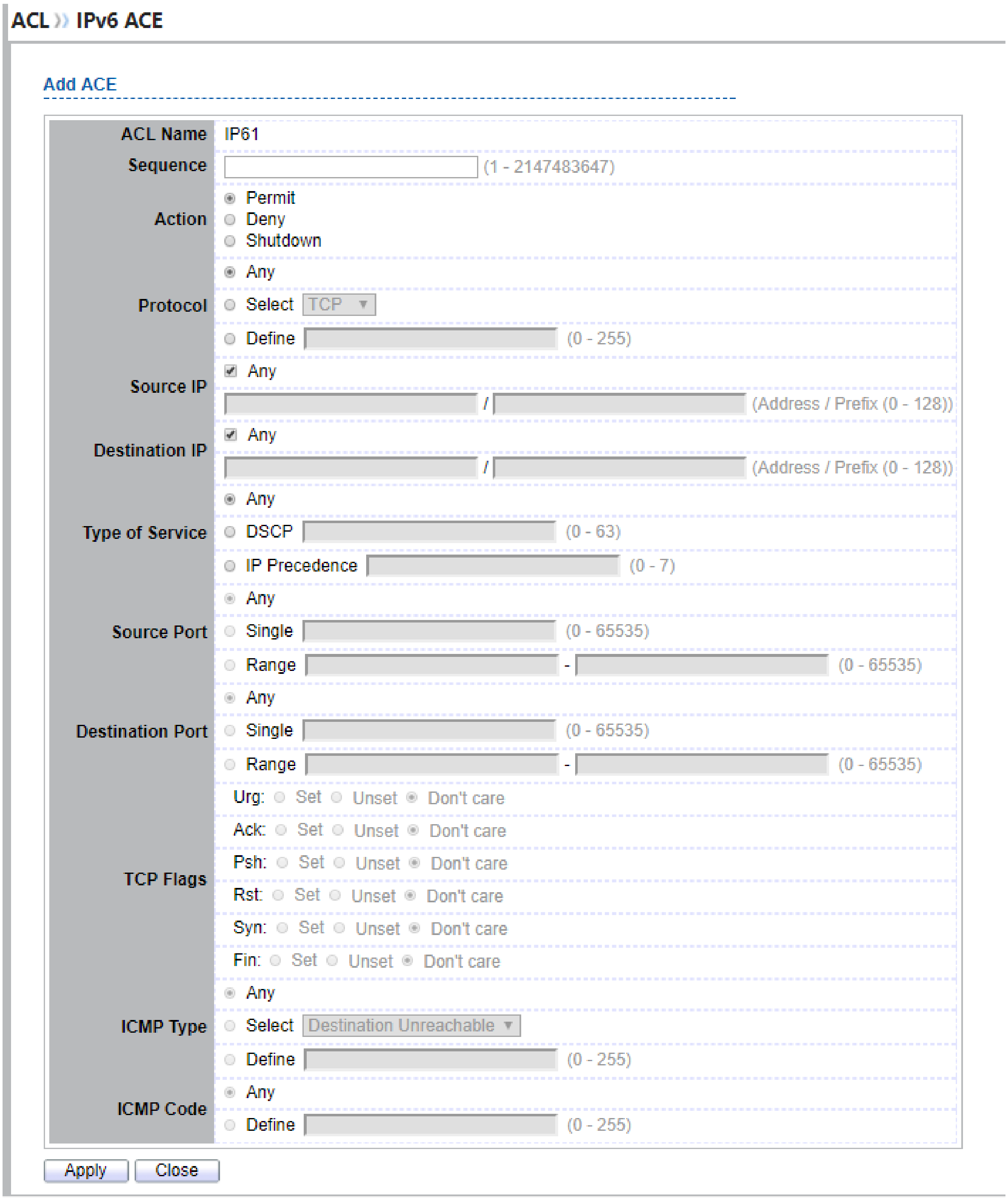
□	Sequence	Action	Protocol	Source IP		Destination IP		Source Port	Destination Port	TCP Flags	Type of Service		ICMP	
				Address	Prefix	Address	Prefix				DSCP	IP Precedence	Type	Code
□	22334	Permit	Any (IP)	Any	Any	Any	Any				Any	Any		

Figure 11-11 IPv6 ACE Page

Field	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 prefix of ACE
Destination IP	Display the destination IP address and prefix 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

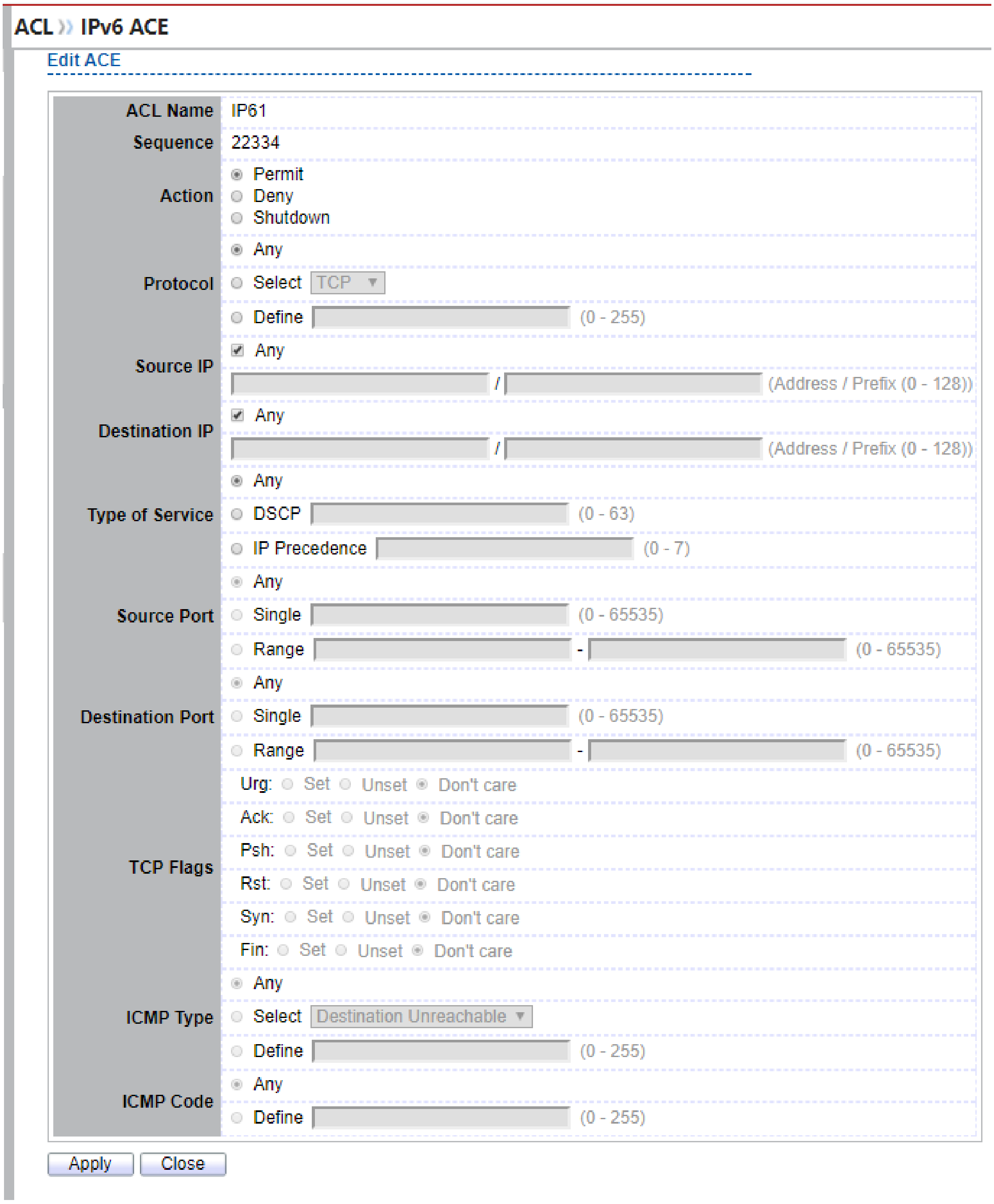
Table 11-11 IPv6 ACE Fields



ACL » IPv6 ACE

Add ACE

ACL Name	IP61
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)



ACL » IPv6 ACE

Edit ACE

ACL Name	IP61
Sequence	22334
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)

Figure 11-12 Add and Edit IPv6 ACE Dialog

Field	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 for a match. • **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 prefix length 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 prefix 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

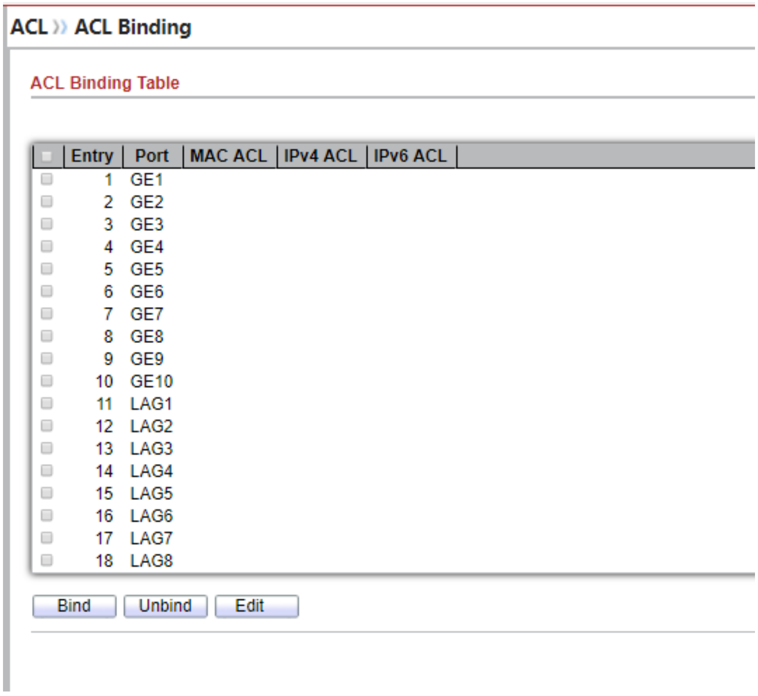
	matched. • **Range:** Select a range of TCP/UDP source ports to which the packet is matched. There are eight different port ranges that can be configured (shared between source and destination ports). TCP and UDP protocols each have eight port ranges.
TCP Flags	Select one or more TCP flags with which 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.

Table 11-12 Add and Edit IPv6 ACE Fields

11.7. ACL Binding

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



ACL » ACL Binding

ACL Binding Table

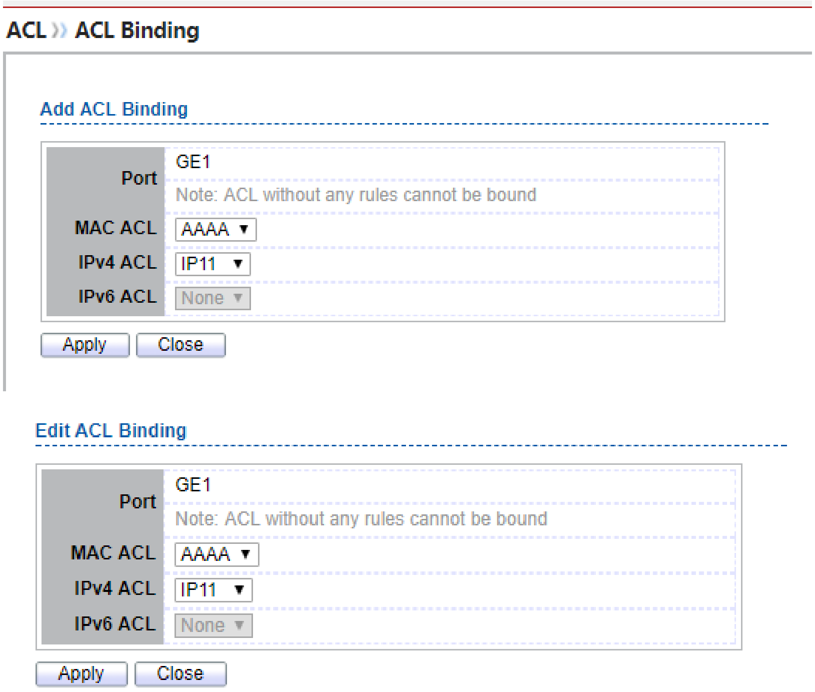
□	Entry	Port	MAC ACL	IPv4 ACL	IPv6 ACL
□	1	GE1			
□	2	GE2			
□	3	GE3			
□	4	GE4			
□	5	GE5			
□	6	GE6			
□	7	GE7			
□	8	GE8			
□	9	GE9			
□	10	GE10			
□	11	LAG1			
□	12	LAG2			
□	13	LAG3			
□	14	LAG4			
□	15	LAG5			
□	16	LAG6			
□	17	LAG7			
□	18	LAG8			

Figure 11-13 ACL Binding Page

Field	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.

Table 11-13 ACL Binding Fields



Add ACL Binding

Port	GE1 Note: ACL without any rules cannot be bound
MAC ACL	AAAA ▼
IPv4 ACL	IP11 ▼
IPv6 ACL	None ▼

Edit ACL Binding

Port	GE1 Note: ACL without any rules cannot be bound
MAC ACL	AAAA ▼
IPv4 ACL	IP11 ▼
IPv6 ACL	None ▼

Figure 11-14 Add and Edit ACL Binding Dialog

Field	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.

Table 11-14 Add and Edit ACL Binding Fields

12. QoS

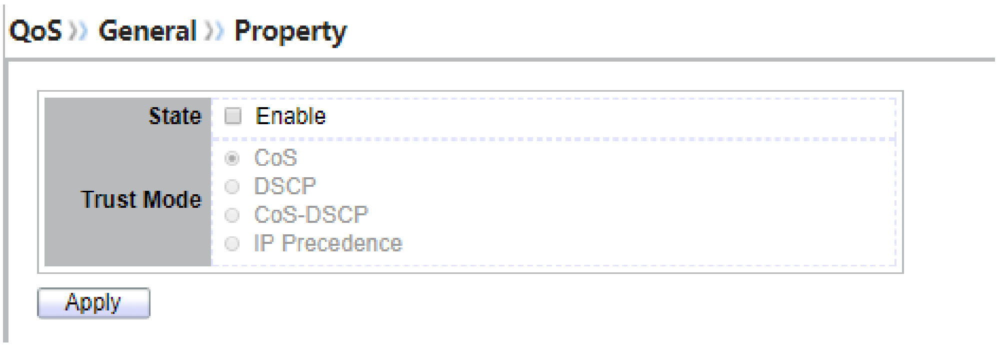
Use the QoS pages to configure settings for the switch QoS interface.

12.1. General

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

12.1.1. Property

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



QoS » General » Property

State	□ Enable
Trust Mode	● CoS ○ DSCP ○ CoS-DSCP ○ IP Precedence

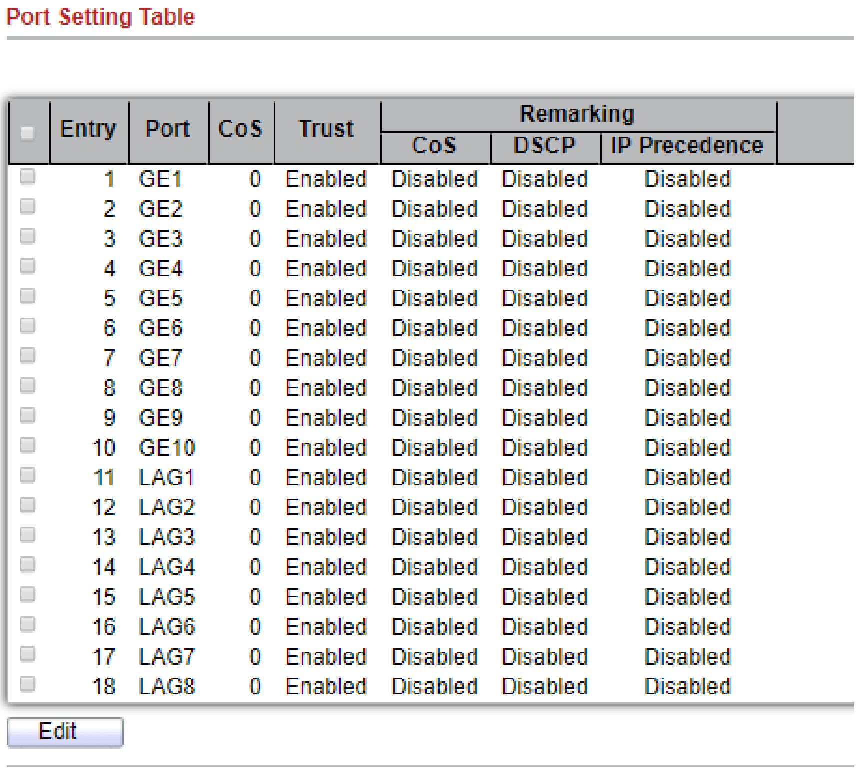
Apply

Figure 12-1 QoS Global Setting

Field	Description
State	Set checkbox to enable/disable QoS.
Trust Mode	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. • **DSCP:** All IP traffic is mapped to queues based on the DSCP field in the IP header. The actual mapping of the DSCP to queue can be configured on the DSCP mapping page. If traffic is not IP traffic, it is mapped to the best effort queue. • **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.

Table 12-1 QoS Global Setting Fields



Port Setting Table

□	Entry	Port	CoS	Trust	Remarking		
					CoS	DSCP	IP Precedence
□	1	GE1	0	Enabled	Disabled	Disabled	Disabled
□	2	GE2	0	Enabled	Disabled	Disabled	Disabled
□	3	GE3	0	Enabled	Disabled	Disabled	Disabled
□	4	GE4	0	Enabled	Disabled	Disabled	Disabled
□	5	GE5	0	Enabled	Disabled	Disabled	Disabled
□	6	GE6	0	Enabled	Disabled	Disabled	Disabled
□	7	GE7	0	Enabled	Disabled	Disabled	Disabled
□	8	GE8	0	Enabled	Disabled	Disabled	Disabled
□	9	GE9	0	Enabled	Disabled	Disabled	Disabled
□	10	GE10	0	Enabled	Disabled	Disabled	Disabled
□	11	LAG1	0	Enabled	Disabled	Disabled	Disabled
□	12	LAG2	0	Enabled	Disabled	Disabled	Disabled
□	13	LAG3	0	Enabled	Disabled	Disabled	Disabled
□	14	LAG4	0	Enabled	Disabled	Disabled	Disabled
□	15	LAG5	0	Enabled	Disabled	Disabled	Disabled
□	16	LAG6	0	Enabled	Disabled	Disabled	Disabled
□	17	LAG7	0	Enabled	Disabled	Disabled	Disabled
□	18	LAG8	0	Enabled	Disabled	Disabled	Disabled

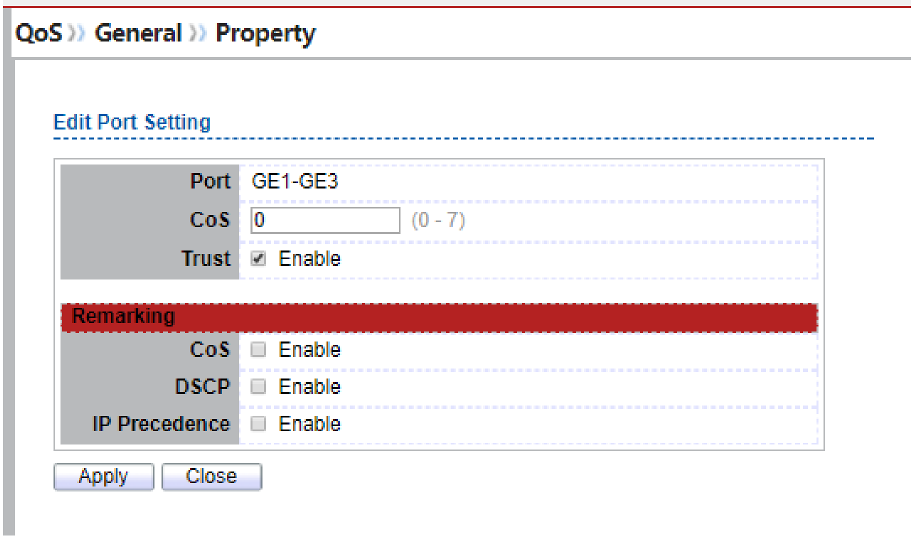
Figure 12-2 QoS Port Setting Table

Field	Description
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)	Port CoS remaking admin state • **Enabled:** CoS remarking is enabled • **Disabled:** CoS remarking is disabled

Remarking (DSCP)	Port DSCP remaking admin state • **Enabled:** DSCP remarking is enabled • **Disabled:** DSCP remarking is disabled

Remarking (IP PRecedence)	Port IP Precedence remaking admin state • **Enabled:** IP Precedence remarking is enabled • **Disabled:** IP Precedence remarking is disabled

Table 12-2 QoS Port Setting Table Fields



Edit Port Setting

Port	GE1-GE3
CoS	0 (0 - 7)
Trust	☑ Enable
Remarking	
CoS	□ Enable
DSCP	□ Enable
IP Precedence	□ Enable

Figure 12-3 Edit QoS Port Setting

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

Table 12-3 Edit QoS Port Setting Fields

12.1.2. Queue Scheduling

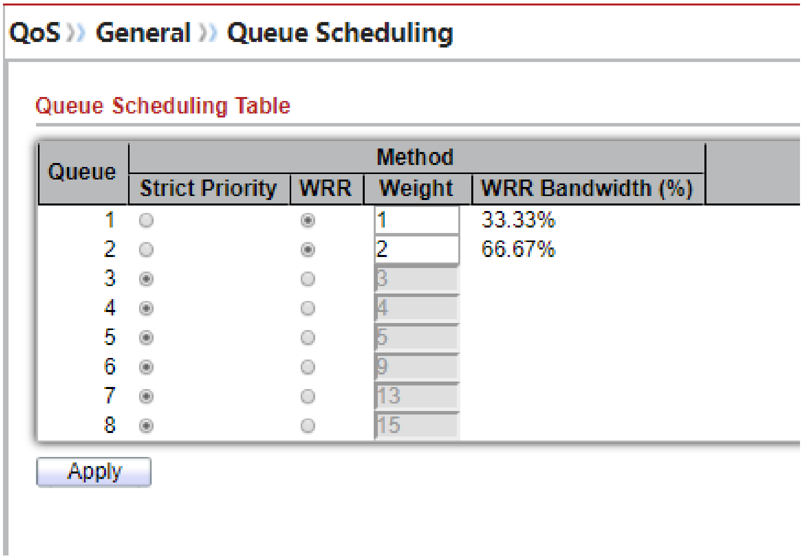
To display Queue Scheduling web page, click **QoS** > **General** > **Queue Scheduling**.

