WoMaster

User Manual

Managed Switch Web Configuration

USER GUIDE

DS408H

Rev. 1.0

www.womaster.eu

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.Based on firmware v4.0.3.4

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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.

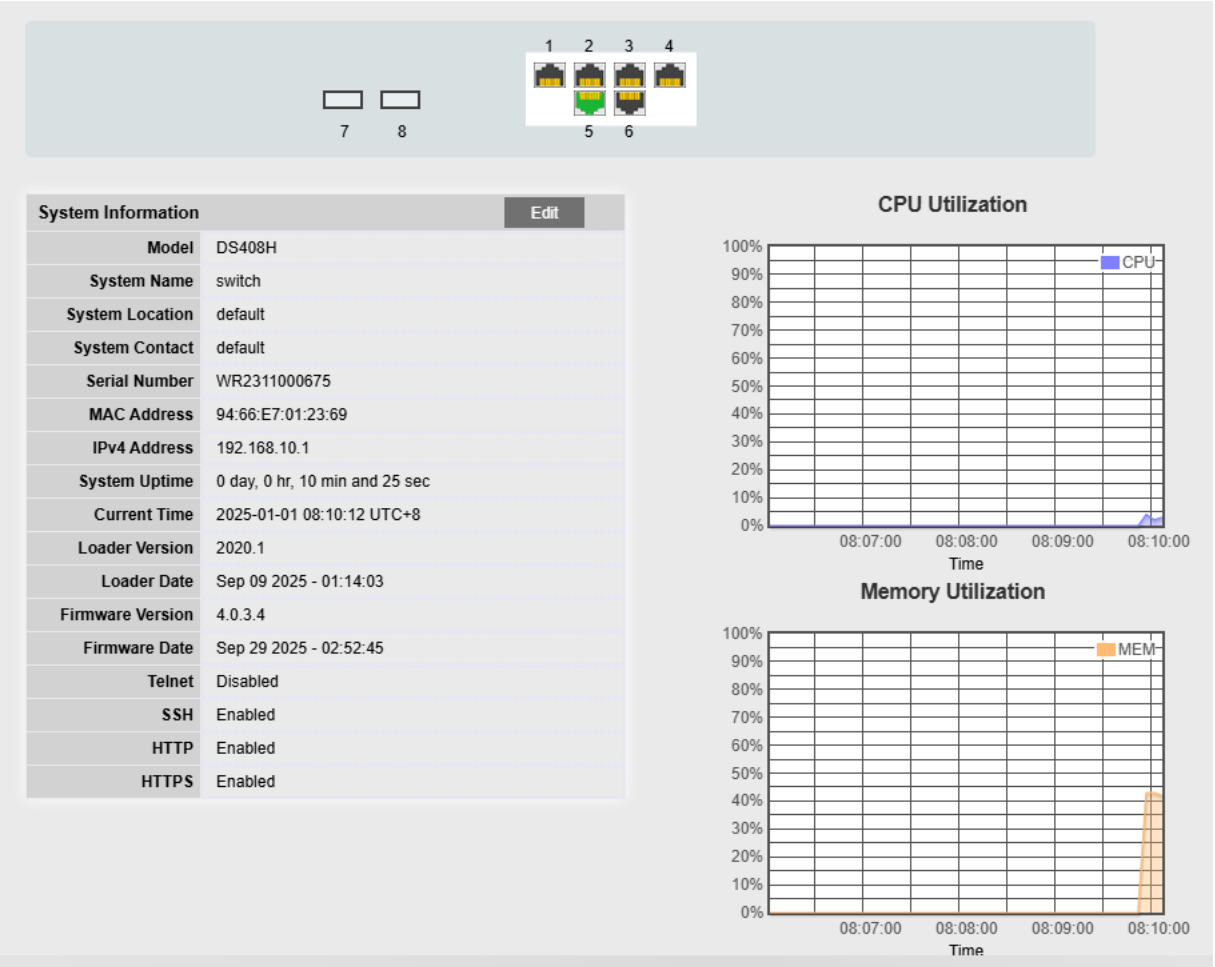
2. Status

Use the Status pages to view system information and status.

2.1. System Information

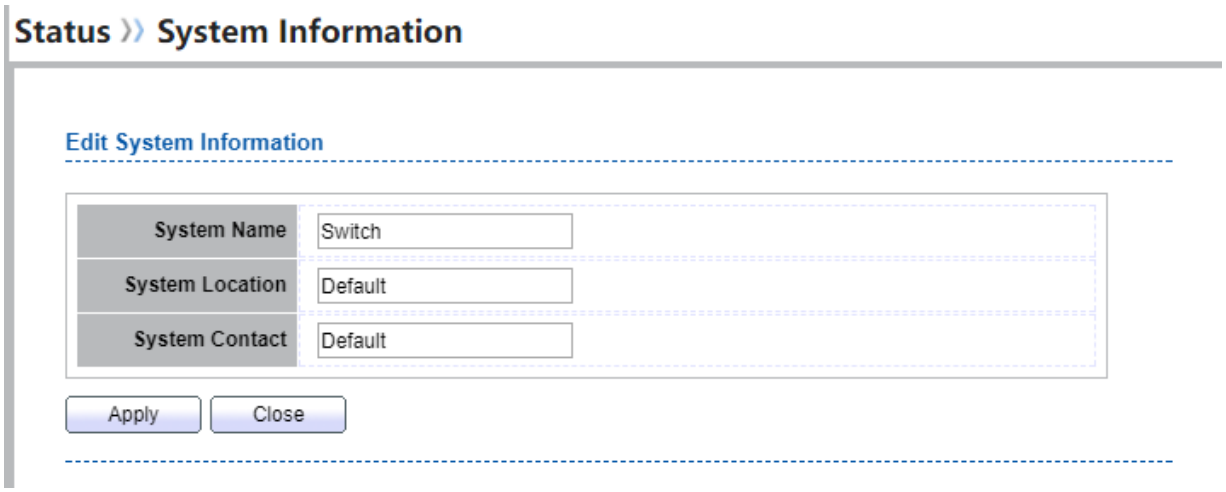
To display System Information web page, click **Status > System Information**

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



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

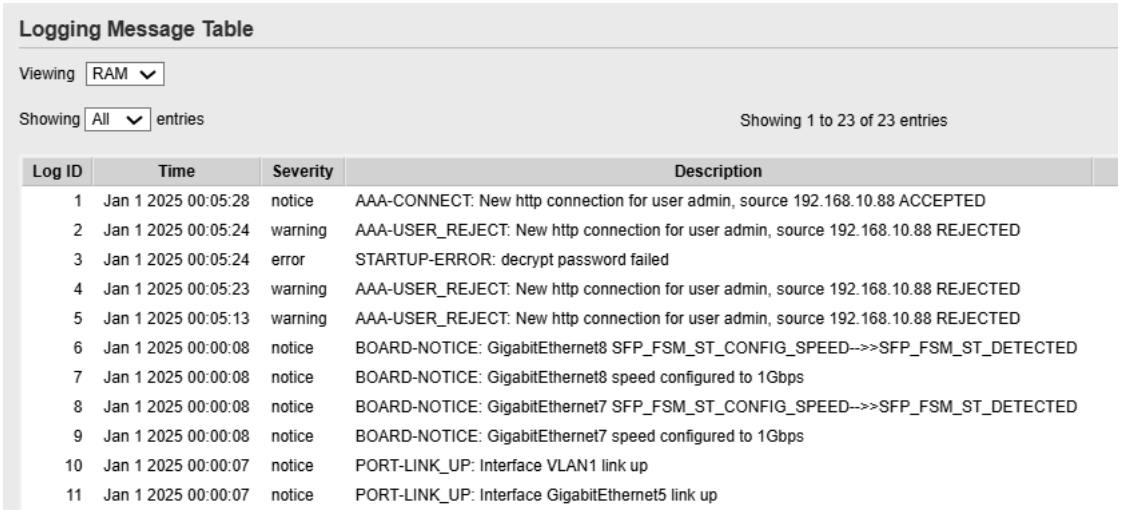
Click “Edit”button on the table title to edit following system information.



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

2.2. Logging Message

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



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.

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.