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).



Queue Scheduling Table

Queue	Method			
	Strict Priority	WRR	Weight	WRR Bandwidth (%)
1	○	●	1	33.33%
2	○	●	2	66.67%
3	●	○	3	
4	●	○	4	
5	●	○	5	
6	●	○	9	
7	●	○	13	
8	●	○	15	

Figure 12-4: Queue Scheduling Table

Field	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

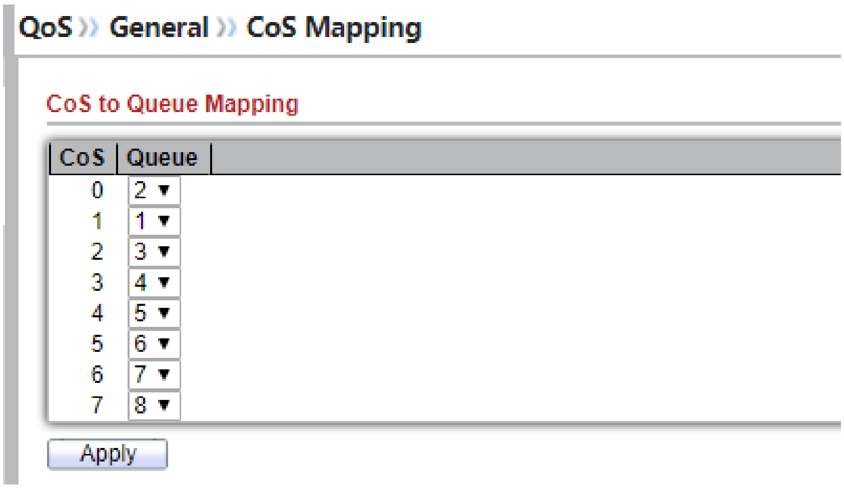
Table 12-4: Queue Scheduling Table fields.

12.1.3. CoS Mapping

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



QoS » General » CoS Mapping

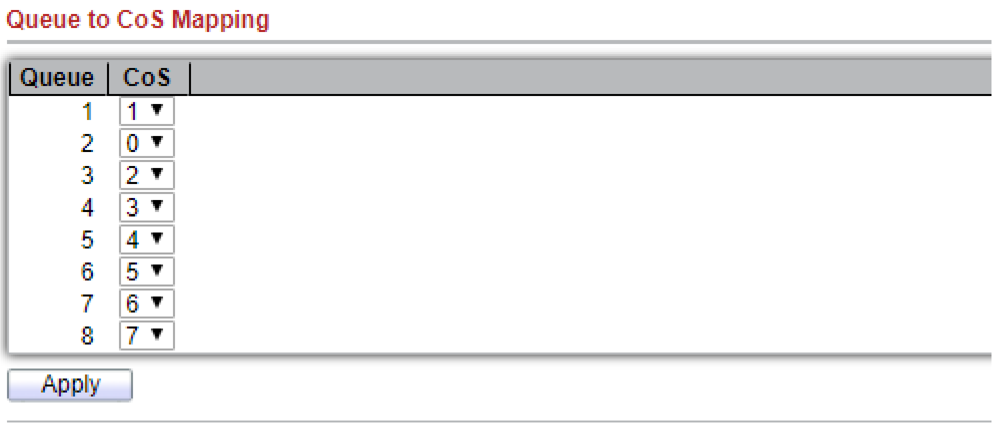
CoS to Queue Mapping

CoS	Queue
0	2 ▾
1	1 ▾
2	3 ▾
3	4 ▾
4	5 ▾
5	6 ▾
6	7 ▾
7	8 ▾

Figure 12-5 CoS to Queue Mapping Table

Field	Description
CoS	CoS value
Queue	Select queue id for the CoS value

Table 12-5 CoS to Queue Mapping Table Fields



Queue to CoS Mapping

Queue	CoS
1	1 ▼
2	0 ▼
3	2 ▼
4	3 ▼
5	4 ▼
6	5 ▼
7	6 ▼
8	7 ▼

Figure 12-6 Queue to CoS Mapping Table

Field	Description
Queue	Queue ID
Cos	Select CoS value for the queue id

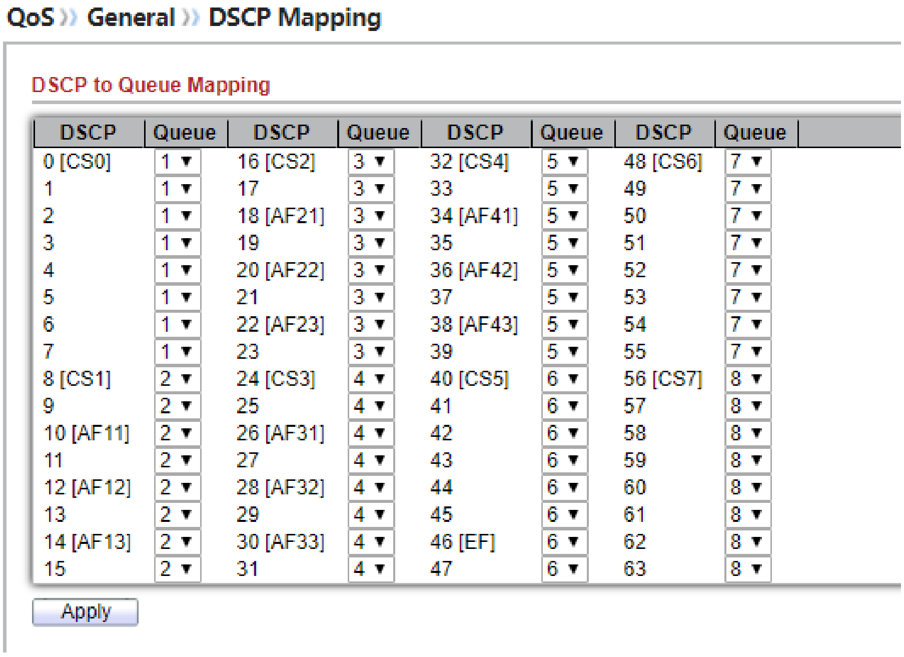
Table 12-6 Queue to CoS Mapping Table Fields

12.1.4. DSCP Mapping

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



QoS » General » DSCP Mapping

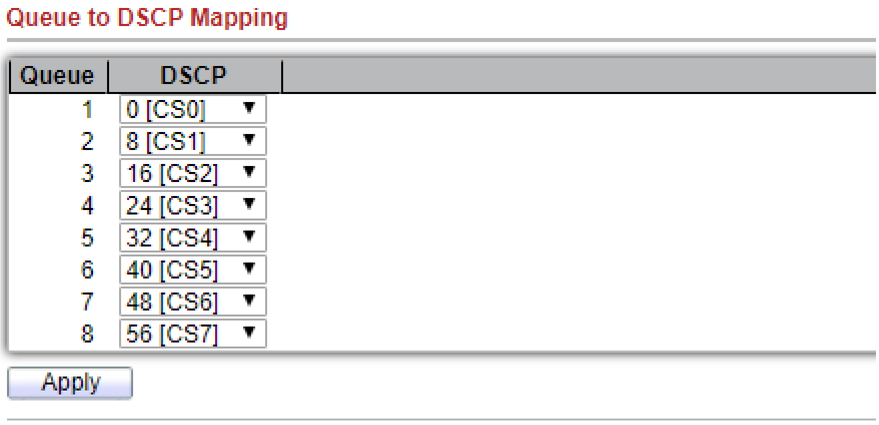
DSCP to Queue Mapping

DSCP	Queue	DSCP	Queue	DSCP	Queue	DSCP	Queue
0 [CS0]	1	16 [CS2]	3	32 [CS4]	5	48 [CS6]	7
1	1	17	3	33	5	49	7
2	1	18 [AF21]	3	34 [AF41]	5	50	7
3	1	19	3	35	5	51	7
4	1	20 [AF22]	3	36 [AF42]	5	52	7
5	1	21	3	37	5	53	7
6	1	22 [AF23]	3	38 [AF43]	5	54	7
7	1	23	3	39	5	55	7
8 [CS1]	2	24 [CS3]	4	40 [CS5]	6	56 [CS7]	8
9	2	25	4	41	6	57	8
10 [AF11]	2	26 [AF31]	4	42	6	58	8
11	2	27	4	43	6	59	8
12 [AF12]	2	28 [AF32]	4	44	6	60	8
13	2	29	4	45	6	61	8
14 [AF13]	2	30 [AF33]	4	46 [EF]	6	62	8
15	2	31	4	47	6	63	8

Figure 12-7 DSCP to Queue Mapping Table

Field	Description
DSCP	DSCP value
Queue	Select queue id for DSCP value

Table 12-7 DSCP to Queue Mapping Table Fields



Queue to DSCP Mapping

Queue	DSCP
1	0 [CS0]
2	8 [CS1]
3	16 [CS2]
4	24 [CS3]
5	32 [CS4]
6	40 [CS5]
7	48 [CS6]
8	56 [CS7]

Figure 12-8 Queue to DSCP Mapping Table

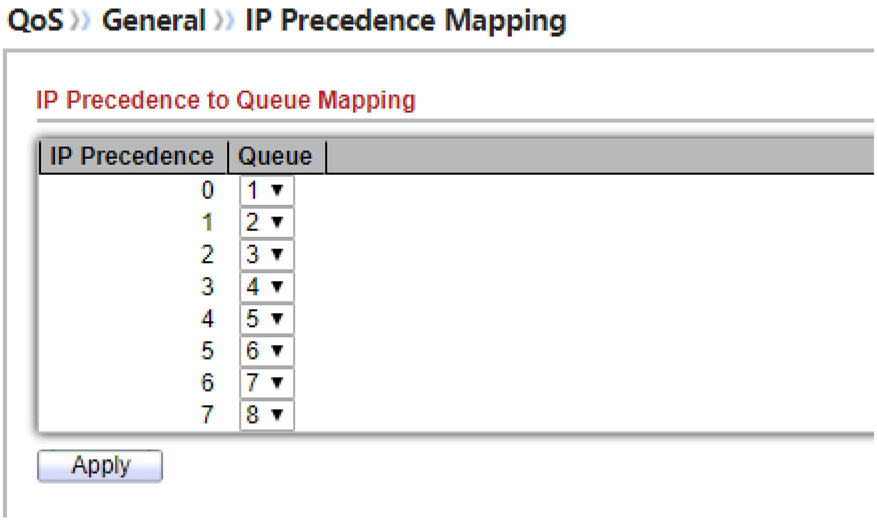
Field	Description
Queue	Queue ID
DSCP	Select DSCP value for queue id

Table 12-8 Queue to DSCP Mapping Table Fields

12.1.5. IP Precedence Mapping

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

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



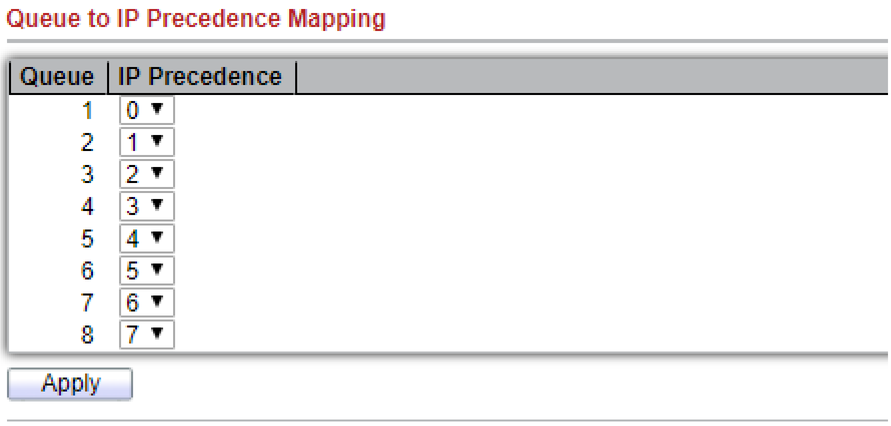
IP Precedence to Queue Mapping

IP Precedence	Queue
0	1 ▼
1	2 ▼
2	3 ▼
3	4 ▼
4	5 ▼
5	6 ▼
6	7 ▼
7	8 ▼

Figure 12-9 IP Precedence to Queue Mapping Table

Field	Description
IP Precedence	IP Precedence value
Queue	Queue value which IP Precedence is mapped

Table 12-9 IP Precedence to Queue Mapping Table Fields



Queue to IP Precedence Mapping

Queue	IP Precedence
1	0 ▼
2	1 ▼
3	2 ▼
4	3 ▼
5	4 ▼
6	5 ▼
7	6 ▼
8	7 ▼

Figure 12-10 Queue to IP Precedence Mapping Table

Field	Description
Queue	Queue ID
IP Precedence	IP Precedence value which queue is mapped

Table 12-10 Queue to IP Precedence Mapping Table Fields

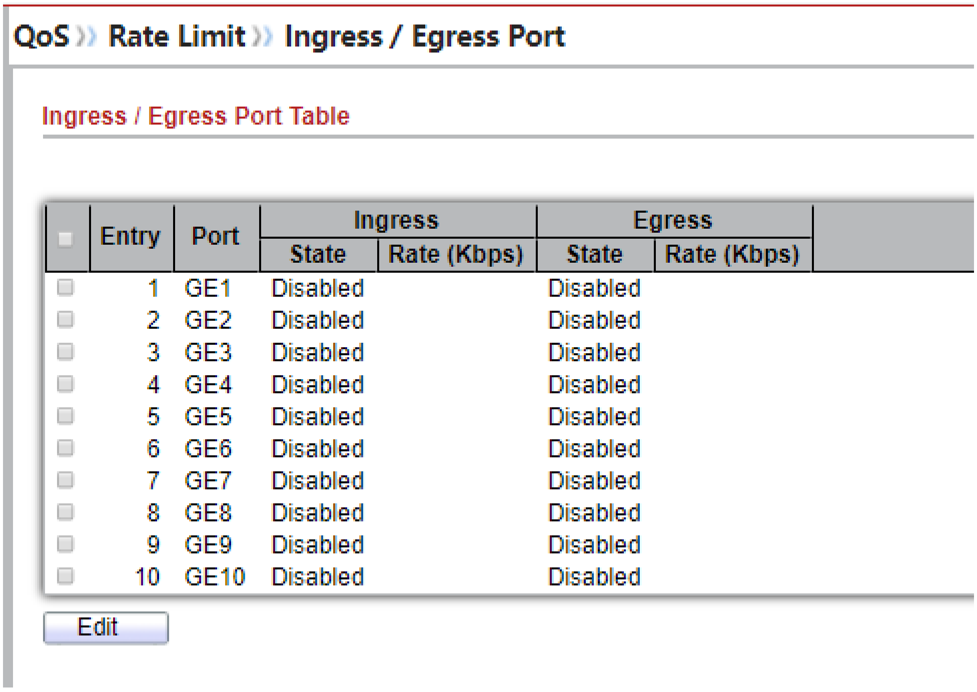
12.2. Rate Limit

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

12.2.1. Ingress / Egress Port

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



QoS » Rate Limit » Ingress / Egress Port

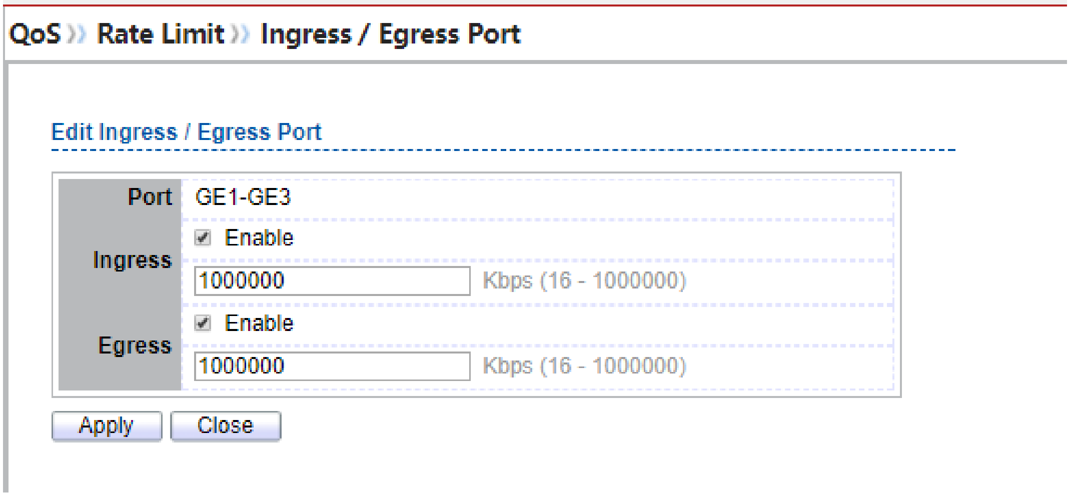
Ingress / Egress Port Table

□	Entry	Port	Ingress		Egress	
			State	Rate (Kbps)	State	Rate (Kbps)
□	1	GE1	Disabled		Disabled	
□	2	GE2	Disabled		Disabled	
□	3	GE3	Disabled		Disabled	
□	4	GE4	Disabled		Disabled	
□	5	GE5	Disabled		Disabled	
□	6	GE6	Disabled		Disabled	
□	7	GE7	Disabled		Disabled	
□	8	GE8	Disabled		Disabled	
□	9	GE9	Disabled		Disabled	
□	10	GE10	Disabled		Disabled	

Figure 12-11 Ingress/Egress Port Table

Field	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
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

Table 12-11 Ingress/Egress Port Table Fields



QoS » Rate Limit » Ingress / Egress Port

Edit Ingress / Egress Port

Port	GE1-GE3
Ingress	☑ Enable
	1000000 Kbps (16 - 1000000)
Egress	☑ Enable
	1000000 Kbps (16 - 1000000)

Figure 12-12 Edit Ingress/Egress Port

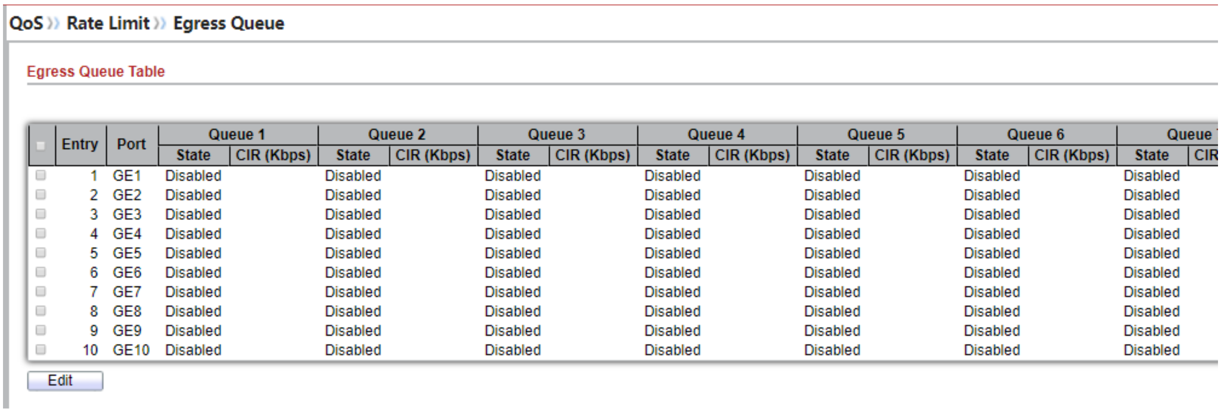
Field	Description
Port	Select port list
Ingress	Set checkbox to enable/disable ingress rate limit. If ingress rate limit is enabled, rate limit value need to be assigned.
Egress	Set checkbox to enable/disable egress rate limit. If egress rate limit is enabled, rate limit value need to be assigned.

Table 12-12 Edit Ingress/Egress Port Fields

12.2.2. Egress Queue

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

Egress rate limiting is performed by shaping the output load.