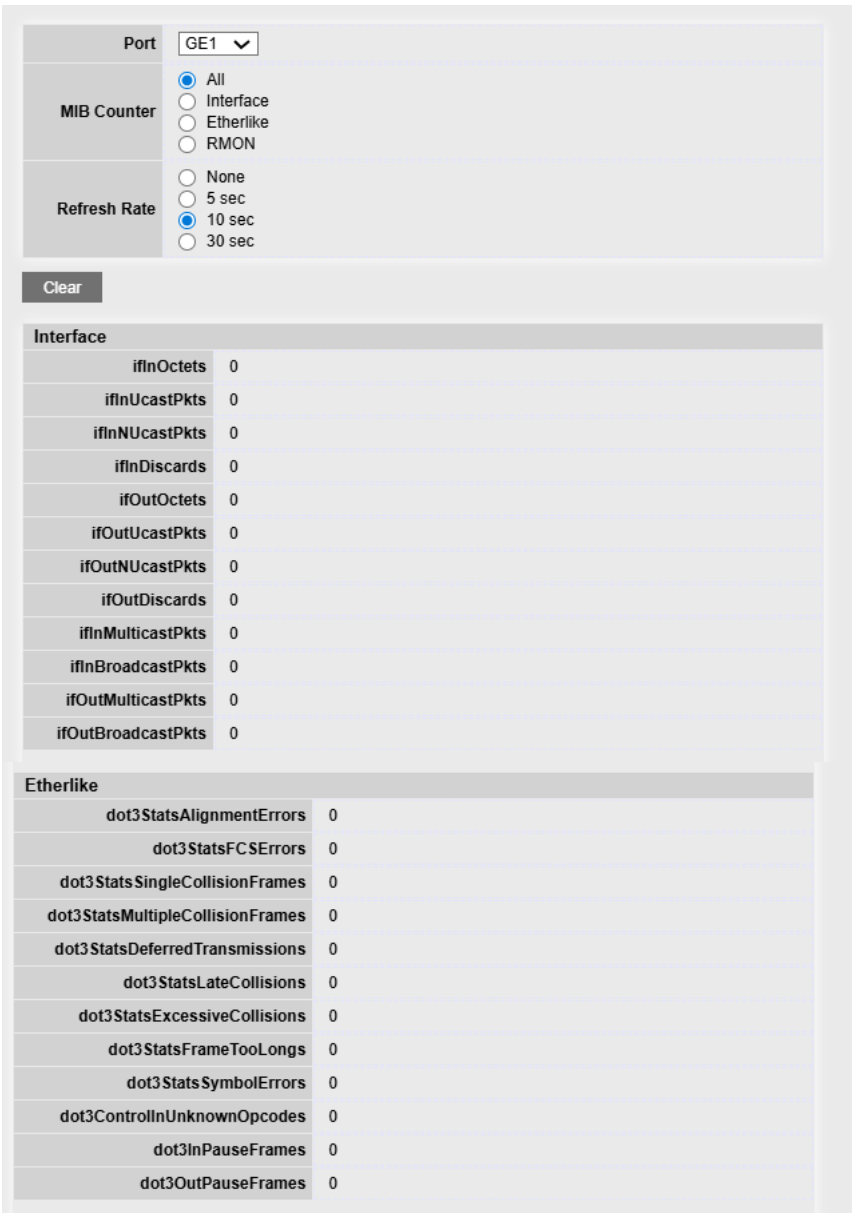
2.3. Port

The Port configuration page displays port summary and status information.

2.3.1. Statistics

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

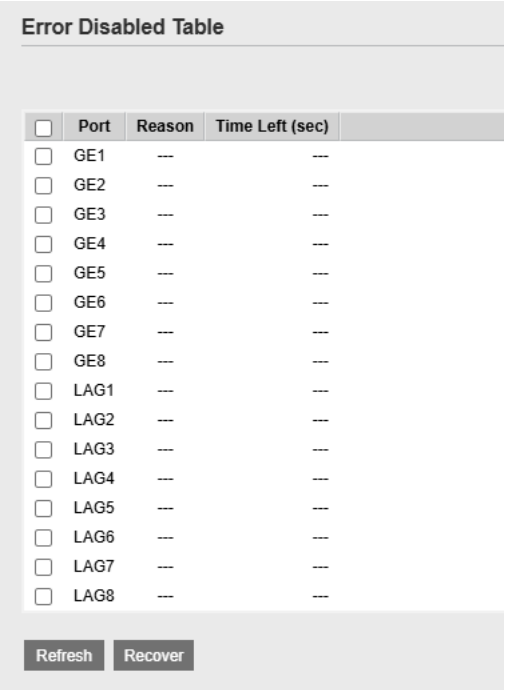
This page displays standard counters on network traffic form the Interfaces, Ethernet-like and RMON MIB. Interfaces and Ethernet-like counters display errors on the traffic passing through each port. RMON counters provide a total count of different frame types and sizes passing through each port. The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


Port
GE1
MIB Counter
All
Interface
Etherlike
RMON
Refresh Rate
None
5 sec
10 sec
30 sec
Clear
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

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

2.3.2. Error Disabled

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



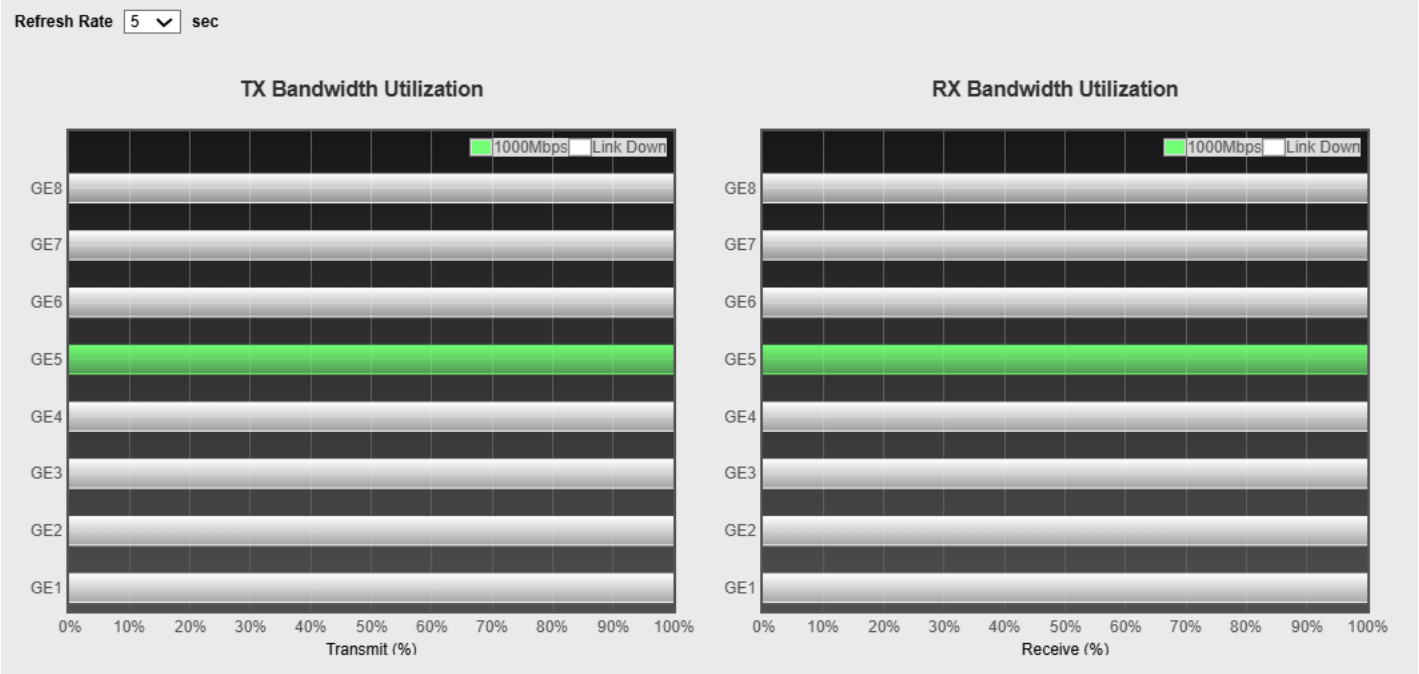
Field	Description
Port	Interface or port number.
Reason	Port will be disabled by one of the following error reason: • **BPDU Guard**

	• **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.

2.3.3. Bandwidth Utilization

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

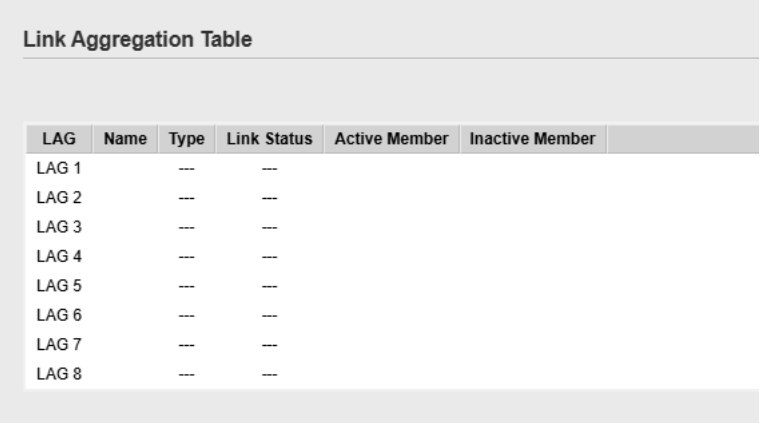
This page allow user to browse ports' bandwidth utilization in real time. This page will refresh automatically in every refresh period



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

2.4. Link Aggregation

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



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

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.

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

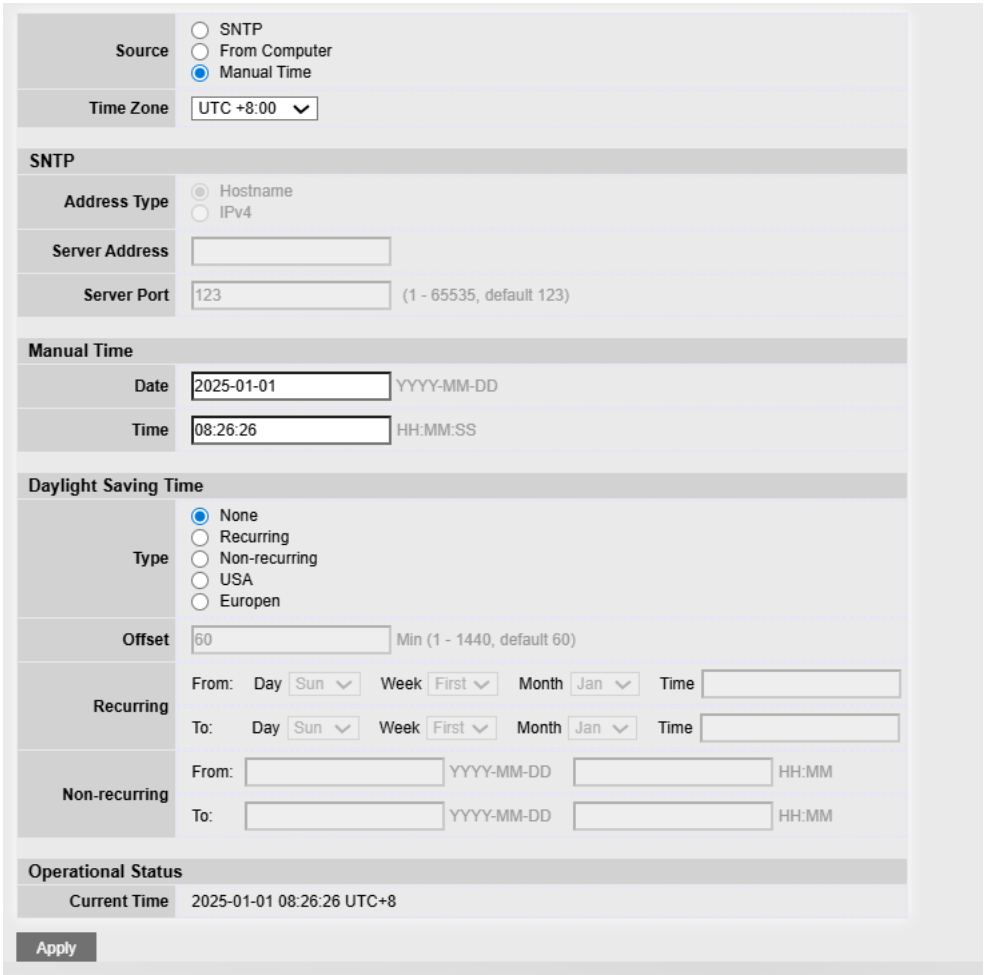
3. Network

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. 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.



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.
Operational Status	show the current time

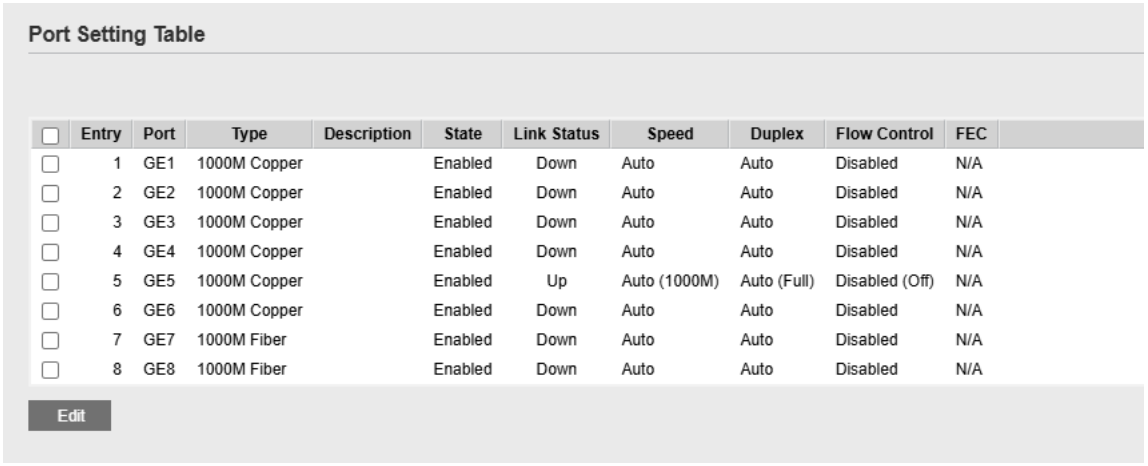
4.Port

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

4.1. Port Setting

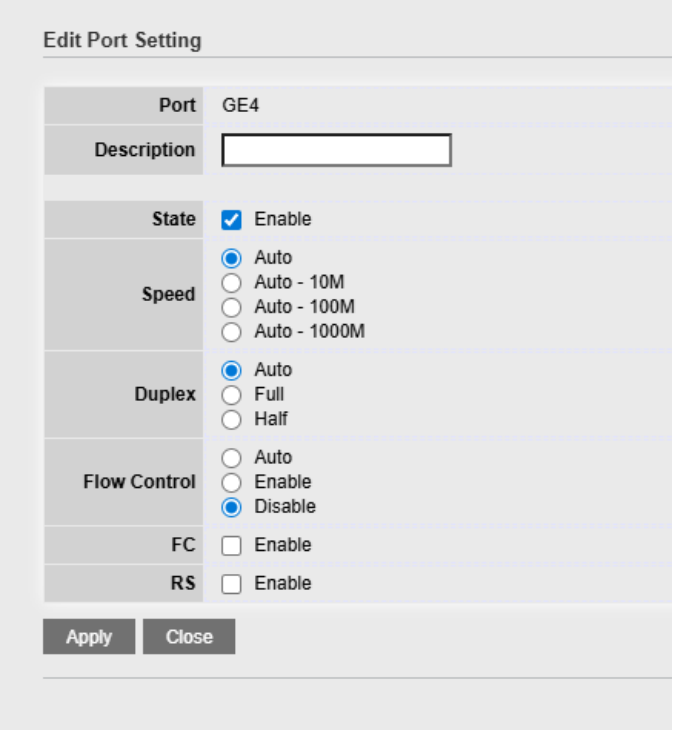
To display Port Setting web page, click **Port > Port Setting**