QoS » Rate Limit » Egress Queue

Egress Queue Table

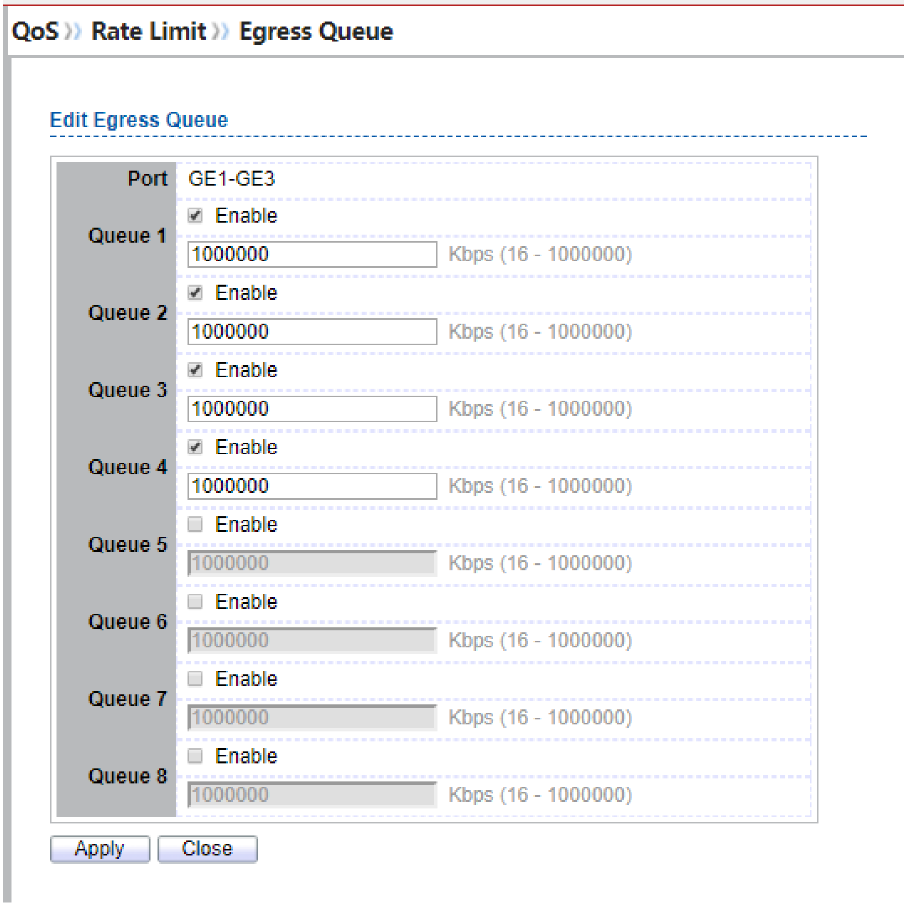
□	Entry	Port	Queue 1		Queue 2		Queue 3		Queue 4		Queue 5		Queue 6		Queue	
			State	CIR (Kbps)	State	CIR (Kbps)	State	CIR (Kbps)	State	CIR (Kbps)	State	CIR (Kbps)	State	CIR (Kbps)	State	CIR
□	1	GE1	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	2	GE2	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	3	GE3	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	4	GE4	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	5	GE5	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	6	GE6	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	7	GE7	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	8	GE8	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	9	GE9	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	
□	10	GE10	Disabled		Disabled		Disabled		Disabled		Disabled		Disabled		Disabled	

Figure 12-13: Egress Queue Table

Field	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

Table 12-13: Egress Queue Table Fields.



QoS » Rate Limit » Egress Queue

Edit Egress Queue

Port	GE1-GE3
Queue 1	☑ Enable 1000000 Kbps (16 - 1000000)
Queue 2	☑ Enable 1000000 Kbps (16 - 1000000)
Queue 3	☑ Enable 1000000 Kbps (16 - 1000000)
Queue 4	☑ Enable 1000000 Kbps (16 - 1000000)
Queue 5	□ Enable 1000000 Kbps (16 - 1000000)
Queue 6	□ Enable 1000000 Kbps (16 - 1000000)
Queue 7	□ Enable 1000000 Kbps (16 - 1000000)
Queue 8	□ Enable 1000000 Kbps (16 - 1000000)

Figure 12-14: Edit Egress Queue

Field	Description
Port	Select port list

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.

Table 12-14: Edit Egress Queue Fields.

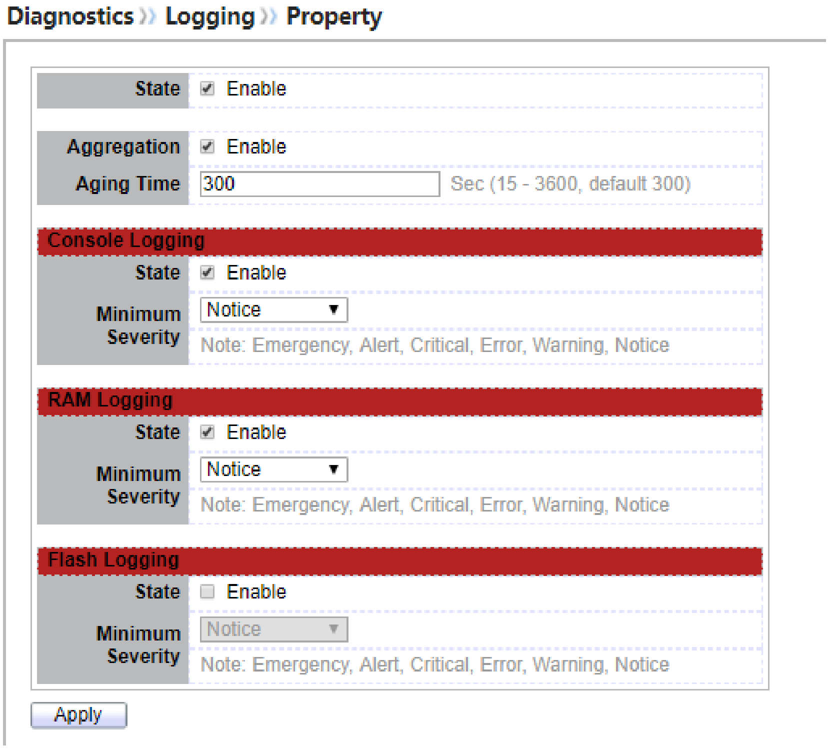
13. Diagnostics

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

13.1. Logging

13.1.1. Property

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



Diagnostics » Logging » Property

State ☑ Enable

Aggregation ☑ Enable

Aging Time 300 Sec (15 - 3600, default 300)

Console Logging

State ☑ Enable

Minimum Severity Notice ▾

Note: Emergency, Alert, Critical, Error, Warning, Notice

RAM Logging

State ☑ Enable

Minimum Severity Notice ▾

Note: Emergency, Alert, Critical, Error, Warning, Notice

Flash Logging

State □ Enable

Minimum Severity Notice ▾

Note: Emergency, Alert, Critical, Error, Warning, Notice

Figure 13-1: Logging Property page.

Field	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.

Table 13-1: Logging Property fields.

Field	Description
State	Enable/Disable the console logging service.
Minimum Severity	The minimum severity for the console logging.

Table 13-2: Console Logging fields.

Field	Description
State	Enable/Disable the RAM logging service.
Minimum Severity	The minimum severity for the RAM logging.

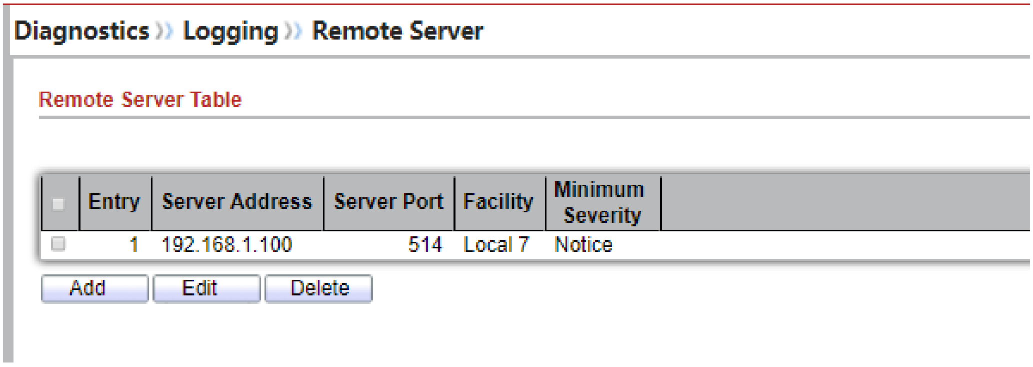
Table 13-3: RAM Logging fields.

Field	Description
State	Enable/Disable the flash logging service.
Minimum Severity	The minimum severity for the flash logging.

Table 13-4: Flash Logging fields.

13.1.2. Remove Server

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



Diagnostics » Logging » Remote Server

Remote Server Table

□	Entry	Server Address	Server Port	Facility	Minimum Severity
□	1	192.168.1.100	514	Local 7	Notice

Figure 13-2: Remote Server page.

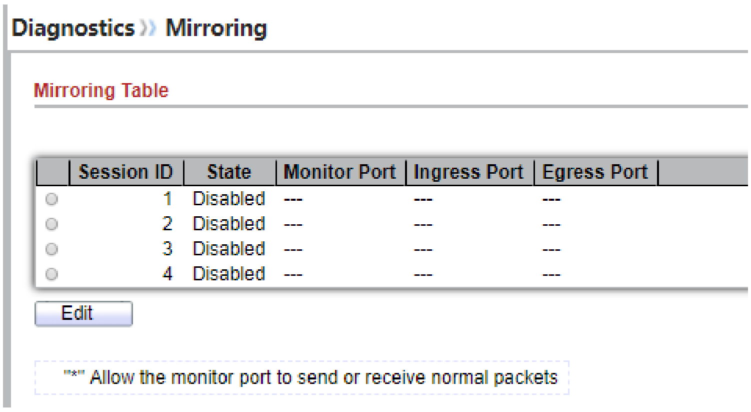
Field	Description
Server Address	The IP address of the remote logging server.
Server Ports	The port number of the remote logging server.
Facility	The facility of the logging messages. It can be one of the following values: local0, local1, local2, local3, local4, local5, local6, and local7.
Severity	The 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.

Table 13-5: Remote Server fields.

13.2. Mirroring

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



Diagnostics » Mirroring

Mirroring Table

	Session ID	State	Monitor Port	Ingress Port	Egress Port
○	1	Disabled	---	---	---
○	2	Disabled	---	---	---
○	3	Disabled	---	---	---
○	4	Disabled	---	---	---

Edit

"*" Allow the monitor port to send or receive normal packets

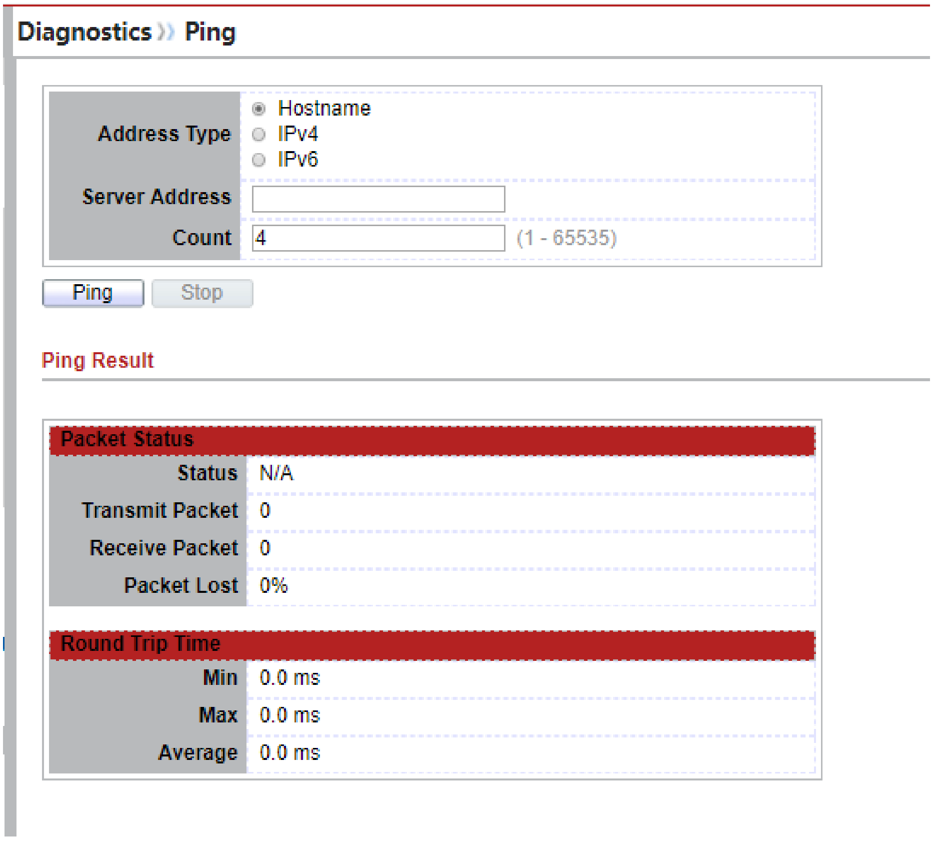
Figure 13-3 Mirroring Page

Field	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 ports	Select mirror session source tx ports

Table 13-6 Mirroring Fields

13.3. Ping

For the ping functionality, click **Diagnostic** > **Ping**.



Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Count	4 (1 - 65535)

Ping Result

Packet Status	
Status	N/A
Transmit Packet	0
Receive Packet	0
Packet Lost	0%

Round Trip Time	
Min	0.0 ms
Max	0.0 ms
Average	0.0 ms

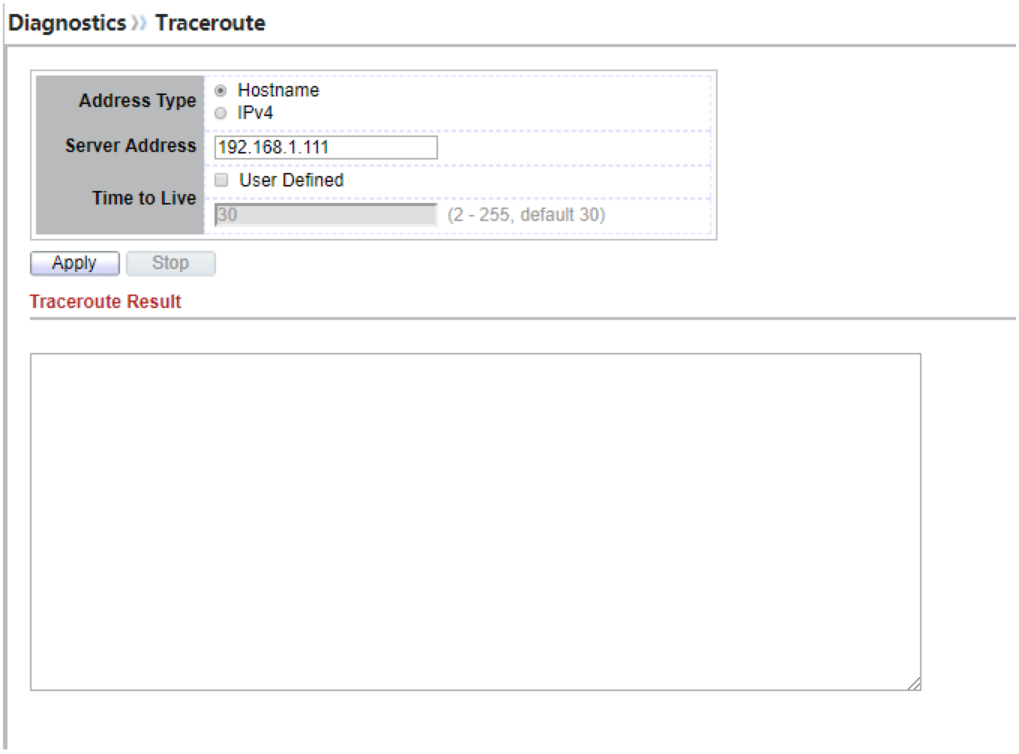
Figure 13-4: Ping page.

Field	Description
Address Type	Specify the address type to “Hostname”, “IPv6”, or “IPv4”.
Server Address	Specify the Hostname/IPv4/IPv6 address for the remote logging server.
Count	Specify the numbers of each ICMP ping request.

Table 13-7: Ping fields.

13.4. Traceroute

For trace route functionality, click **Diagnostic** > **Traceroute**.



Diagnostics » Traceroute

Address Type	● Hostname ○ IPv4
Server Address	192.168.1.111
Time to Live	□ User Defined 30 (2 - 255, default 30)

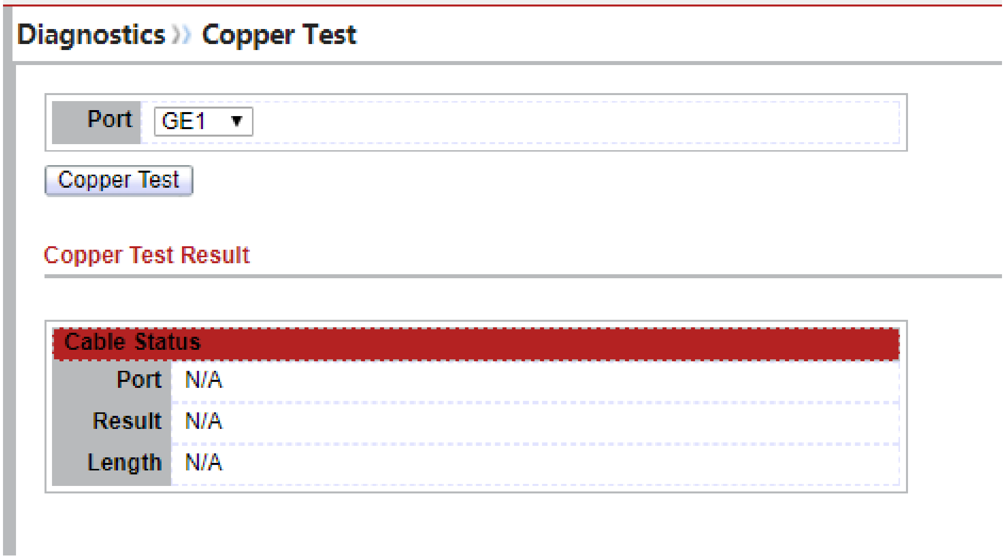
Figure 13-5: Traceroute page.

Field	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.

Table 13-8: Traceroute fields.

13.5. Copper Test

For copper length diagnostic, click **Diagnostic** > **Copper Test**.



Diagnostics » Copper Test

Port	GE1 ▼

Copper Test Result

Cable Status	
Port	N/A
Result	N/A
Length	N/A

Figure 13-6: Copper Test page.

Field	Description
Port	Specify the interface for the copper test.

Table 13-9: Copper Test fields.

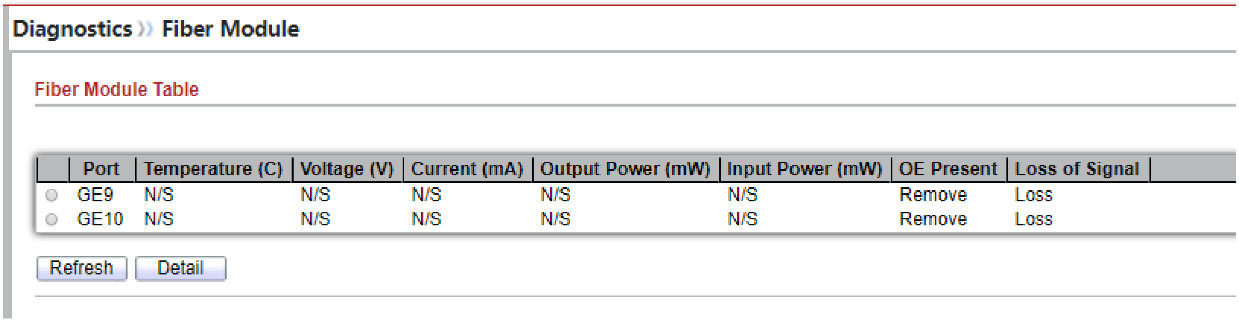
Field	Description
Port	The interface for the copper test.
Result	The status of copper test. It include: • **OK:** Correctly terminated pair. • **Short Cable:** Shorted pair. • **Open Cable:** Open pair, no link partner. • **Impedance Mismatch:** Terminating impedance is not in the reference range. •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

Table 13-10: Copper Result fields.

13.6. 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**.



Diagnostics » Fiber Module

Fiber Module Table

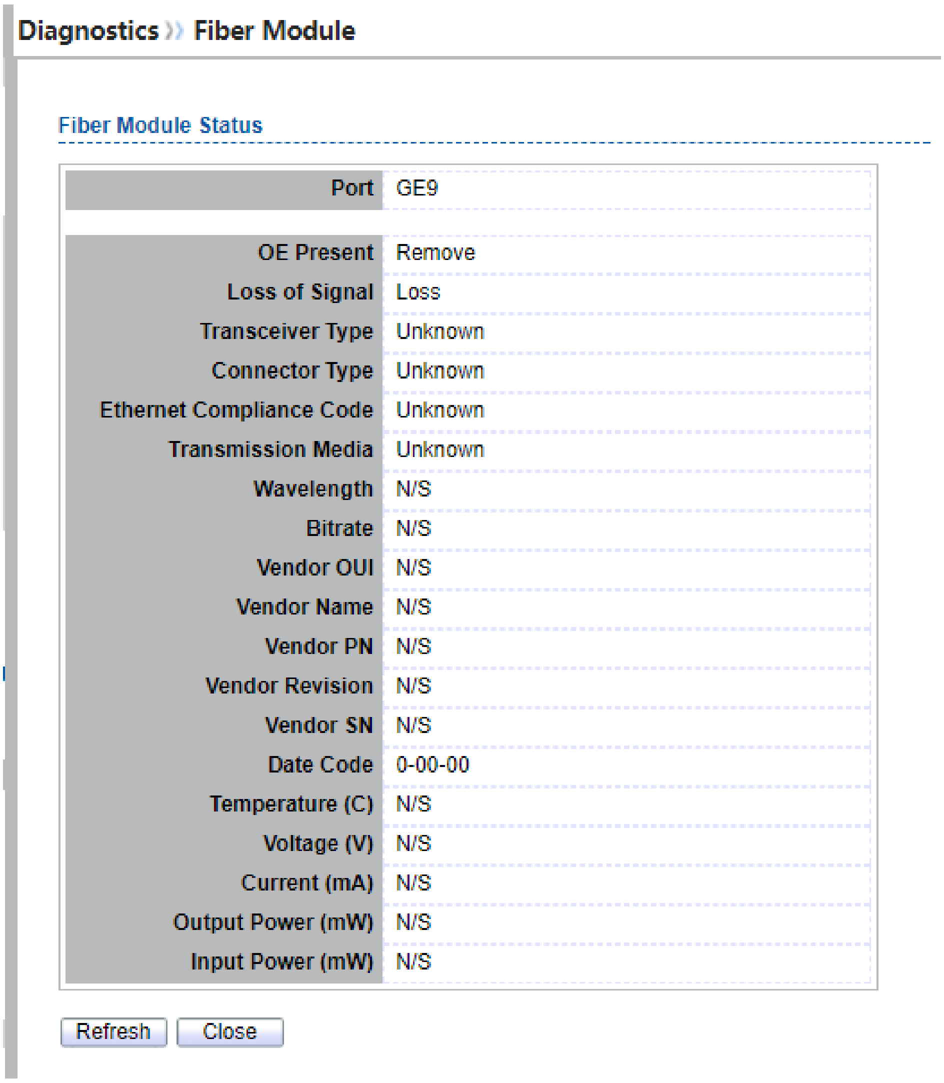
	Port	Temperature (C)	Voltage (V)	Current (mA)	Output Power (mW)	Input Power (mW)	OE Present	Loss of Signal
○	GE9	N/S	N/S	N/S	N/S	N/S	Remove	Loss
○	GE10	N/S	N/S	N/S	N/S	N/S	Remove	Loss

Figure 13-7: Fiber Module page.

Field	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 and data is ready.
Loss of Signal	Loss of signal.
Refresh	Refresh the page.

Detail	The detail information on the specified port.

Table 13-11: Fiber Module fields.



Diagnostics » Fiber Module

Fiber Module Status

Port	GE9
OE Present	Remove
Loss of Signal	Loss
Transceiver Type	Unknown
Connector Type	Unknown
Ethernet Compliance Code	Unknown
Transmission Media	Unknown
Wavelength	N/S
Bitrate	N/S
Vendor OUI	N/S
Vendor Name	N/S
Vendor PN	N/S
Vendor Revision	N/S
Vendor SN	N/S
Date Code	0-00-00
Temperature (C)	N/S
Voltage (V)	N/S
Current (mA)	N/S
Output Power (mW)	N/S
Input Power (mW)	N/S

Figure 13-8: Fiber Module Status page.

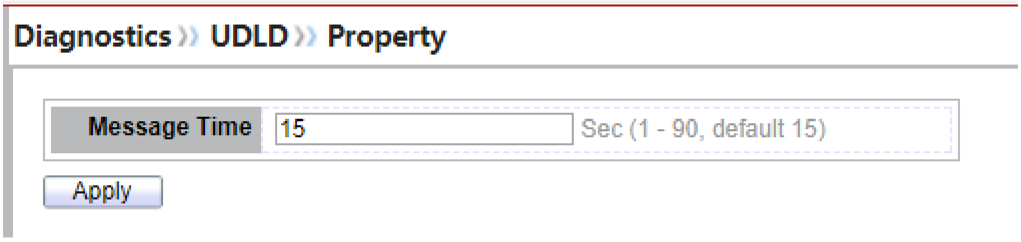
13.7. UDLD

Use the UDLD pages to configure settings of UDLD function.

13.7.1. Property

To display Property page, click **Diagnostics > UDLD > Property**

This page allow user to configure global and per interface settings of UDLD.



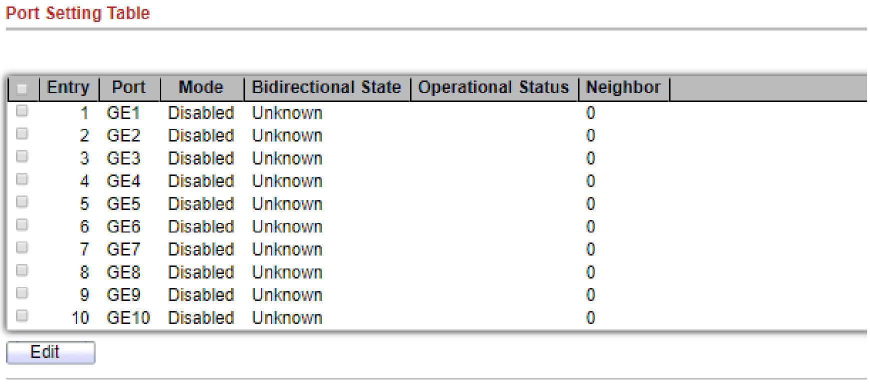
Diagnostics » UDLD » Property

Message Time: 15 Sec (1 - 90, default 15)

Figure 13-9: Property page.

Field	Description
Message Time	Input the interval for sending message. Range is 1 -90 seconds.

Table 13-12 Property Fields



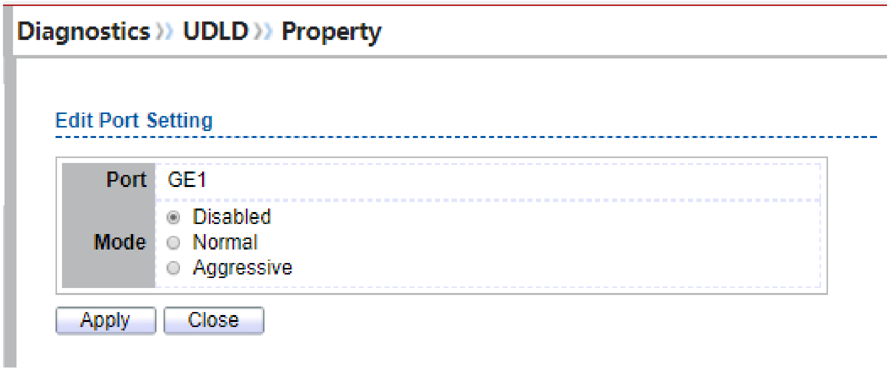
Port Setting Table

□	Entry	Port	Mode	Bidirectional State	Operational Status	Neighbor
□	1	GE1	Disabled	Unknown		0
□	2	GE2	Disabled	Unknown		0
□	3	GE3	Disabled	Unknown		0
□	4	GE4	Disabled	Unknown		0
□	5	GE5	Disabled	Unknown		0
□	6	GE6	Disabled	Unknown		0
□	7	GE7	Disabled	Unknown		0
□	8	GE8	Disabled	Unknown		0
□	9	GE9	Disabled	Unknown		0
□	10	GE10	Disabled	Unknown		0

Figure 13-10: Property Port page.

Field	Description
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

Table 13-13 Property Port Fields


Diagnostics » UDLD » Property

Edit Port Setting

Port	GE1
Mode	● Disabled ○ Normal ○ Aggressive

Apply Close

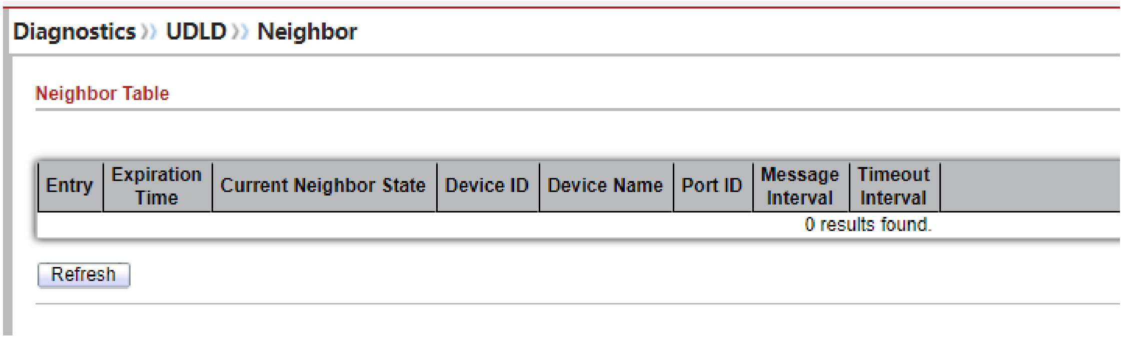
Figure 13-11: Edit Property Port page.

Field	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.

Table 13-14 Edit Property Port Fields

13.7.2. Neighbor

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


Diagnostics » UDLD » Neighbor

Neighbor Table

Entry	Expiration Time	Current Neighbor State	Device ID	Device Name	Port ID	Message Interval	Timeout Interval

0 results found.

Refresh

Figure 13-12: Neighbor page.

Field	Description
Entry	Display entry index.

Expiration Time	Display expiration time before age out.
Current Neighbor State	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

Table 13-15: Neighbor fields.

14. Management

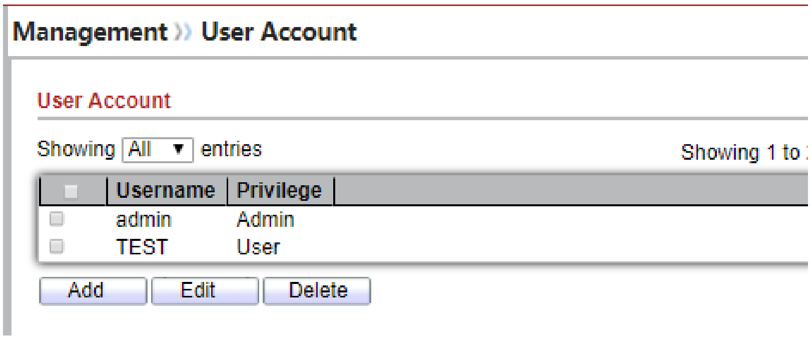
Use the Management pages to configure settings for the switch management features.

14.1. User Account

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

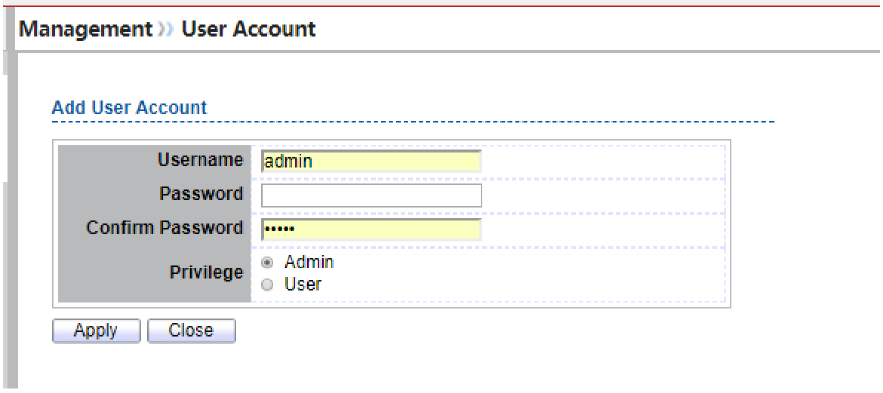


□	Username	Privilege
□	admin	Admin
□	TEST	User

Figure 14-1 User Account Table

Field	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.

Table 14-1 User Account Table Fields

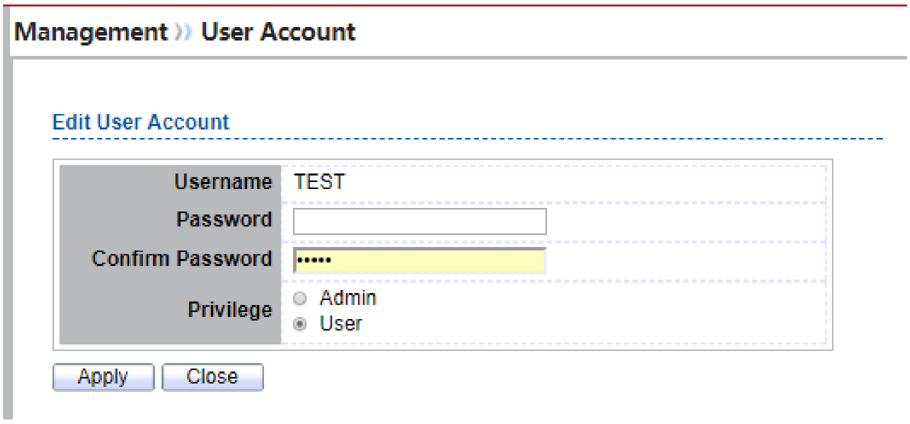


Username: admin

Password:

Confirm Password: •••••

Privilege: ● Admin ○ User



Management » User Account

Edit User Account

Username	TEST
Password	
Confirm Password	•••••
Privilege	○ Admin ● User

Figure 14-2 Add/Edit User Account Dialog

Field	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.

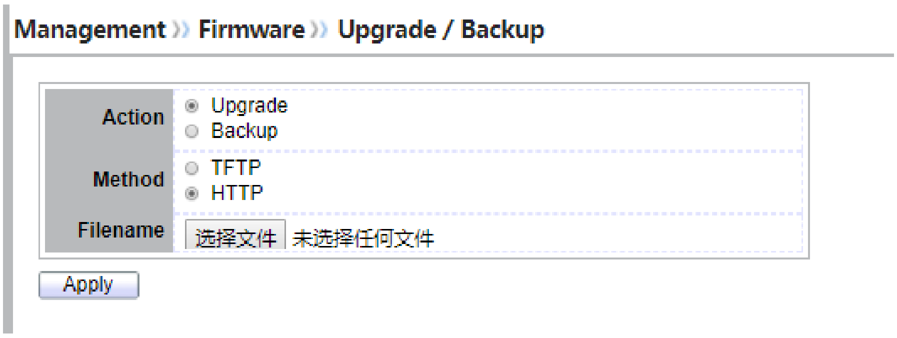
Table 14-2 Add/Edit User Account Fields

14.2. Firmware

14.2.1. Upgrade / Backup

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

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



Management » Firmware » Upgrade / Backup

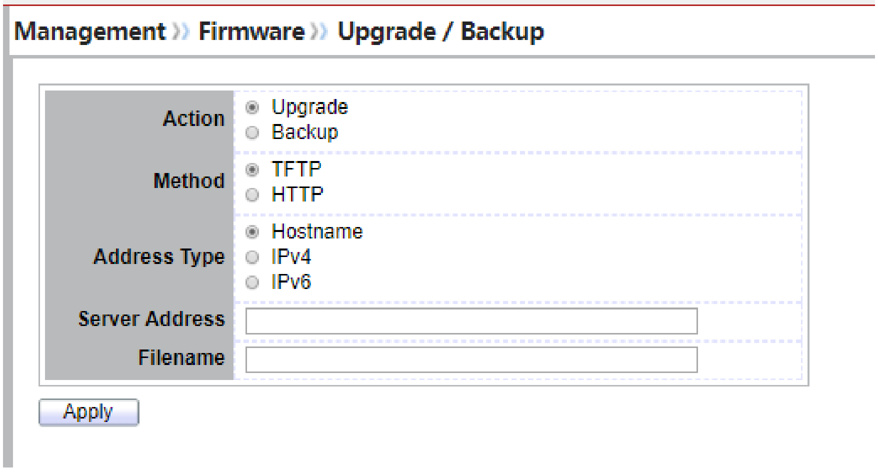
Action	● Upgrade ○ Backup
Method	○ TFTP ● HTTP
Filename	选择文件 未选择任何文件

Apply

Figure 14-3 Upgrade Firmware through HTTP

Field	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.

Table 14-3 Upgrade Firmware through HTTP Fields



Management » Firmware » Upgrade / Backup

Action	● Upgrade ○ Backup
Method	● TFTP ○ HTTP
Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Filename	

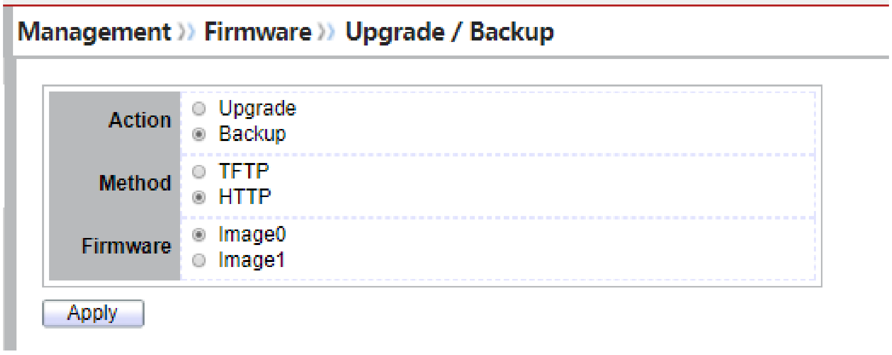
Apply

Figure 14-4 Upgrade Firmware through TFTP

Field	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

Table 14-4 Upgrade Firmware through TFTP Fields



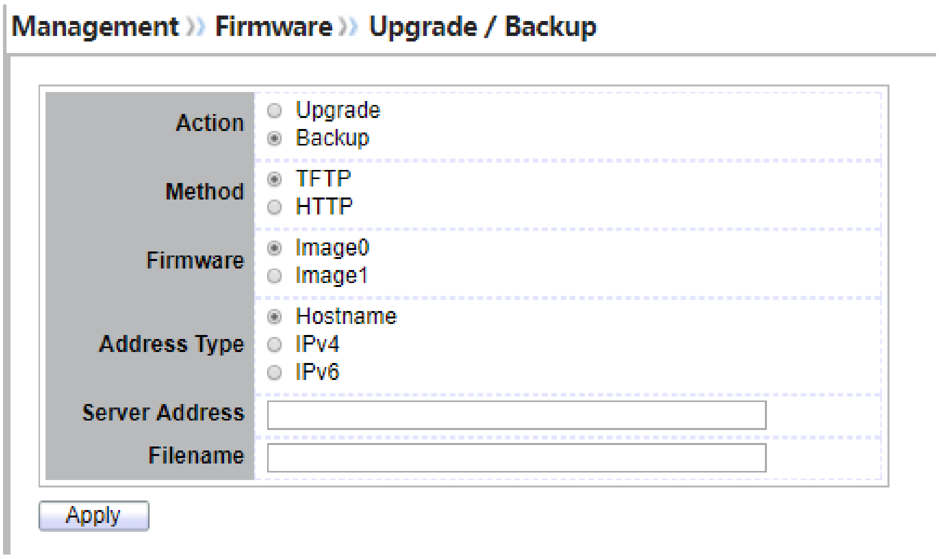
Management » Firmware » Upgrade / Backup

Action	○ Upgrade ● Backup
Method	○ TFTP ● HTTP
Firmware	● Image0 ○ Image1

Figure 14-5 Backup Firmware through HTTP

Field	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

Table 14-5 Backup Firmware through HTTP Fields



Management » Firmware » Upgrade / Backup

Action	○ Upgrade ● Backup
Method	● TFTP ○ HTTP
Firmware	● Image0 ○ Image1
Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Filename	