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



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

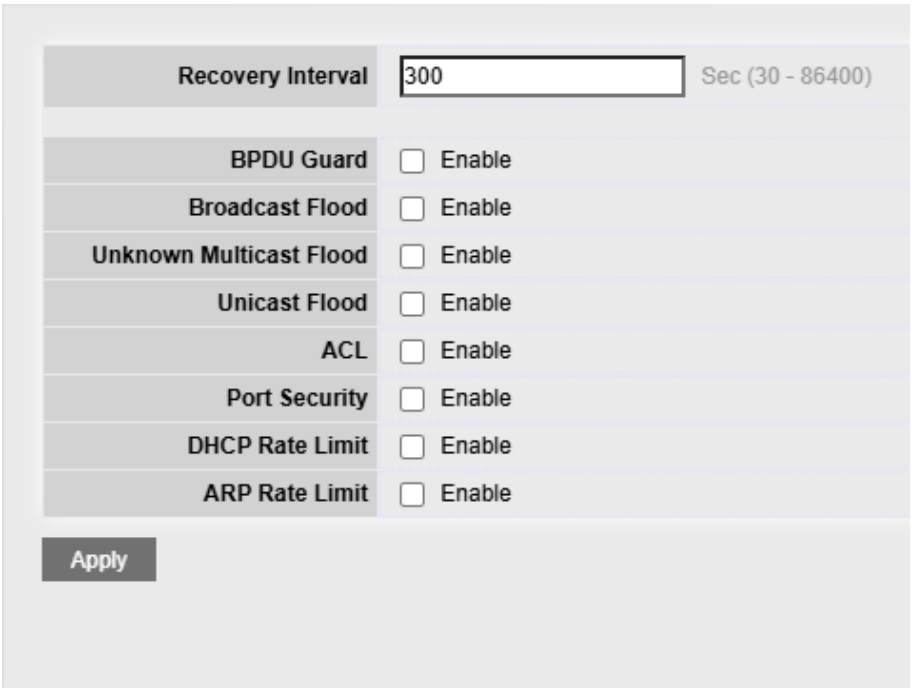


Field	Description
Port	Selected port list
Description	Port description
State	Port admin state. • **Enabled:** Enable the port. • **Disabled:** Disable the port.

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
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.

4.2. Error Disabled

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



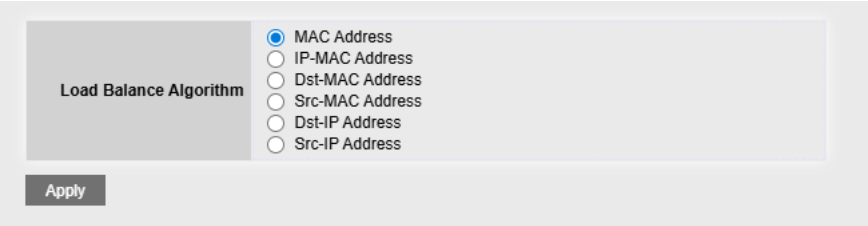
Field	Description
Recover Interval	Auto recovery after this interval for error disabled port.
BPDU Guard	Enabled to auto shutdown port when BPDU Guard reason occur. This reason caused by STP BPDU Guard mechanism.
Broadcast Flood	Enabled to auto shutdown port when Broadcast Flood reason occur. This reason 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.

4.3. Link Aggregation

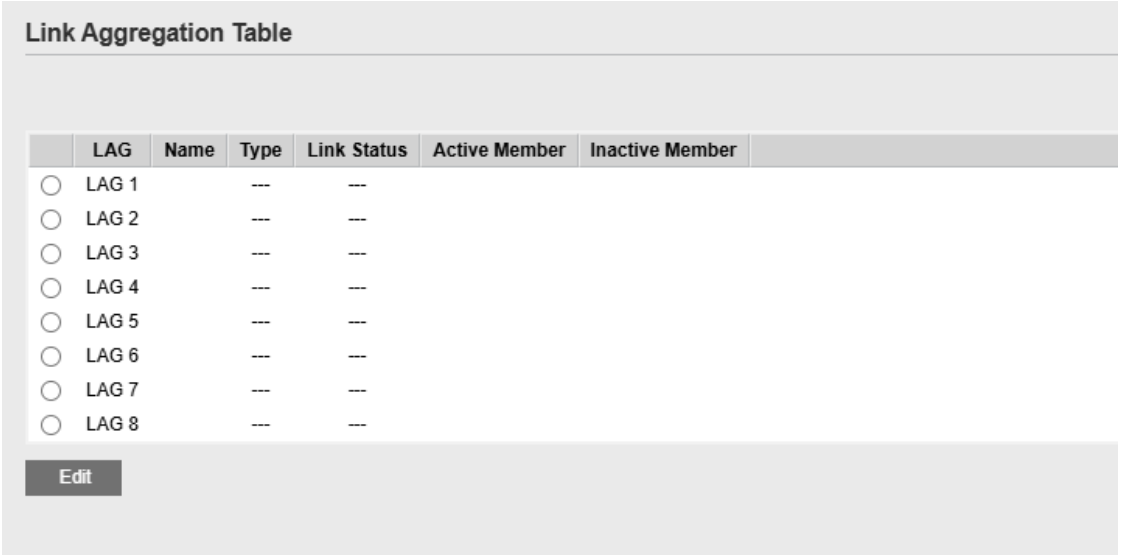
4.3.1 Group

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

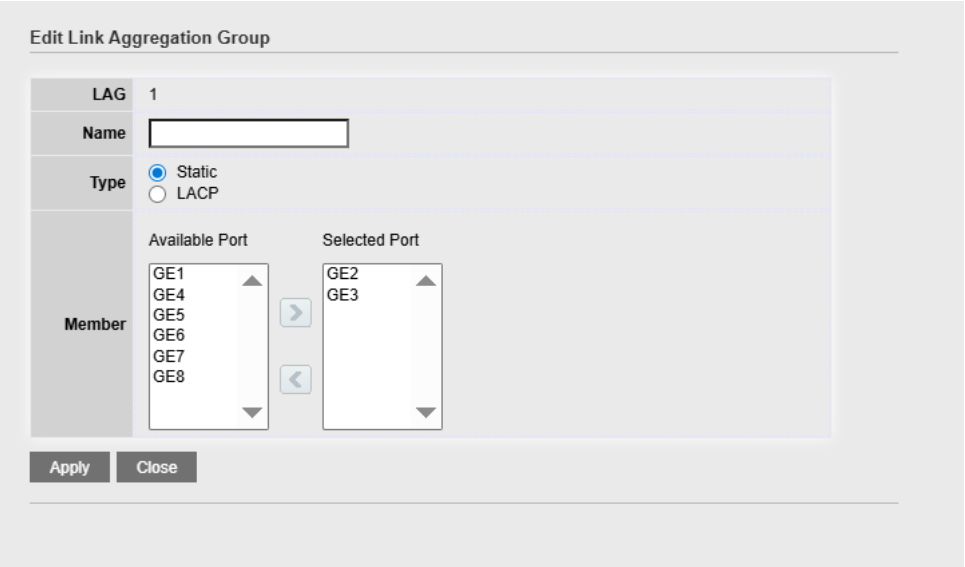
This page allow user to configure link aggregation group load balance algorithm and group member.



Field	Description
Load Balance Algorithm	LAG load balance distribution algorithm • **MAC Address：** Based on MAC address • **IP-MAC Address：** Based on IP and MAC address • **Dst-MAC Address：** Based on destination MAC address • **Src-MAC Address：** Based on source MAC address • **Dst-IP Address:** Based on destination IP address • **Src-IP Address:** Based on source IP address



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

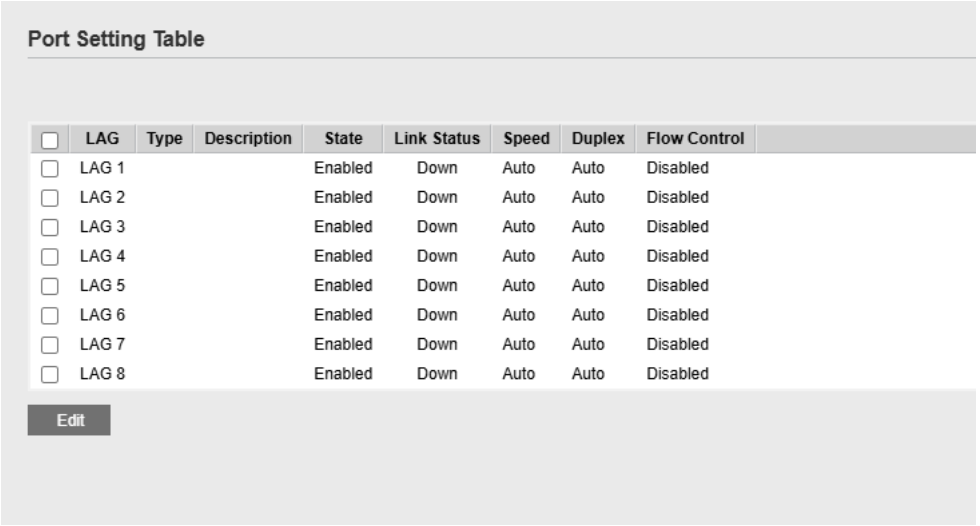


Field	Description
LAG	Selected LAG group ID
Name	LAG port description
Type	The type of the LAG • **Static:** The group of ports assigned to a static LAG are always active members. • **LACP:** The group of ports assigned to dynamic LAG are candidate ports. LACP determines which candidate ports are active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

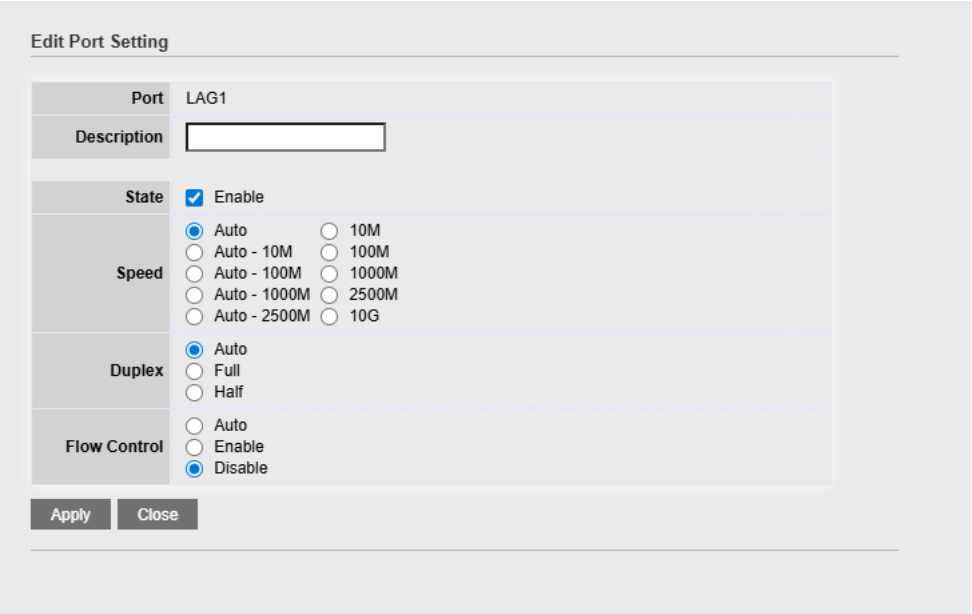
4.3.2. Port Setting

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.



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



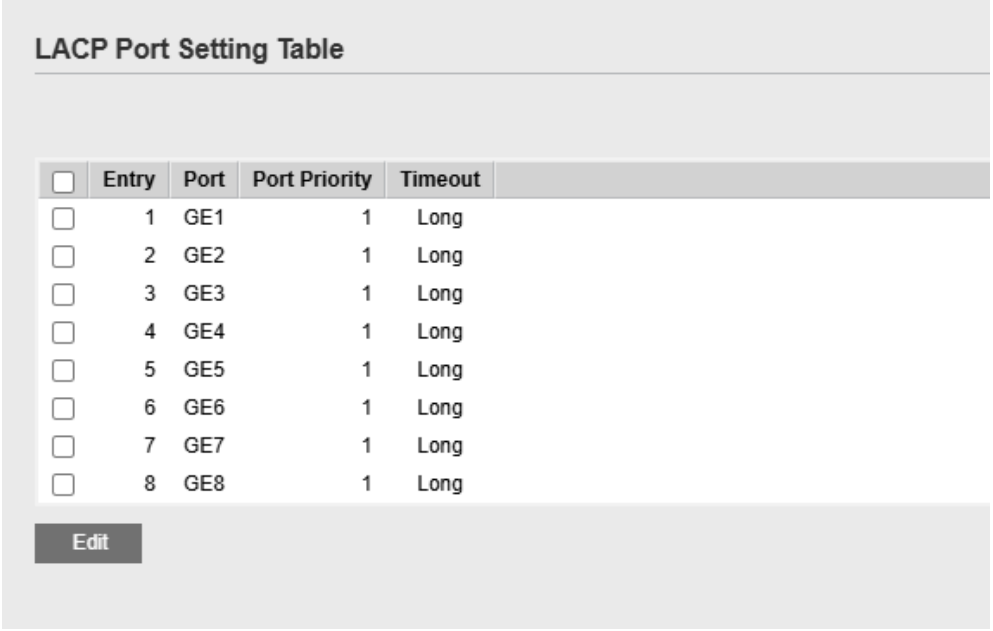
Field	Description
Port	Selected port list
Description	Port description
State	Port admin state. • **Enable:** Enable the port. • **Disable:** Disable the port.
Speed	Port speed capabilities. • **Auto:** Auto speed with all capabilities • **Auto-10M:** Auto speed with 10M ability only • **Auto-100M:**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

4.3.3. LACP

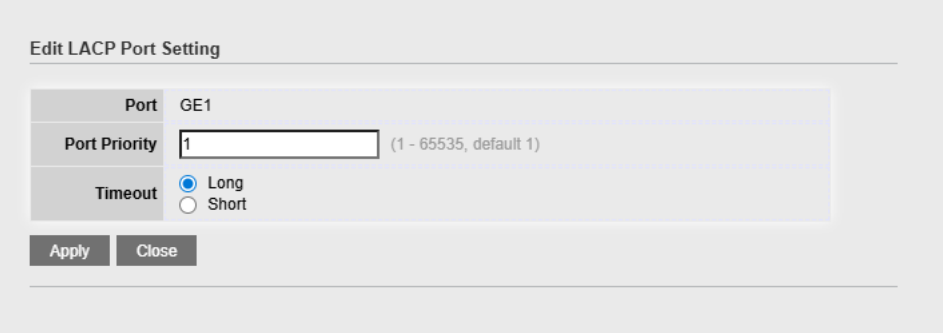
To display LACP Setting web page, click **Port > Link Aggregation > LACP.**

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

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



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).

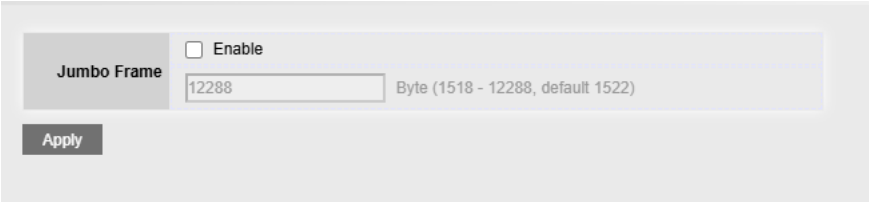


Field	Description
Port	Selected port list
Port Priority	Enter the LACP priority value of the port
Timeout	The periodic transmissions type of LACP PDUs. • **Long:** Transmit LACP PDU with slow periodic (30s). • **Short:** Transmit LACPP DU with fast periodic (1s).

4.4. Jumbo Frame

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

This page allow user to configure switch jumbo frame size.

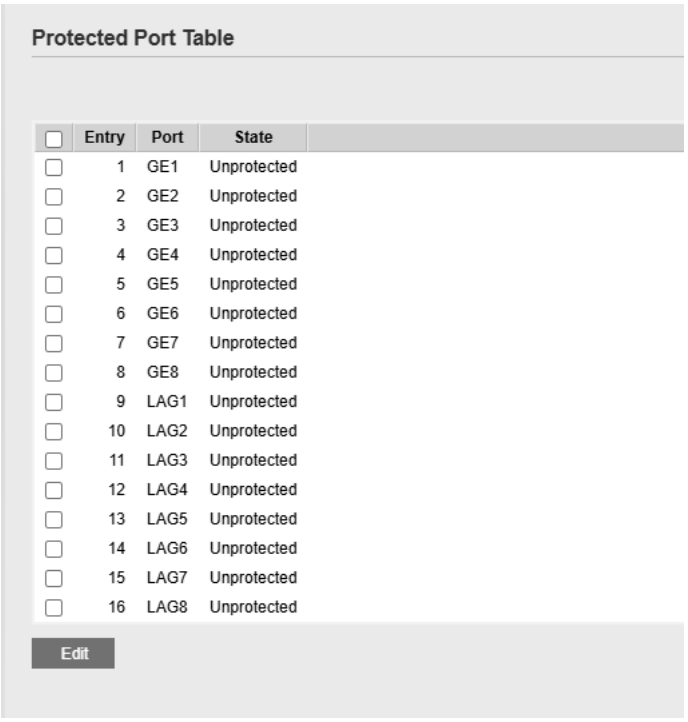


Field	Description
Jumbo Frame	Enable or disable jumbo frame. When jumbo frame is enabled, switch max frame size is allowed to configure. When jumbo frame is disabled, default frame size 1522 will be used.