Figure 14-6 Backup Firmware through TFTP

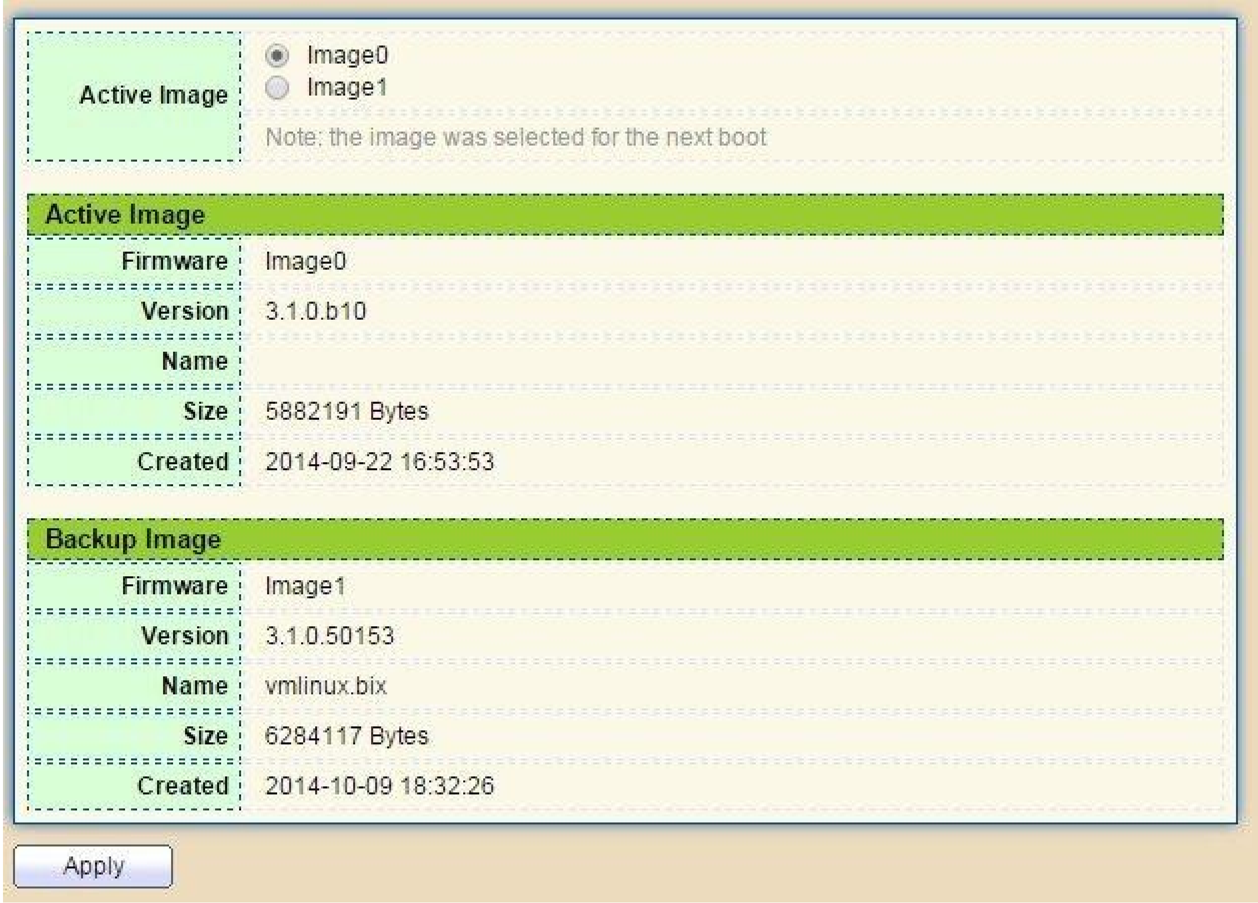
Field	Description
Action	Firmware operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Firmware upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup firmware
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

Table 14-6 Backup Firmware through TFTP Fields

14.2.2. Active Image

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

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



Active Image	● Image0 ○ Image1 Note: the image was selected for the next boot

Active Image

Firmware	Image0
Version	3.1.0.b10
Name	
Size	5882191 Bytes
Created	2014-09-22 16:53:53

Backup Image

Firmware	Image1
Version	3.1.0.50153
Name	vmlinux.bix
Size	6284117 Bytes
Created	2014-10-09 18:32:26

Figure 14-7 Active Image Page

Field	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

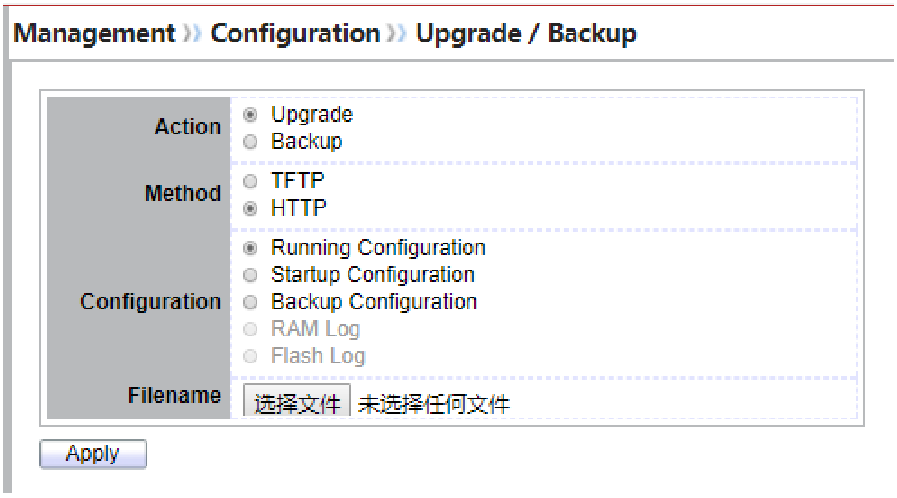
Table 14-7 Active Image Fields

14.3. Configuration

14.3.1. Upgrade / Backup

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

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



Management » Configuration » Upgrade / Backup

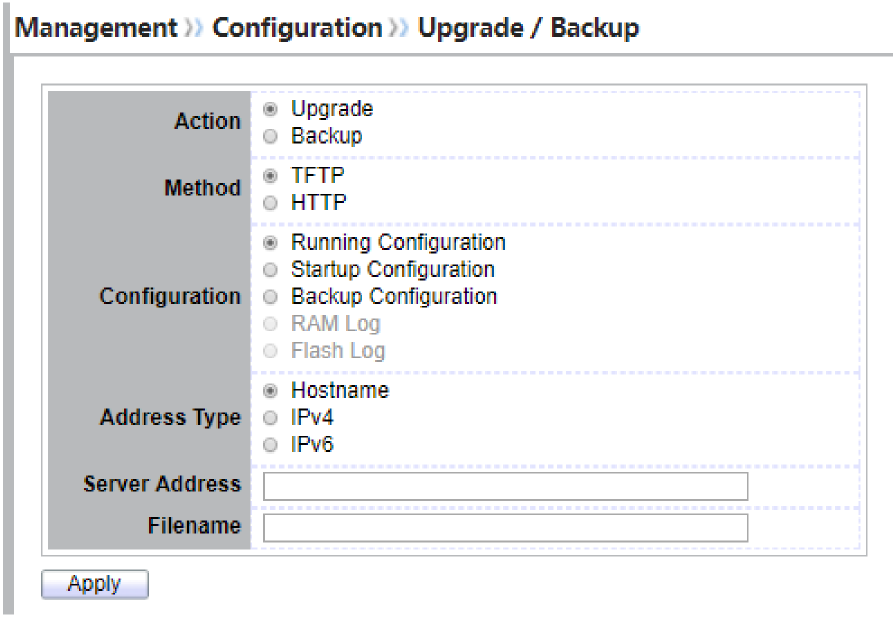
Action	● Upgrade ○ Backup
Method	○ TFTP ● HTTP
Configuration	● Running Configuration ○ Startup Configuration ○ Backup Configuration ○ RAM Log ○ Flash Log
Filename	选择文件 未选择任何文件

Figure 14-8 Upgrade Configuration through HTTP

Field	Description
Action	Configuration operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Configuration 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.

Table 14-8 Upgrade Configuration through HTTP Fields



Management » Configuration » Upgrade / Backup

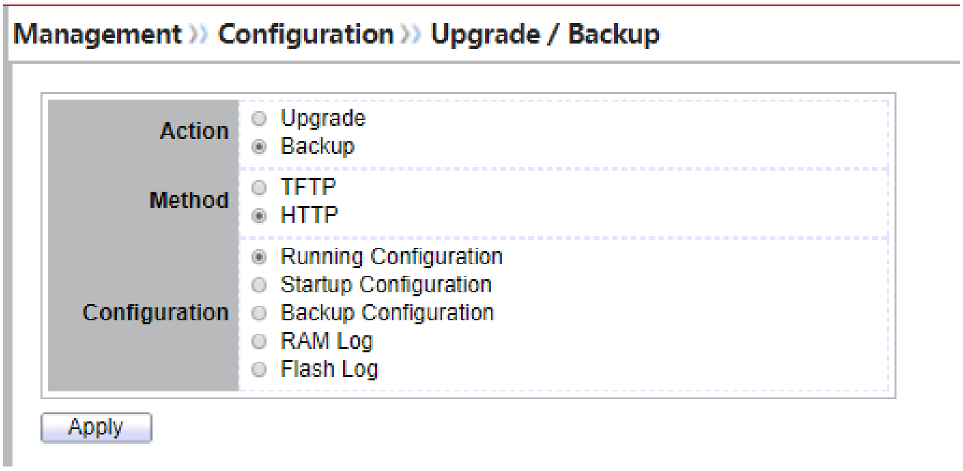
Action	● Upgrade ○ Backup
Method	● TFTP ○ HTTP
Configuration	● Running Configuration ○ Startup Configuration ○ Backup Configuration ○ RAM Log ○ Flash Log
Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Filename	

Figure 14-9 Upgrade Configuration through TFTP

Field	Description
Action	Configuration operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Configuration 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

	• **IPv6:** Use IPv6 as server address
Server Address	Specify TFTP server address.
Filename	Configuration file name on remote TFTP server

Table 14-9 Upgrade Firmware through TFTP Fields



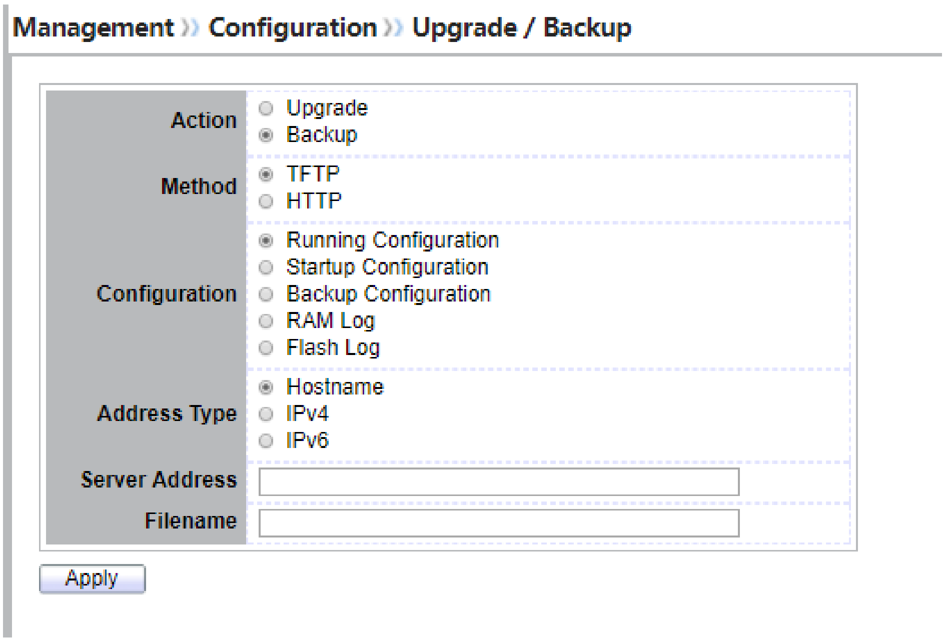
Management » Configuration » Upgrade / Backup

Action	○ Upgrade ● Backup
Method	○ TFTP ● HTTP
Configuration	● Running Configuration ○ Startup Configuration ○ Backup Configuration ○ RAM Log ○ Flash Log

Figure 14-10 Backup Configuration through HTTP

Field	Description
Action	Configuration operations • **Upgrade:** Upgrade configuration from remote host to DUT • **Backup:** Backup configuration from DUT to remote host
Method	Configuration upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup configuration • **HTTP:** Using WEB browser to upgrade/backup configuration
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

Table 14-10 Backup Configuration through HTTP Fields



Management » Configuration » Upgrade / Backup

Action	○ Upgrade ● Backup
Method	● TFTP ○ HTTP
Configuration	● Running Configuration ○ Startup Configuration ○ Backup Configuration ○ RAM Log ○ Flash Log
Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Filename	

Figure 14-11 Backup Configuration through TFTP

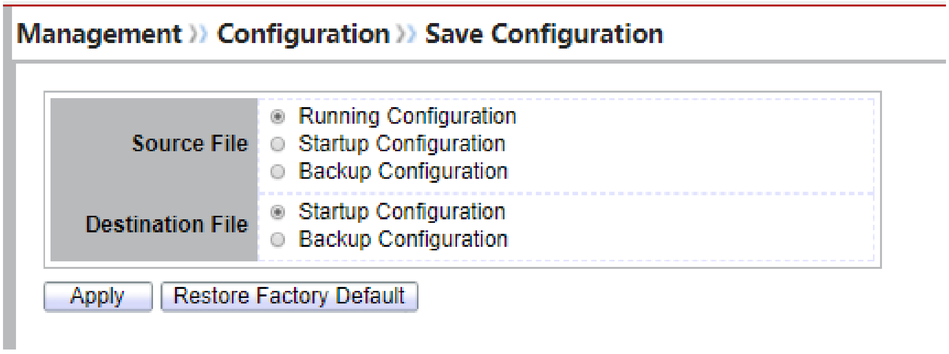
Field	Description
Action	Firmware operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Firmware upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup firmware
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
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

Table 14-11 Backup Firmware through TFTP Fields

14.3.2. Save Configuration

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

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



Management » Configuration » Save Configuration

Source File	● Running Configuration ○ Startup Configuration ○ Backup Configuration
Destination File	● Startup Configuration ○ Backup Configuration

Figure 14-12 Save Configuration Page

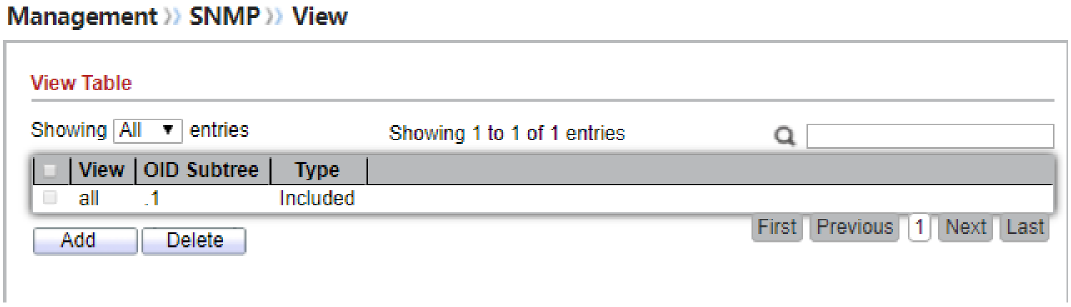
Field	Description
Source File	Source file types • **Running Configuration:** Copy running configuration file to destination • **Startup Configuration:** Copy startup configuration file to destination • **Backup Configuration:** Copy backup configuration file to destination
Destination File	Destination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

Table 14-12 Save Configuration Fields

14.4. SNMP

14.4.1. View

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



Showing 1 to 1 of 1 entries

□	View	OID Subtree	Type
□	all	.1	Included

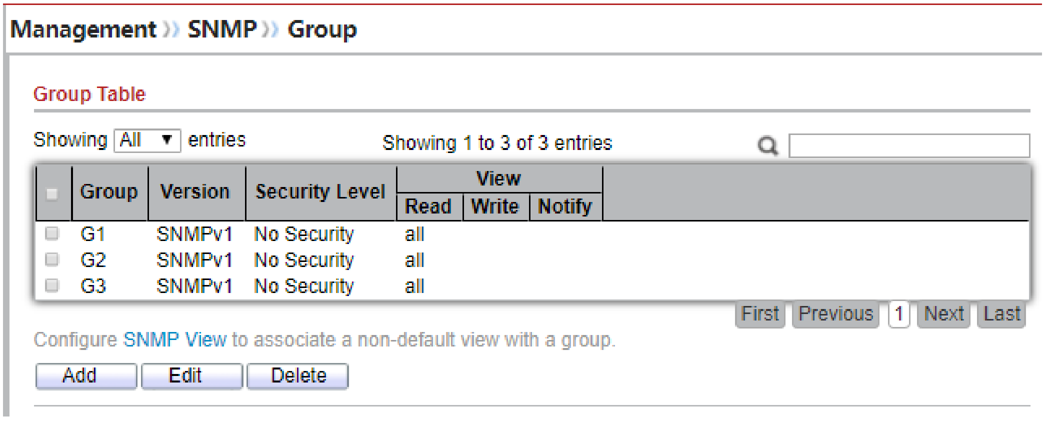
Figure 14-13 SNMP View Table Page

Field	Description
View	The SNMP view name. Its maximum length is 30 characters.
Subtree OID	Specify the ASN.1 subtree object identifier (OID) to be included or excluded from the SNMP view.
View Type	Include or exclude the selected MIBs in the view.

Table 14-13 SNMP View Fields

14.4.2. Group

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



Showing 1 to 3 of 3 entries

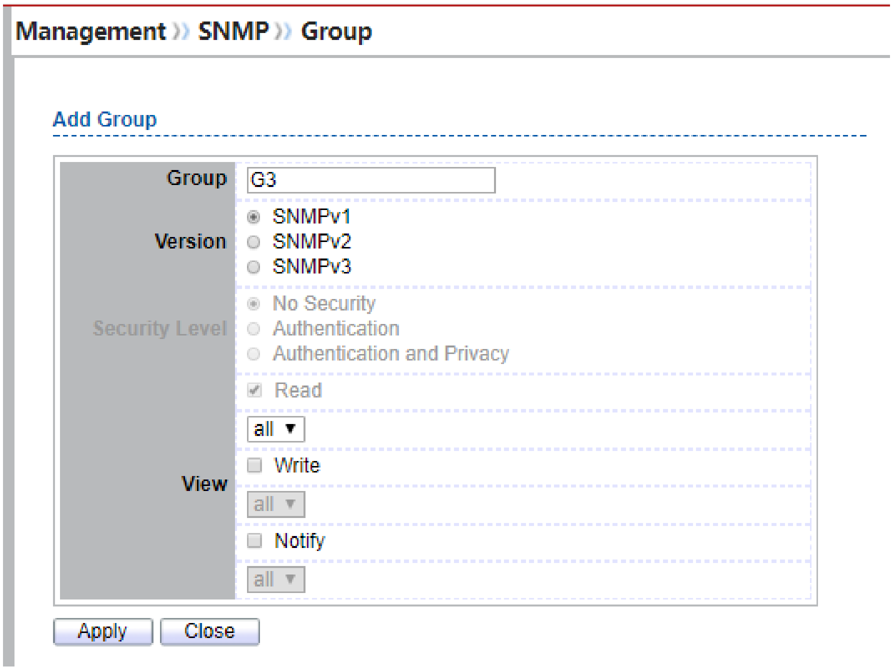
□	Group	Version	Security Level	View		
				Read	Write	Notify
□	G1	SNMPv1	No Security	all		
□	G2	SNMPv1	No Security	all		
□	G3	SNMPv1	No Security	all		

Configure SNMP View to associate a non-default view with a group.

Figure 14-14 SNMP Group Table Page

Field	Description
Group	Specify SNMP group name, and the maximum length is 30 characters.
Version	Spedify SNMP version • **SNMPv1:** SNMP Version 1. • **SNMPv2:** Community-based SNMP Version 2c. • **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 entryption is performed. • **Authentication and Privacy:** Specify that no packet authentication with entryption 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.