4.5. Protected Port

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

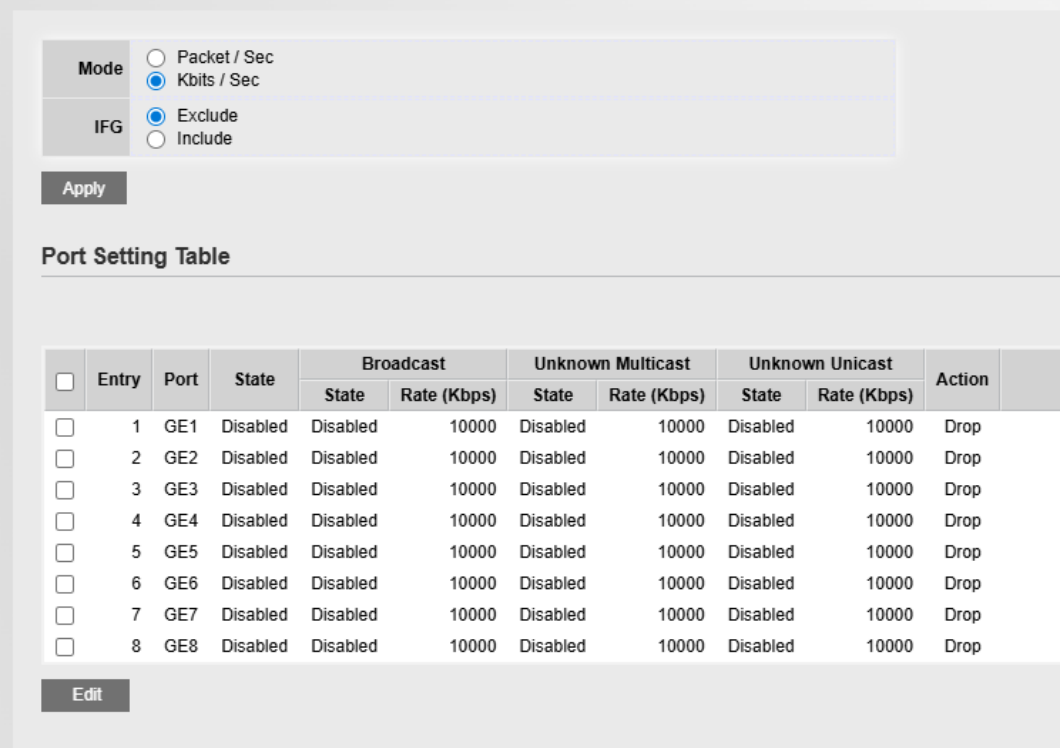


Field	Description
Port	Port Name
State	Port protected admin state. • **Protected:** Port is protected. • **Unprotected:** Port is unprotected

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

4.6.Storm Control

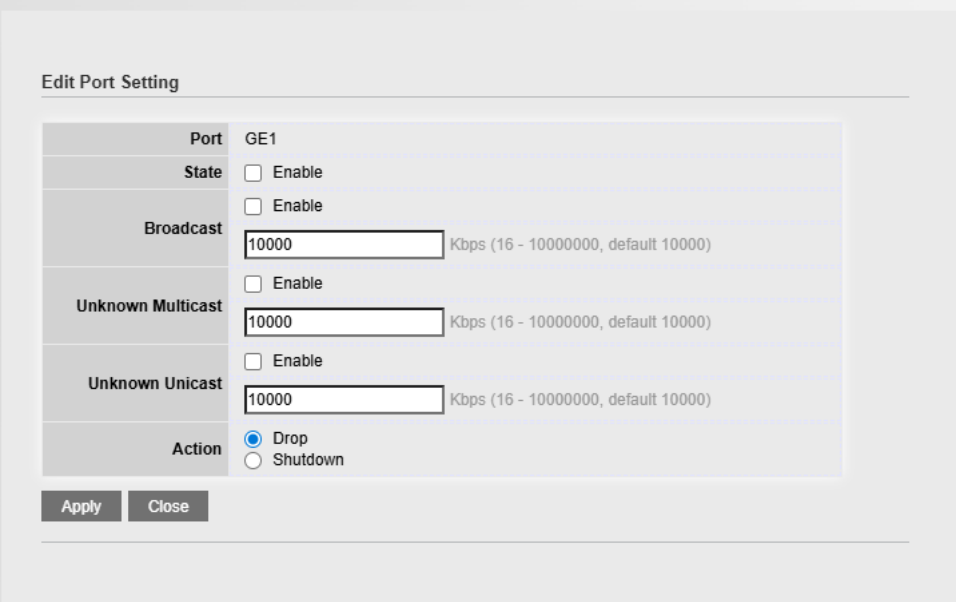
To display Storm Control global setting web page, click **Port > Storm Control**



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.

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



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.

5. VLAN

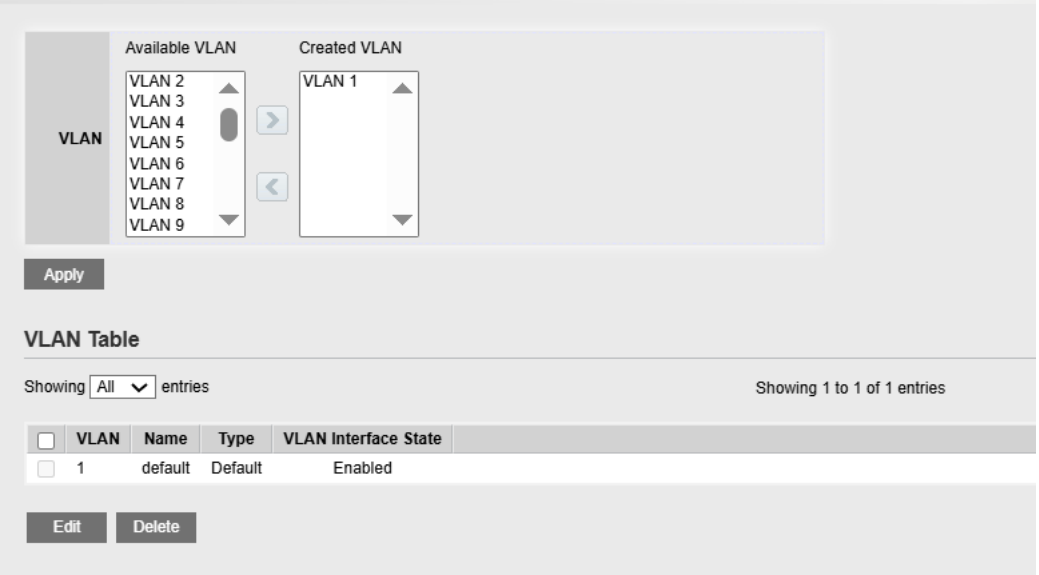
A virtual local area network, virtual LAN or VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the same broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical local area network (LAN), but it allows 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.

5.1.1. Create VLAN

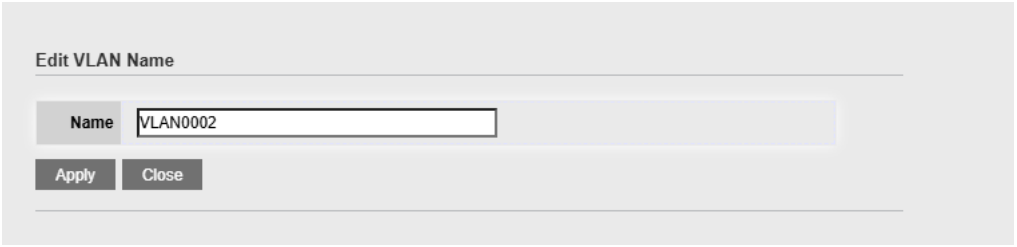
To display Create VLAN page, click **VLAN > VLAN > Create VLAN**

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.



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.

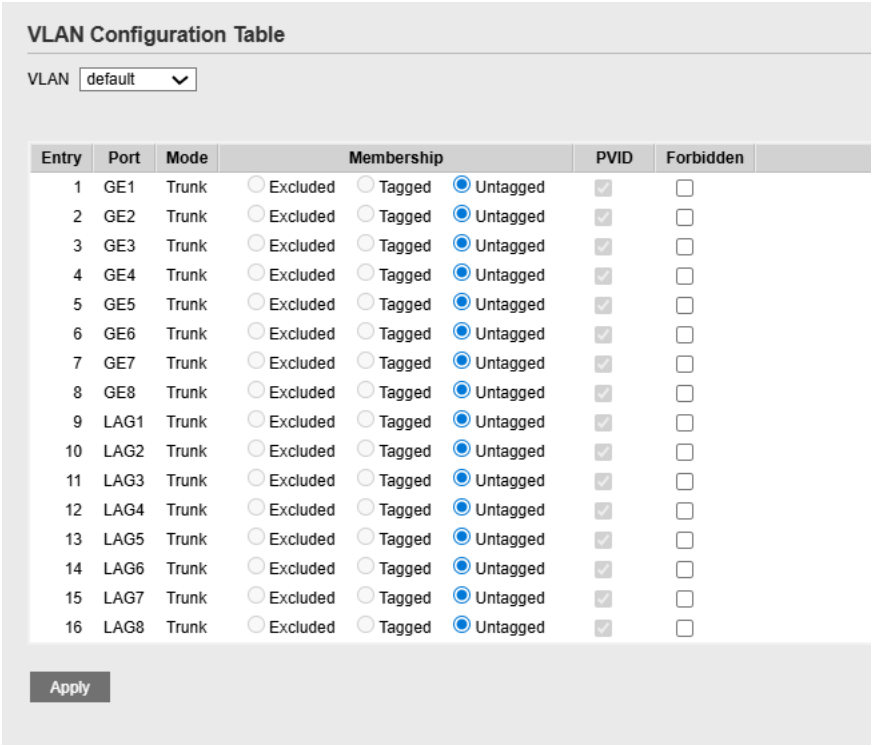


Field	Description
Name	Input VLAN name.

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.

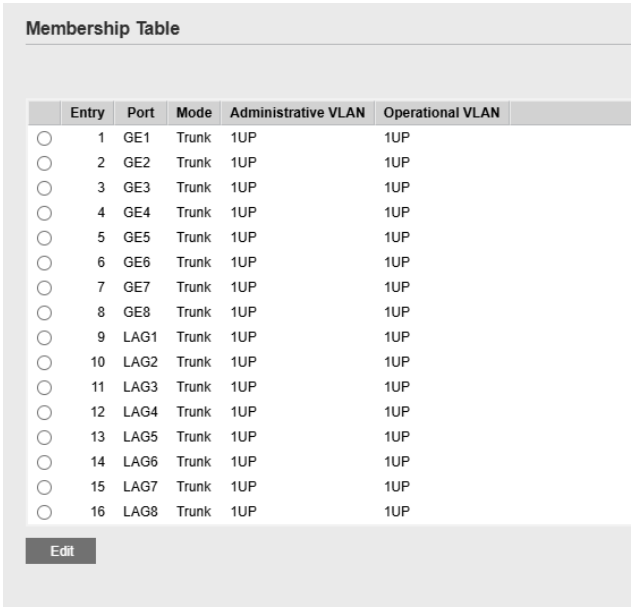


Field	Description
VLAN	Select specified VLAN ID to configure VLAN configuration.
Port	Display the interface of port entry.
Mode	Display the interface VLAN mode of port.
Membership	Select the membership for this port of the specified VLAN ID. • **Forbidden:** Specify the port is forbidden in the VLAN.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

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



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.

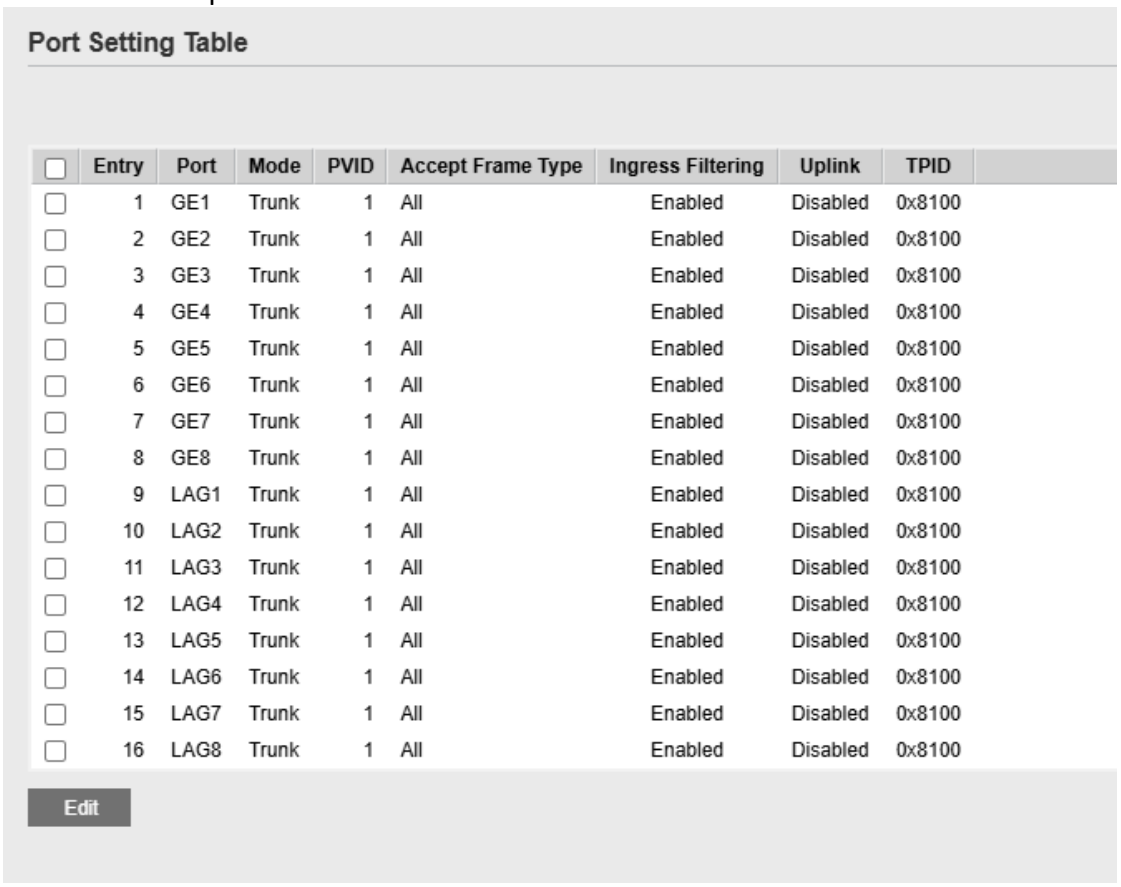
Field	Description
Port	Display the interface.
Mode	Display the VLAN mode of interface.
Membership	Select VLANs of left box and select one of following membership then move to right box to add membership. Select VLANs of right box then move to left box to remove membership. Tagging membership may not 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.