Table 14-14 SNMP Group Table Fields



Management » SNMP » Group

Add Group

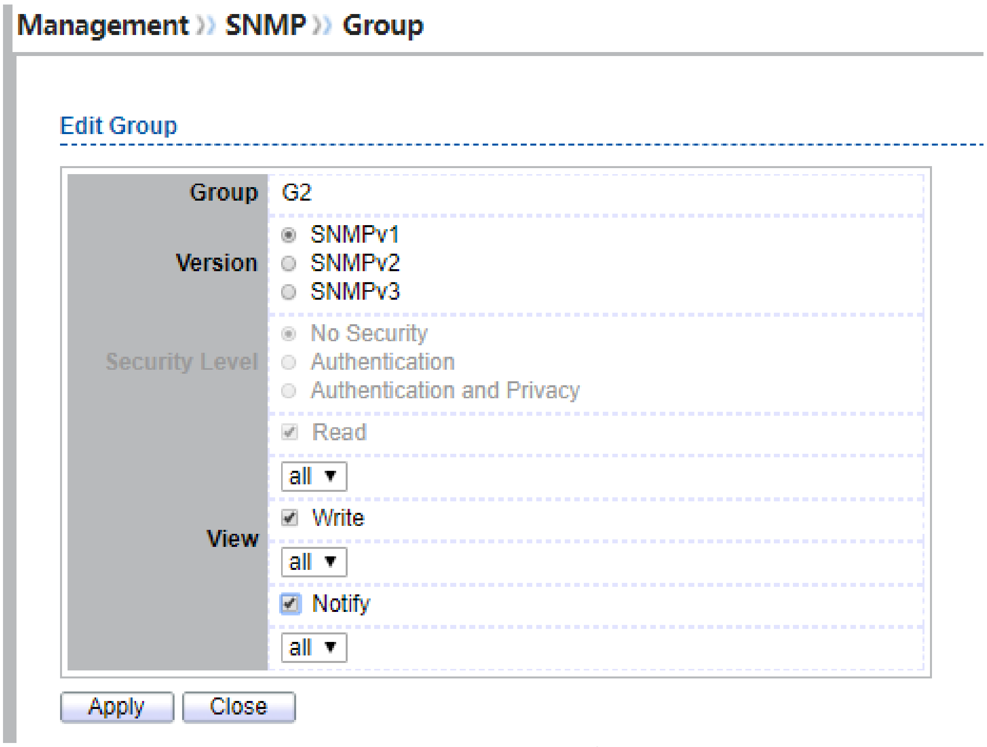
Group	G3
Version	● SNMPv1 ○ SNMPv2 ○ SNMPv3
Security Level	● No Security ○ Authentication ○ Authentication and Privacy
View	☑ Read all ▼ □ Write all ▼ □ Notify all ▼

Figure 14-15 SNMP Group Add Page

Field	Description
Group	Specify SNMP group name, and the maximum length is 30 characters.
Version	Spedify SNMP version - **SNMPv1:** SNMP Version 1. - **SNMPv2:** Community-based SNMP Version 2c. - **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 entryption is performed. - **Authentication and Privacy:** Specify that no packet authentication with entryption 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

Table 14-15 SNMP Group Add Fields



Management » SNMP » Group

Edit Group

Group	G2
Version	● SNMPv1 ○ SNMPv2 ○ SNMPv3
Security Level	● No Security ○ Authentication ○ Authentication and Privacy
View	☑ Read all ▼ ☑ Write all ▼ ☑ Notify all ▼

Figure 14-16 SNMP Group Edit Page

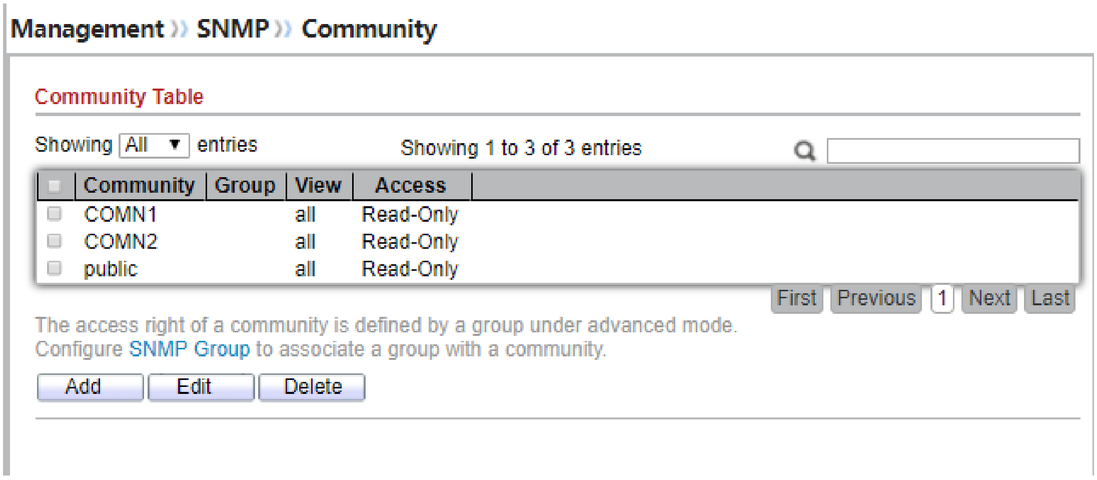
Field	Description
Group	Display the edit group name
Version	Spedify SNMP version • **SNMPv1:** SNMP Version 1. • **SNMPv2:** Community-based SNMP Version 2c. • **SNMPv3:** User security model SNMP version 3.
Security Level	Specify SNMP security level • **No Security :** Specify that no packet authentication is performed. • **Authentication:** Specify that no packet authentication without entryption is performed. • **Authentication and Privacy:** Specify that no packet authentication with entryption 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

Table 14-16 SNMP Group Edit Fields

14.4.3. Community

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



Management » SNMP » Community

Community Table

Showing All ▾ entries   Showing 1 to 3 of 3 entries

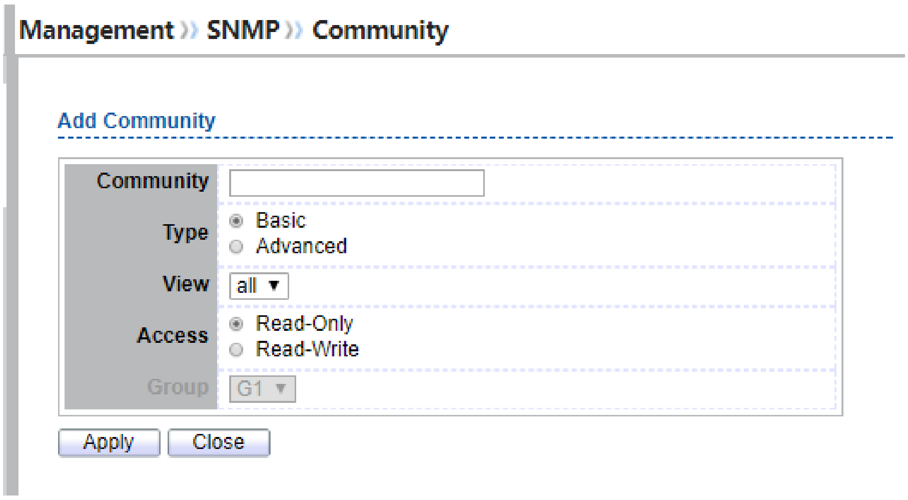
□	Community	Group	View	Access
□	COMN1		all	Read-Only
□	COMN2		all	Read-Only
□	public		all	Read-Only

The access right of a community is defined by a group under advanced mode.
Configure SNMP Group to associate a group with a community.

Figure 14-17 SNMP Community Table Page

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

Table 14-17 SNMP Community Table Fields



Management » SNMP » Community

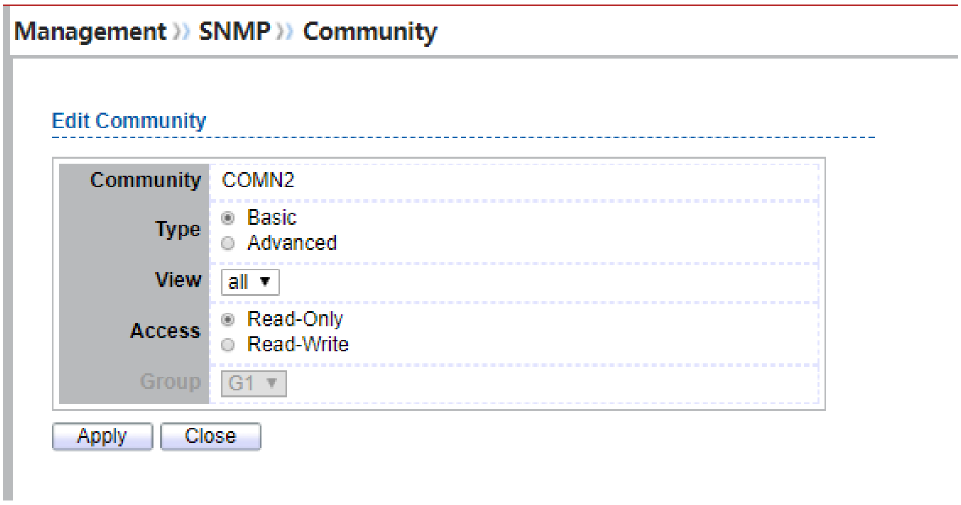
Add Community

Community	
Type	● Basic ○ Advanced
View	all ▼
Access	● Read-Only ○ Read-Write
Group	G1 ▼

Figure 14-18 SNMP Community Add Page

Field	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 user to define the object available to the community.

Table 14-18 SNMP Community Add Fields



Management » SNMP » Community

Edit Community

Community	COMN2
Type	● Basic ○ Advanced
View	all ▾
Access	● Read-Only ○ Read-Write
Group	G1 ▾

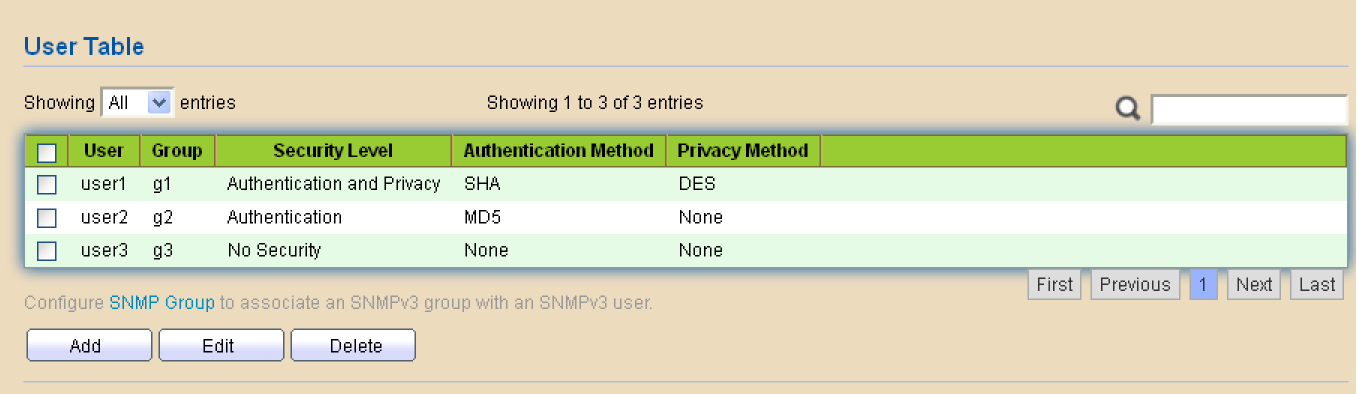
Figure 14-19 SNMP Community Edit Page

Field	Description
Community	The Edit SNMP community name
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 user to define the object available to the community.

Table 14-19 SNMP Community Edit Fields

14.4.4. User

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



User Table

Showing All entries   Showing 1 to 3 of 3 entries

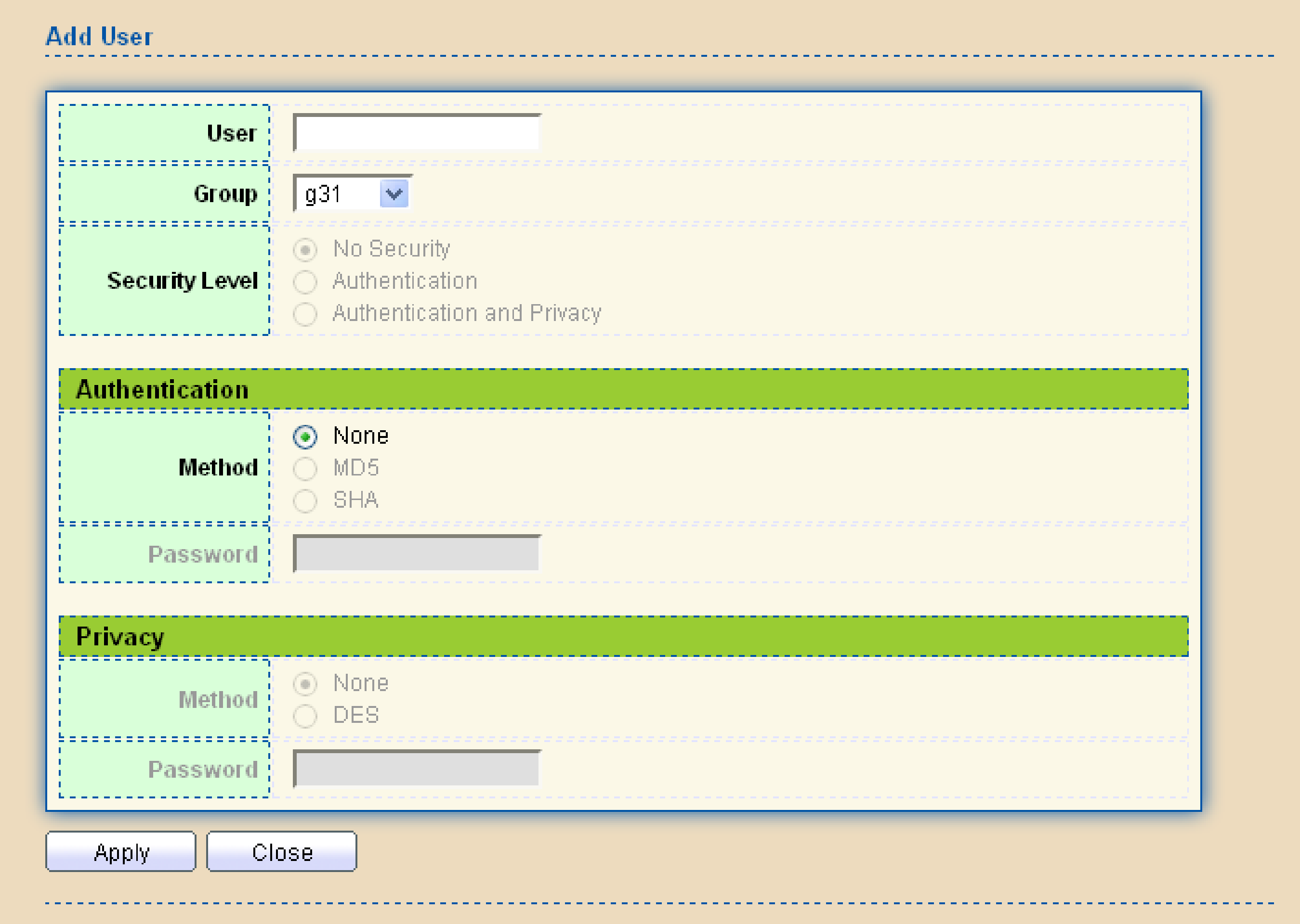
□	User	Group	Security Level	Authentication Method	Privacy Method
□	user1	g1	Authentication and Privacy	SHA	DES
□	user2	g2	Authentication	MD5	None
□	user3	g3	No Security	None	None

Configure SNMP Group to associate an SNMPv3 group with an SNMPv3 user.

Figure 14-20 SNMP User Table Page

Field	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

Table 14-20 SNMP User Table Fields



Add User

User	
Group	g31
Security Level	● No Security ○ Authentication ○ Authentication and Privacy

Authentication

Method	● None ○ MD5 ○ SHA
Password	

Privacy

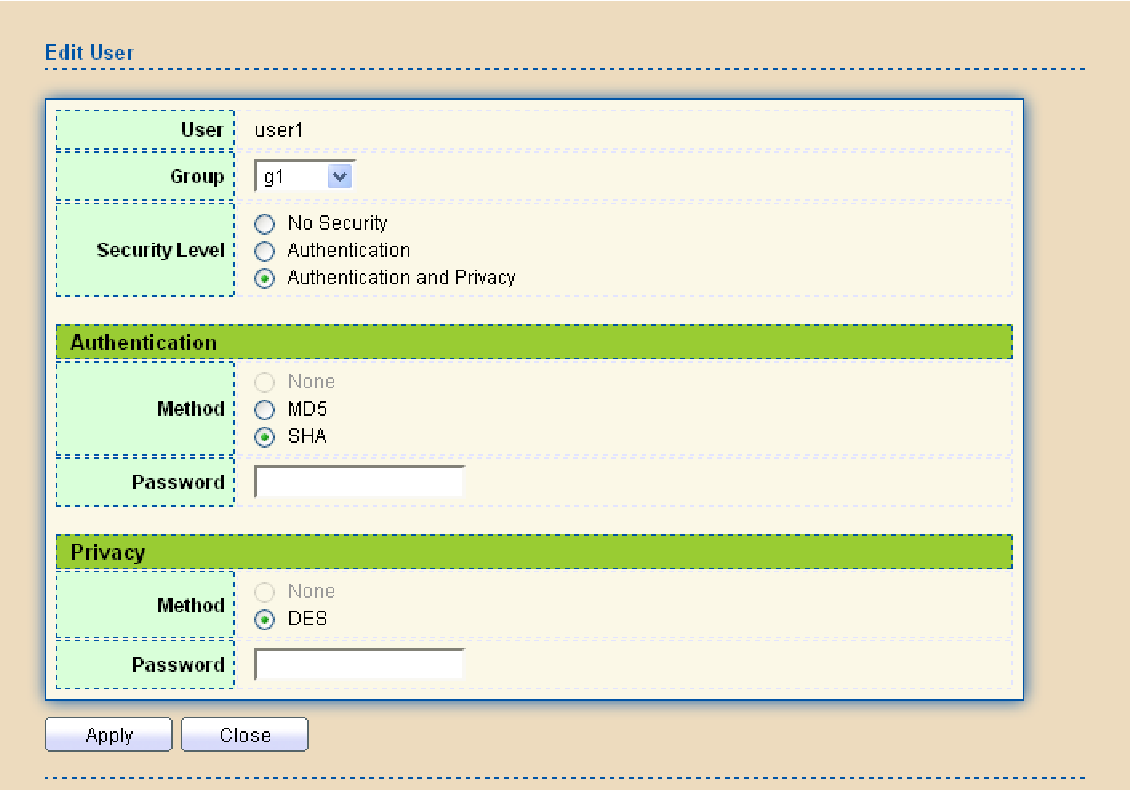
Method	● None ○ DES
Password	

Figure 14-21 SNMP User Add Page

Field	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.

Table 14-21 SNMP User Add Fields



Edit User

User	user1
Group	g1
Security Level	○ No Security ○ Authentication ● Authentication and Privacy

Authentication

Method	○ None ○ MD5 ● SHA
Password	

Privacy

Method	○ None ● DES
Password	

Figure 14-22 SNMP User Edit Page

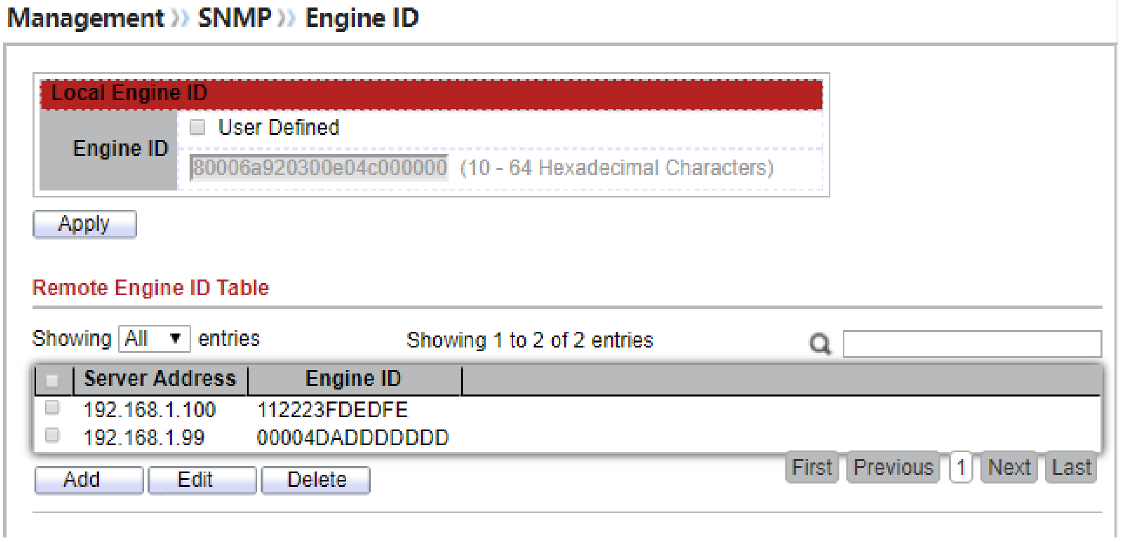
Field	Description
User	Edit User name
Group	Specify the SNMP group to which the SNMP user belongs.
Security Level	SNMP privilege mode • **No Security :** Specify that no packet authentication is performed.

	• **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.
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.

Table 14-22 SNMP User Edit Fields

14.4.5. Engine ID

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



Management » SNMP » Engine ID

Local Engine ID	
Engine ID	□ User Defined 80006a920300e04c000000 (10 - 64 Hexadecimal Characters)

Apply

Remote Engine ID Table

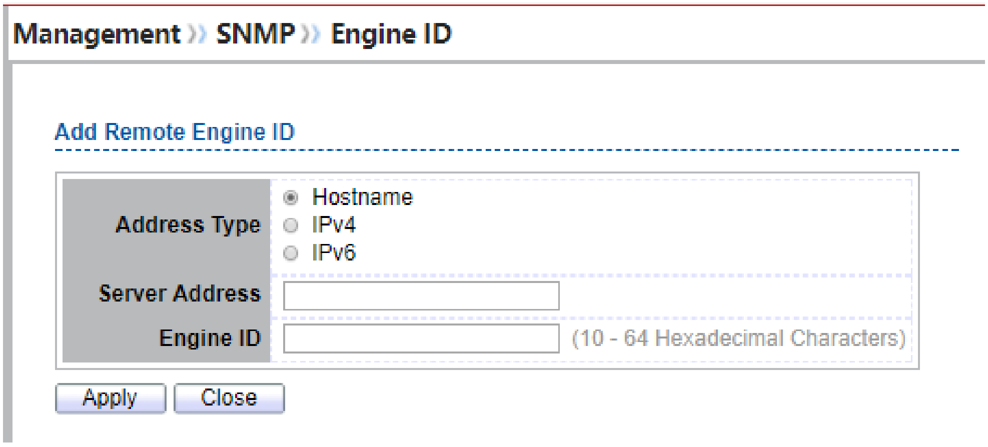
Showing All entries Showing 1 to 2 of 2 entries

□	Server Address	Engine ID
□	192.168.1.100	112223FDEDFE
□	192.168.1.99	00004DADDDDDDD

Figure 14-23 SNMP Engine ID Page

Field	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.

Table 14-23 SNMP Engine ID Fields



Management » SNMP » Engine ID

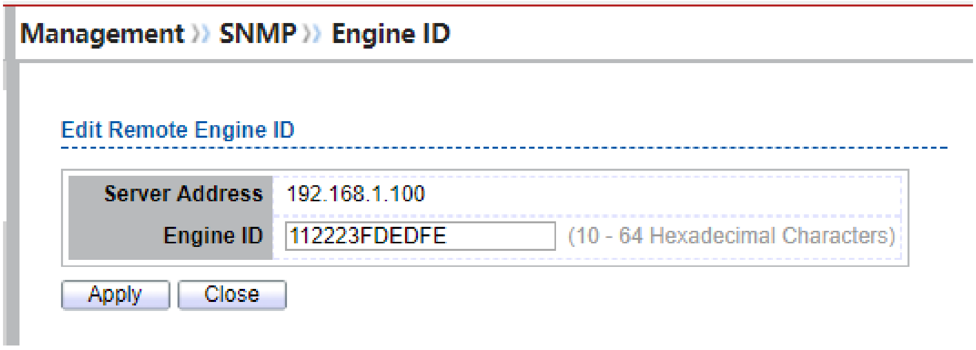
Add Remote Engine ID

Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Engine ID	(10 - 64 Hexadecimal Characters)

Figure 14-24 SNMP Remote Engine ID Add Page

Field	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 range10 to 64 hexadecimal characters, and the hexadecimal number must be divided by 2.

Table 14-24 SNMP Remote Engine ID Add Fields



Management » SNMP » Engine ID

Edit Remote Engine ID

Server Address	192.168.1.100
Engine ID	112223FDEDFE (10 - 64 Hexadecimal Characters)

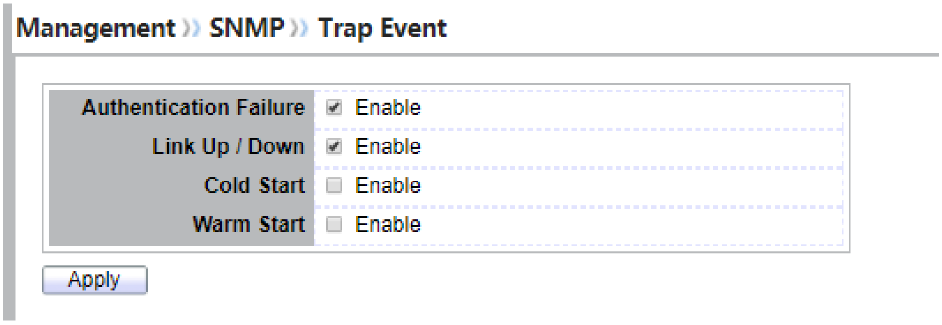
Figure 14-25 SNMP Remote Engine ID Edit Page

Field	Description
Server Address	Edit Remote host address
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.

Table 14-25 SNMP Remote Engine ID Edit Fields

14.4.6. Trap Event

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



Management » SNMP » Trap Event

Authentication Failure	☑ Enable
Link Up / Down	☑ Enable
Cold Start	□ Enable
Warm Start	□ Enable

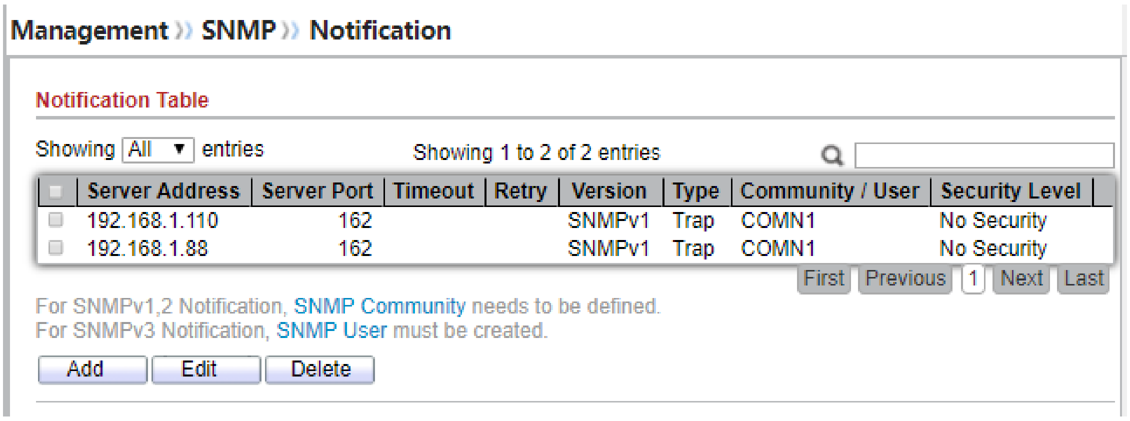
Figure 14-26 SNMP Trap Event Page

Field	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

Table 14-26 SNMP Trap Event Fields

14.4.7. Notification

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



Management » SNMP » Notification

Notification Table

Showing All ▾ entries Showing 1 to 2 of 2 entries

□	Server Address	Server Port	Timeout	Retry	Version	Type	Community / User	Security Level
□	192.168.1.110	162			SNMPv1	Trap	COMN1	No Security
□	192.168.1.88	162			SNMPv1	Trap	COMN1	No Security

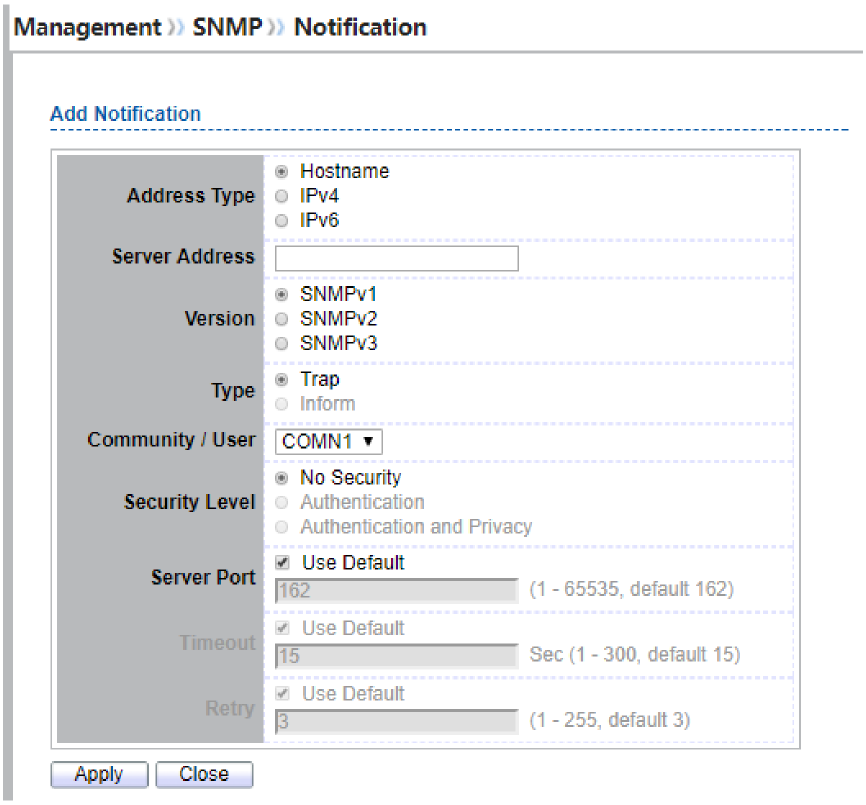
For SNMPv1,2 Notification, SNMP Community needs to be defined.
For SNMPv3 Notification, SNMP User must be created.

Figure 14-27 SNMP Notification Table Page

Field	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.

Table 14-27 SNMP Notification Table Fields



Management » SNMP » Notification

Add Notification

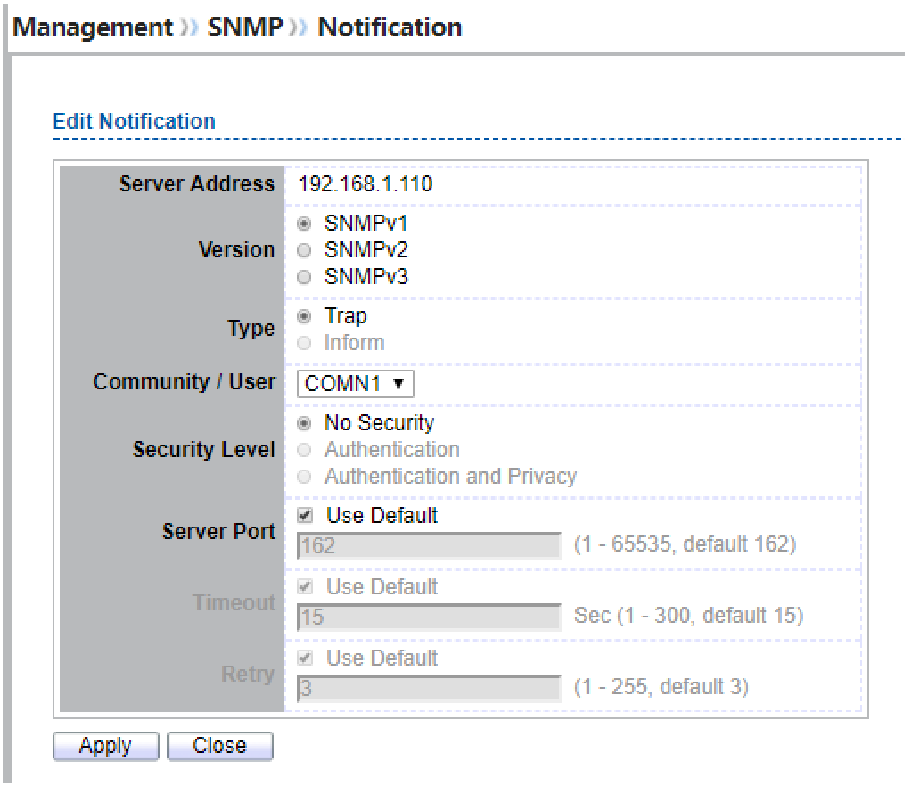
Address Type	● Hostname ○ IPv4 ○ IPv6
Server Address	
Version	● SNMPv1 ○ SNMPv2 ○ SNMPv3
Type	● Trap ○ Inform
Community / User	COMN1 ▾
Security Level	● No Security ○ Authentication ○ Authentication and Privacy
Server Port	☑ Use Default 162 (1 - 65535, default 162)
Timeout	☑ Use Default 15 Sec (1 - 300, default 15)
Retry	☑ Use Default 3 (1 - 255, default 3)

Figure 14-28 SNMP Notification Add Page

Field	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.(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 notification packet security level, the security level must less than or equal to the community/user name • **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

Table 14-28 SNMP Notification Add Fields



Management » SNMP » Notification

Edit Notification

Server Address	192.168.1.110
Version	● SNMPv1 ○ SNMPv2 ○ SNMPv3
Type	● Trap ○ Inform
Community / User	COMN1 ▾
Security Level	● No Security ○ Authentication ○ Authentication and Privacy
Server Port	☑ Use Default 162 (1 - 65535, default 162)
Timeout	☑ Use Default 15 Sec (1 - 300, default 15)
Retry	☑ Use Default 3 (1 - 255, default 3)

Figure 14-29 SNMP Notification Edit Page

Field	Description

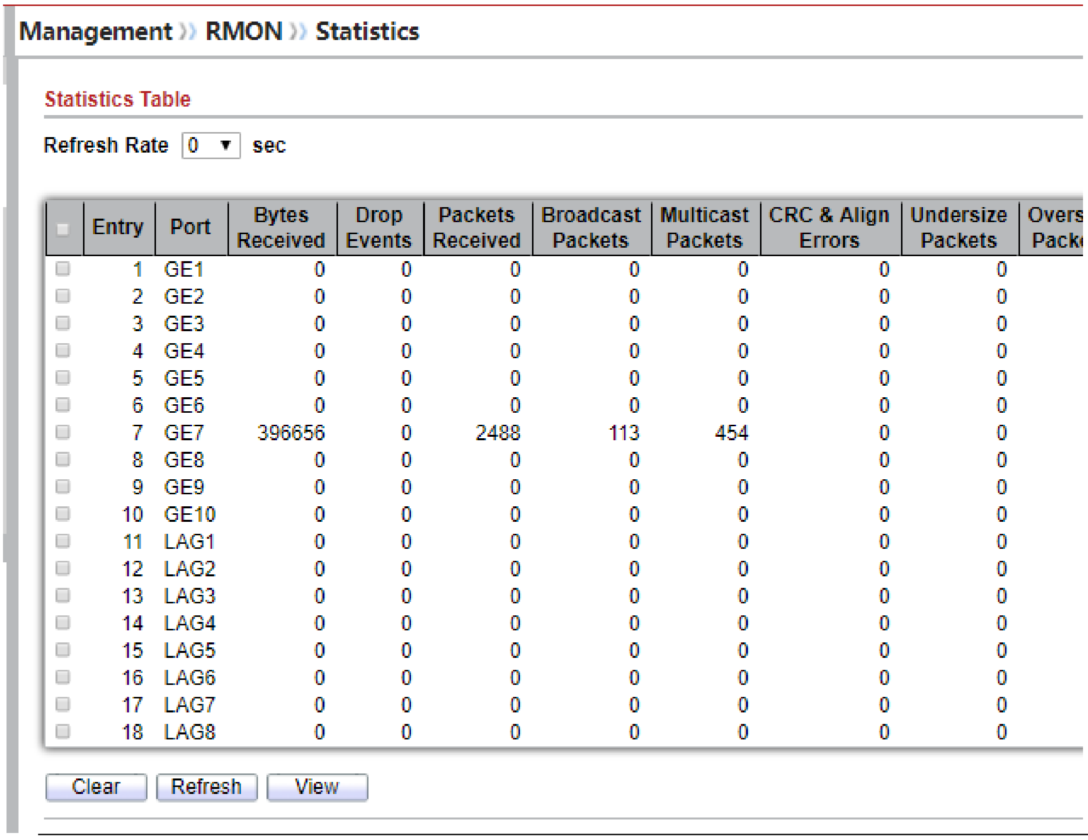
Server Address	Edit SNMP notify recipients address.
Version	Specify SNMP notification version • **SNMPv1:** SNMP Version 1 notification. • **SNMPv2:** SNMP Version 2 notification. • **SNMPv3:** SNMP Version 3 notification.
Type	Notification Type • **Trap:** Send SNMP traps to the host. • **Inform:** 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 notification packet security level, the security level must less than or equal to the community/user name • **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

Table 14-29 SNMP Notification Edit Fields

14.5. RMON

14.5.1. Statistics

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



Management » RMON » Statistics

Statistics Table

Refresh Rate 0 ▾ sec

□	Entry	Port	Bytes Received	Drop Events	Packets Received	Broadcast Packets	Multicast Packets	CRC & Align Errors	Undersize Packets	Overs Pack
□	1	GE1	0	0	0	0	0	0	0	
□	2	GE2	0	0	0	0	0	0	0	
□	3	GE3	0	0	0	0	0	0	0	
□	4	GE4	0	0	0	0	0	0	0	
□	5	GE5	0	0	0	0	0	0	0	
□	6	GE6	0	0	0	0	0	0	0	
□	7	GE7	396656	0	2488	113	454	0	0	
□	8	GE8	0	0	0	0	0	0	0	
□	9	GE9	0	0	0	0	0	0	0	
□	10	GE10	0	0	0	0	0	0	0	
□	11	LAG1	0	0	0	0	0	0	0	
□	12	LAG2	0	0	0	0	0	0	0	
□	13	LAG3	0	0	0	0	0	0	0	
□	14	LAG4	0	0	0	0	0	0	0	
□	15	LAG5	0	0	0	0	0	0	0	
□	16	LAG6	0	0	0	0	0	0	0	
□	17	LAG7	0	0	0	0	0	0	0	
□	18	LAG8	0	0	0	0	0	0	0	

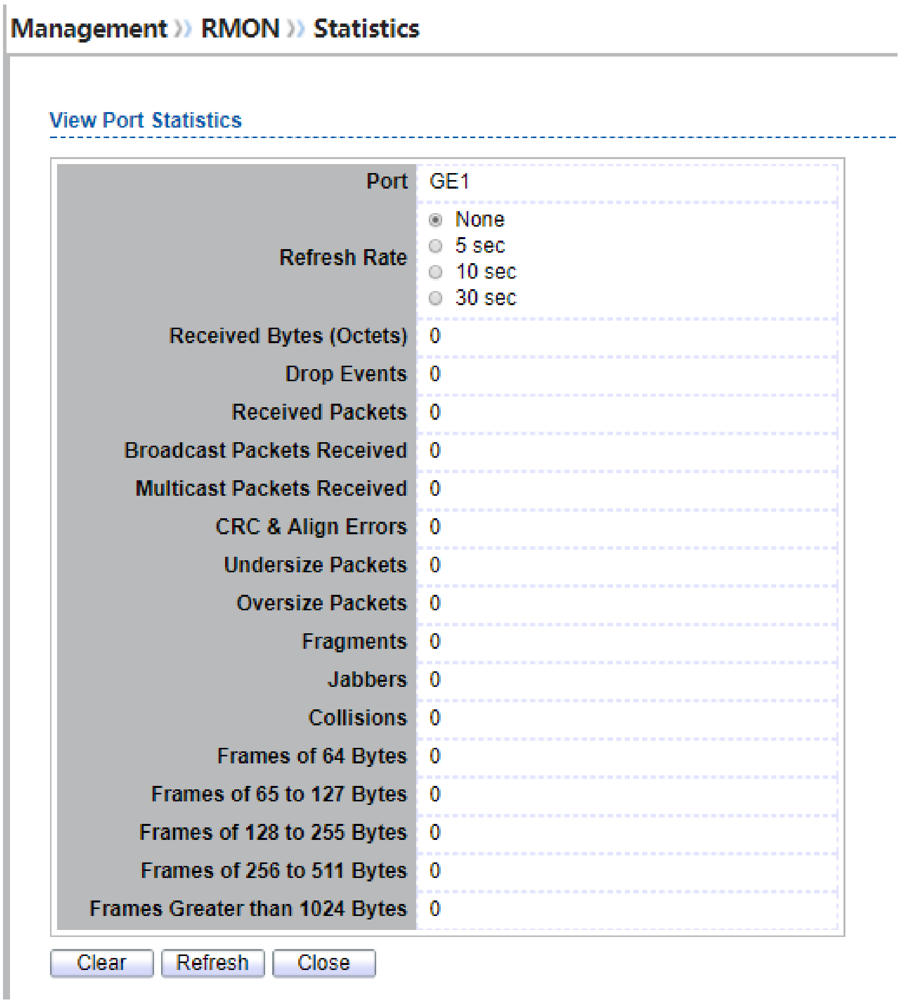
Figure 14-30: RMON Statistics page.

Field	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 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) received.
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.
Frames of 64 Bytes	Number of frames, containing 64 bytes that were received.
Frames of 65 to 127 Bytes	Number of frames, containing 65 to 127 bytes that were received.
Frames of 128 to 255 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	Number of frames, containing 512 to 1023 bytes that were received.

1024 Bytes	
FramesGreater 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.

Table 14-30: RMON Statistics fields.



Management » RMON » Statistics

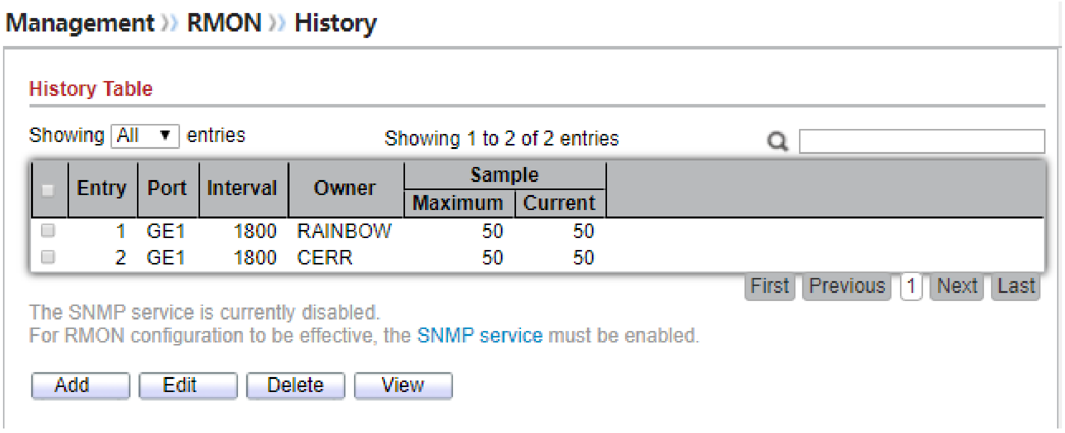
View Port Statistics

Port	GE1
Refresh Rate	● None ○ 5 sec ○ 10 sec ○ 30 sec
Received Bytes (Octets)	0
Drop Events	0
Received Packets	0
Broadcast Packets Received	0
Multicast Packets Received	0
CRC & Align Errors	0
Undersize Packets	0
Oversize Packets	0
Fragments	0
Jabbers	0
Collisions	0
Frames of 64 Bytes	0
Frames of 65 to 127 Bytes	0
Frames of 128 to 255 Bytes	0
Frames of 256 to 511 Bytes	0
Frames Greater than 1024 Bytes	0

Figure 14-31: View RMON Statistics page.

14.5.2. History

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



Management » RMON » History

History Table

Showing All ▼ entries Showing 1 to 2 of 2 entries

□	Entry	Port	Interval	Owner	Sample	
					Maximum	Current
□	1	GE1	1800	RAINBOW	50	50
□	2	GE1	1800	CERR	50	50

The SNMP service is currently disabled.
For RMON configuration to be effective, the SNMP service must be enabled.

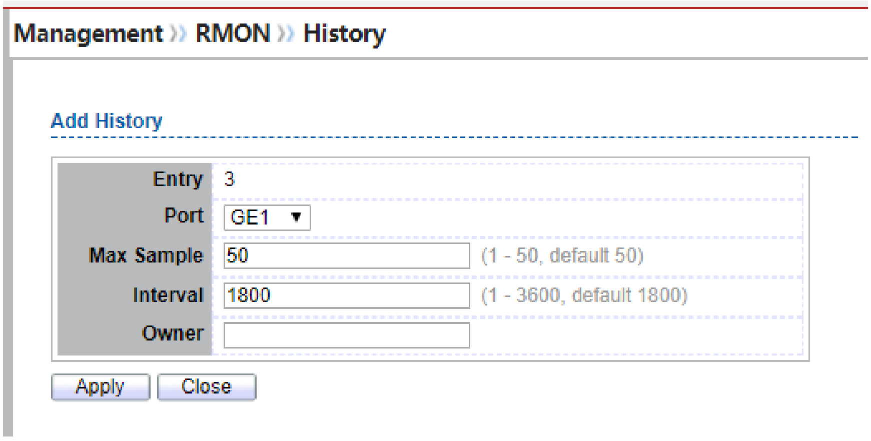
Figure 14-32: RMON History page.

Field	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.

Table 14-31: RMON History fields.

Field	Description
Add	Add the new RMON history entries
Edit	Edit the RMON history
Delete	Delete the RMON histories.
View	View the history log.

Table 14-32: RMON History buttons.


Management » RMON » History

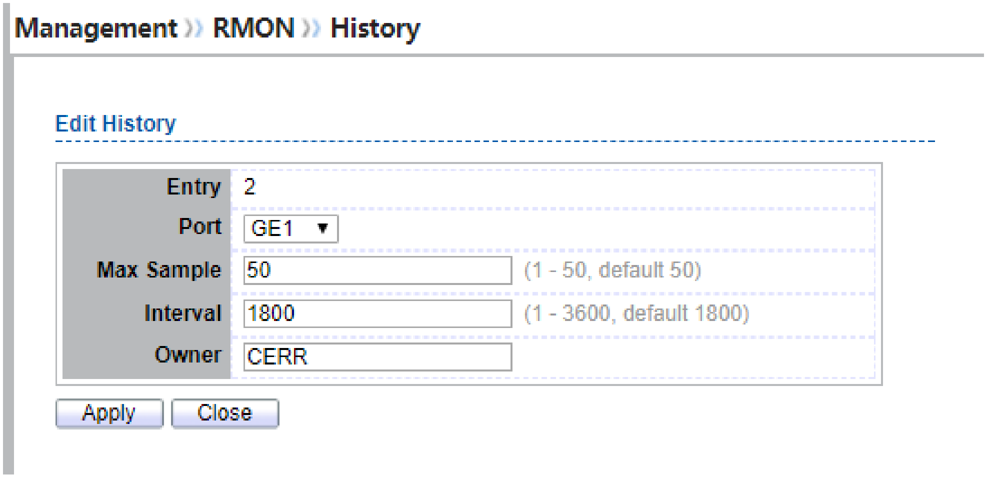
Add History

Entry	3
Port	GE1 ▼
Max Sample	50 (1 - 50, default 50)
Interval	1800 (1 - 3600, default 1800)
Owner	

Figure 14-33: RMON History Add page.

Field	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).

Table 14-33: RMON History Add fields.


Management » RMON » History

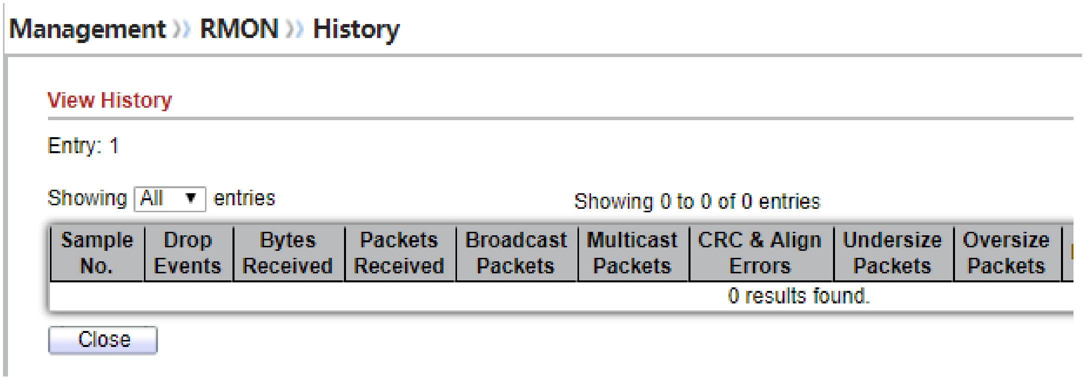
Edit History

Entry	2
Port	GE1 ▼
Max Sample	50 (1 - 50, default 50)
Interval	1800 (1 - 3600, default 1800)
Owner	CERR

Figure 14-34: RMON History Edit page

Field	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).

Table 14-34: RMON History Edit fields.



Management » RMON » History

View History

Entry: 1

Showing All ▼ entries

Showing 0 to 0 of 0 entries

Sample No.	Drop Events	Bytes Received	Packets Received	Broadcast Packets	Multicast Packets	CRC & Align Errors	Undersize Packets	Oversize Packets
0 results found.								

Figure 14-35: RMON History Log page.

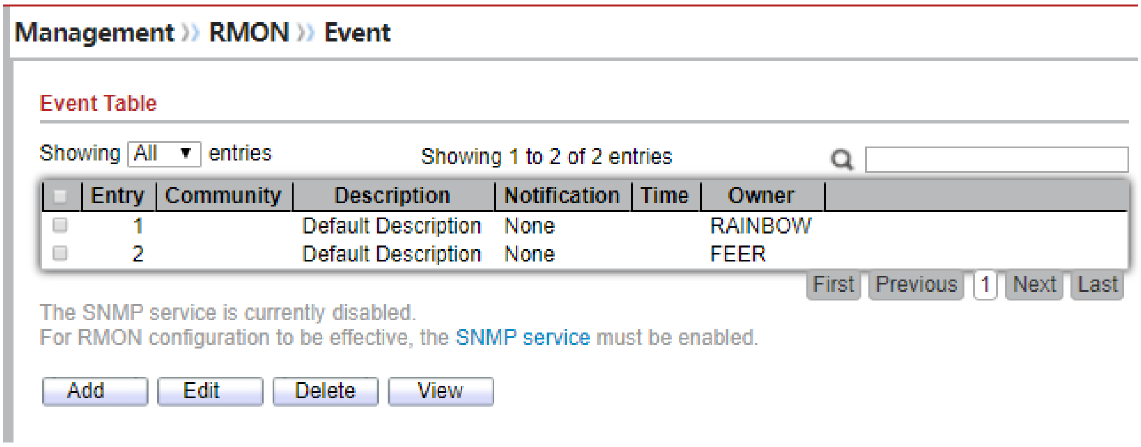
Field	Description
Port	The port for the RMON statistics.
Bytes Received	Number of octets received, including bad packets and FCS octets, but excluding framing bits.
Drop Events	Number of packets that were dropped.
Packets Received	Number of packets received, including bad packets, Multicast packets, 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 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) received.
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.

Table 14-35: RMON History Log fields.

14.5.3. Event

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



Management » RMON » Event

Event Table

Showing All entries

Showing 1 to 2 of 2 entries

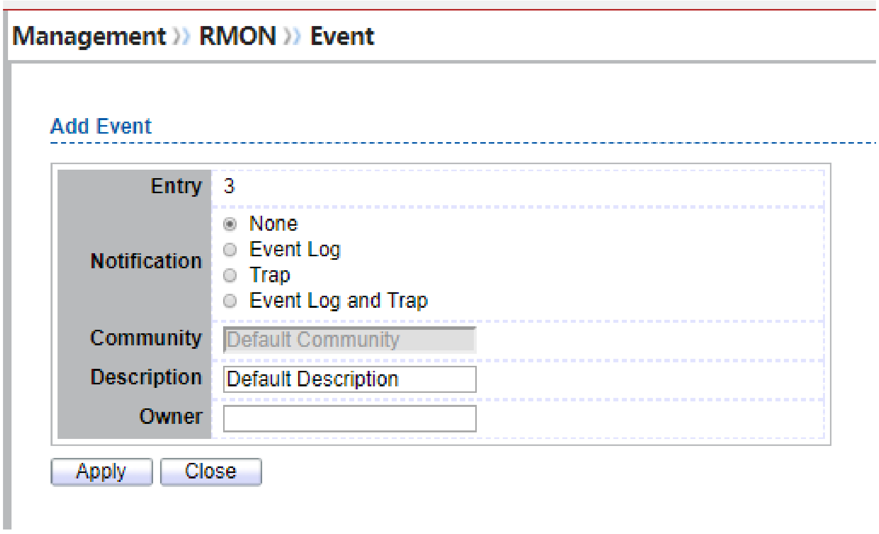
□	Entry	Community	Description	Notification	Time	Owner
□	1		Default Description	None		RAINBOW
□	2		Default Description	None		FEER

The SNMP service is currently disabled.
For RMON configuration to be effective, the SNMP service must be enabled.

Figure 14-36: RMON Event page.

Field	Description
Community	The SNMP community when the notification type is specified as trap.
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.

Table 14-36: RMON Event fields.



Management » RMON » Event

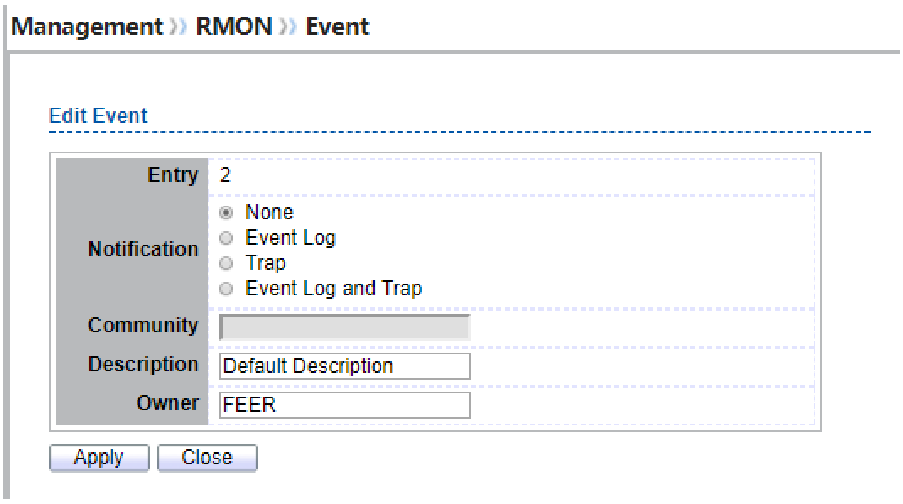
Add Event

Entry	3
Notification	● None ○ Event Log ○ Trap ○ Event Log and Trap
Community	Default Community
Description	Default Description
Owner	

Figure 14-37: RMON Event Add page.

Field	Description
Community	Specify the SNMP community when the notification type is specified as "Trap" pr "Event Log and Trap".
Description	Specify the description for the event.
Notification	Specify 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.
Owner	Specify owner for the event.

Table 14-37: RMON Event Add fields.



Management » RMON » Event

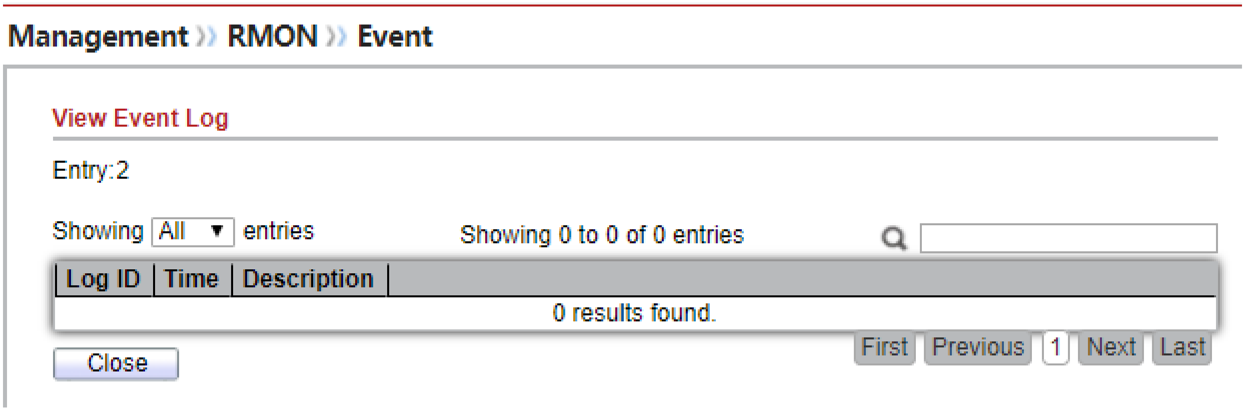
Edit Event

Entry	2
Notification	● None ○ Event Log ○ Trap ○ Event Log and Trap
Community	
Description	Default Description
Owner	FEER

Figure 14-38: RMON Event Edit page.

Field	Description
Community	Specify the SNMP community when the notification type is specified as "Trap" pr "Event Log and Trap".
Description	Specify the description for the event.
Notification	Specify 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.
Owner	Specify owner for the event.

Table 14-38: RMON Event Edit fields.



Management » RMON » Event

View Event Log

Entry:2

Showing All entries Showing 0 to 0 of 0 entries

Log ID	Time	Description
0 results found.		

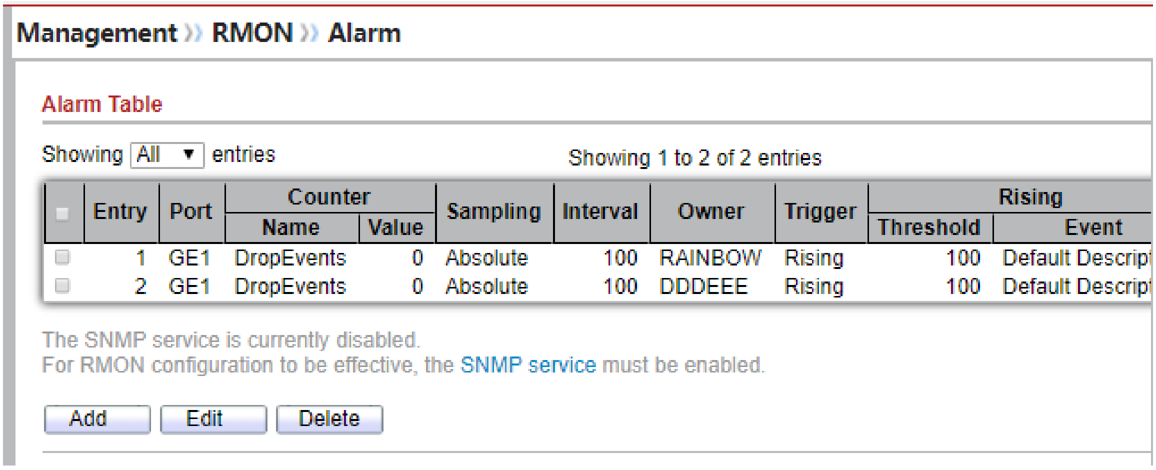
Figure 14-39: RMON Event Log page.

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

Table 14-39: RMON Event Log fields.

14.5.4. Alarm

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



Showing 1 to 2 of 2 entries

□	Entry	Port	Counter		Sampling	Interval	Owner	Trigger	Rising	
			Name	Value					Threshold	Event
□	1	GE1	DropEvents	0	Absolute	100	RAINBOW	Rising	100	Default Descrip
□	2	GE1	DropEvents	0	Absolute	100	DDDEEE	Rising	100	Default Descrip

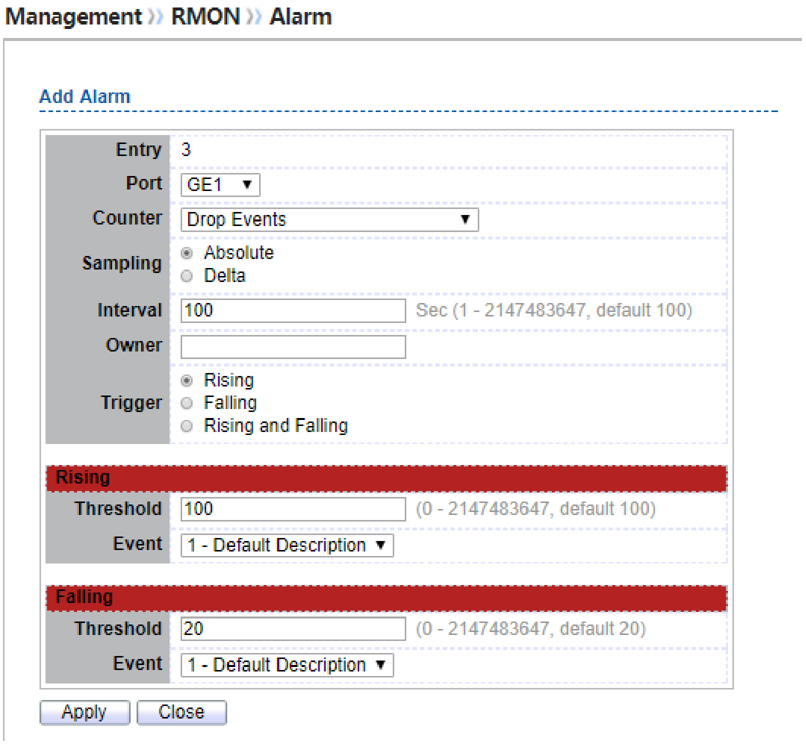
The SNMP service is currently disabled.
For RMON configuration to be effective, the SNMP service must be enabled.

Figure 14-40: RMON Alarm page.

Field	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 octets.
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.

Table 14-40: RMON Alarm fields.



Management » RMON » Alarm

Add Alarm

Entry	3
Port	GE1 ▼
Counter	Drop Events ▼
Sampling	● Absolute ○ Delta
Interval	100 Sec (1 - 2147483647, default 100)
Owner	
Trigger	● Rising ○ Falling ○ Rising and Falling

Rising

Threshold	100 (0 - 2147483647, default 100)
Event	1 - Default Description ▼

Falling

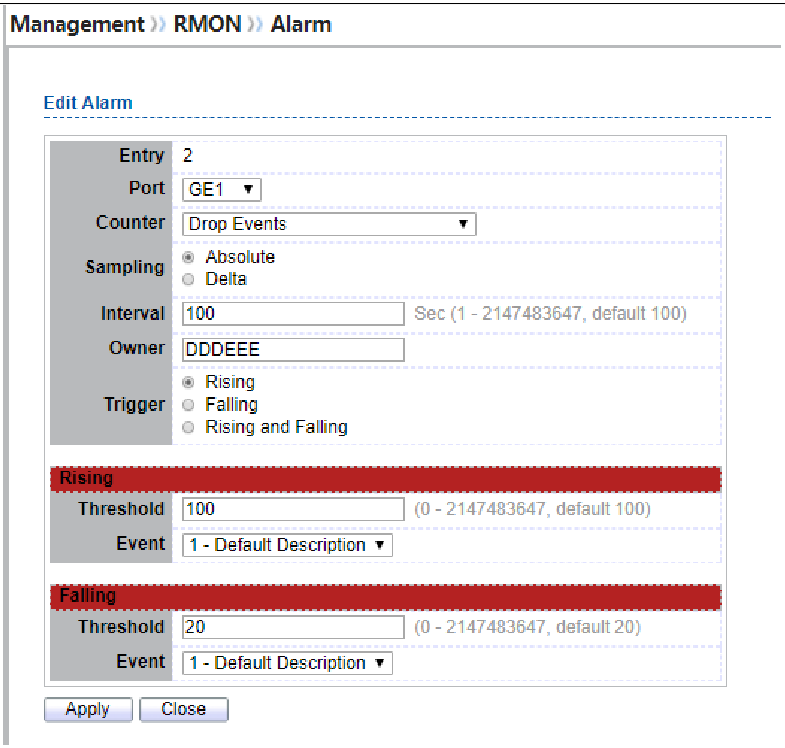
Threshold	20 (0 - 2147483647, default 20)
Event	1 - Default Description ▼

Figure 14-41: RMON Alarm Add page.

Field	Description
Port	Specify the port for sampling
Counter	Specify the counter for sampling • **Drop Event**: Total number of events received in which the packets were dropped. • **Received Bytes (Octets)**: 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 octets.
Sampling	Specify the sampling type. • **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	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.

Table 14-41: RMON Alarm Add fields.



Management » RMON » Alarm

Edit Alarm

Entry	2
Port	GE1 ▼
Counter	Drop Events ▼
Sampling	● Absolute ○ Delta
Interval	100 Sec (1 - 2147483647, default 100)
Owner	DDDEEE
Trigger	● Rising ○ Falling ○ Rising and Falling
Rising	
Threshold	100 (0 - 2147483647, default 100)
Event	1 - Default Description ▼
Falling	
Threshold	20 (0 - 2147483647, default 20)
Event	1 - Default Description ▼

Figure 14-42: RMON Alarm Edit page.

Field	Description
Port	Specify the port for sampling
Counter	Specify the counter for sampling • **Drop Event**: Total number of events received in which the packets were dropped. • **Received Bytes (Octets)**: 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 octets.
Sampling	Specify the sampling type. • **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	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.

Table 14-42: RMON Alarm Edit fields.