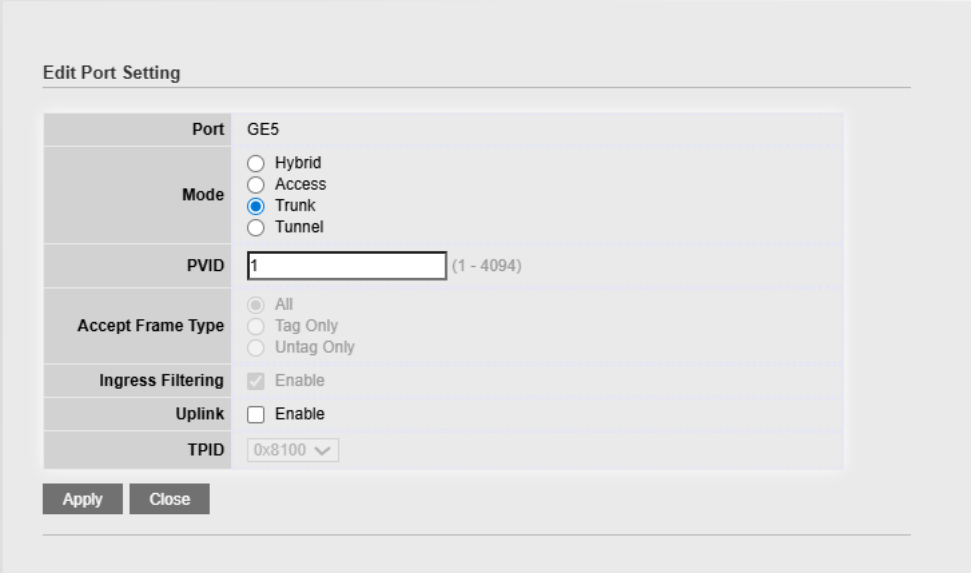
5.1.4. Port Setting

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.



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.



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.

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**.

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..

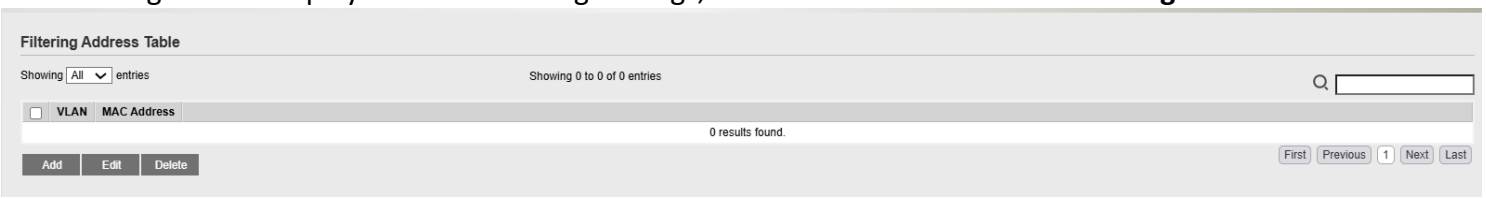
6.2. Static Address

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

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.

6.3. Filtering Address

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



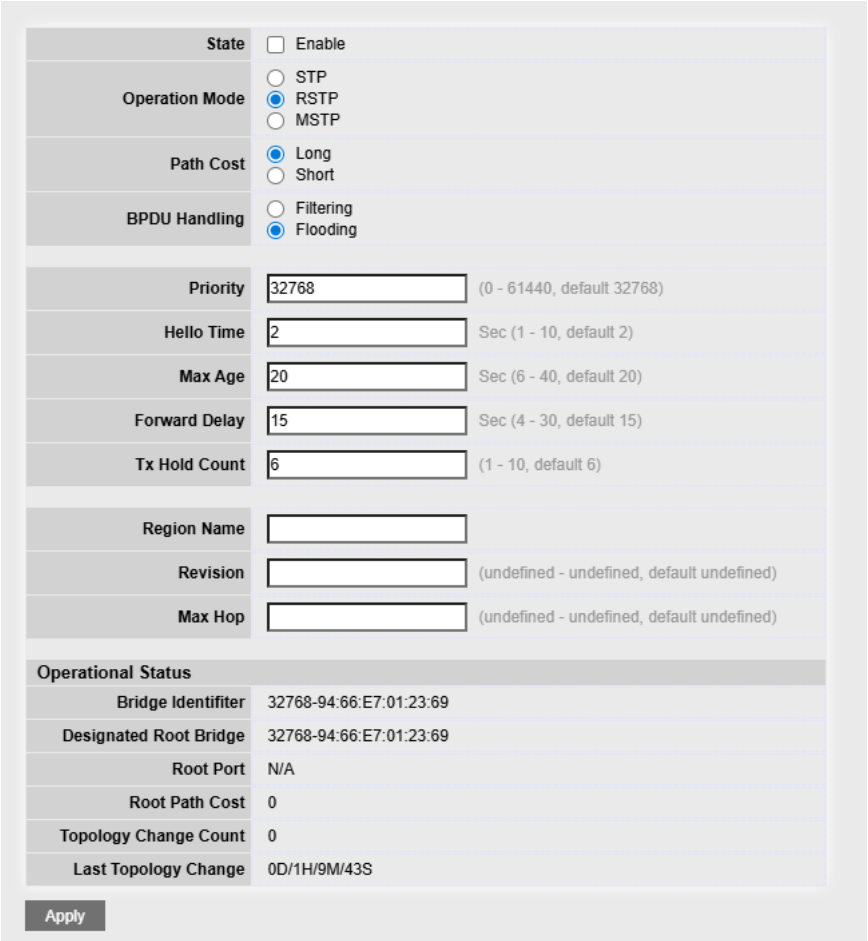
Field	Description
MAC Address	Specify unicast MAC address in the packets to be dropped.
VLAN	Specify the VLAN ID for the specific MAC address.

7.Spanning Tree

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**.

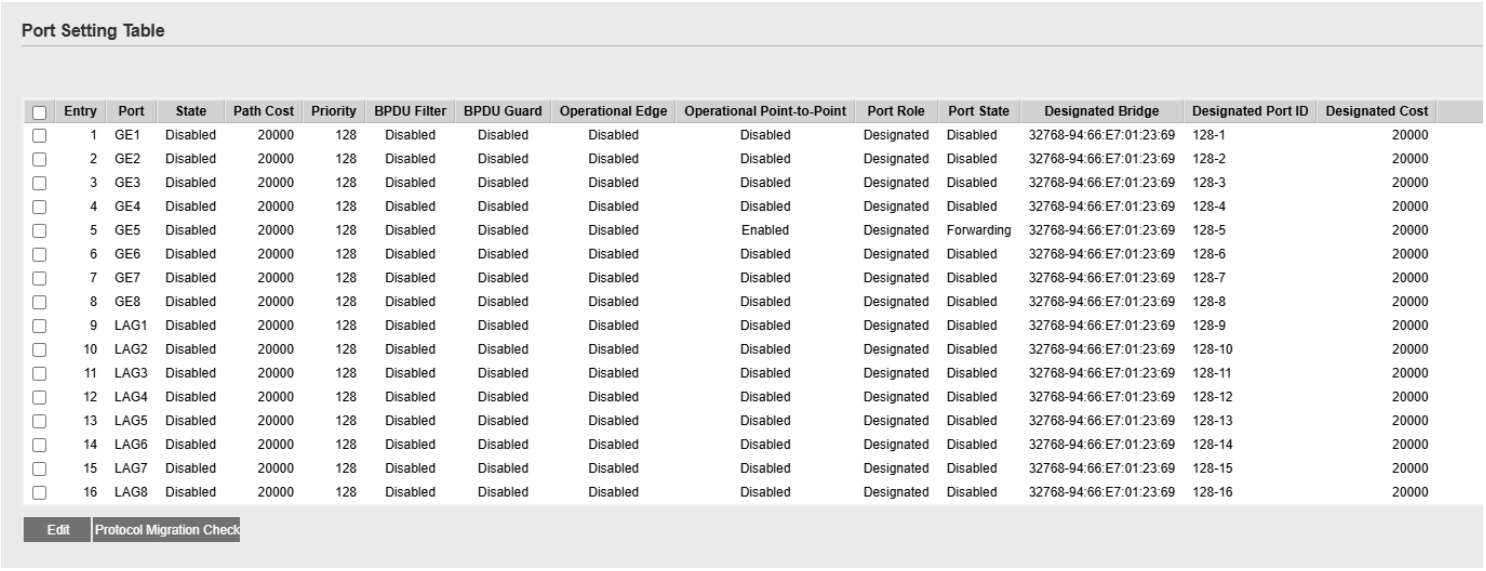


Field	Description
State	Enable/Disable the Spanning Tree on the switch.
Operation Mode	Specify the Spanning Tree operation mode. • **STP**: Enable the Spanning Tree (STP) operation. • **RSTP**: Enable the Rapid Spanning Tree (RSTP) operation. • **MST**P: Enable the Multiple Spanning Tree (MSTP) operation.
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.

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.

7.2 Port Setting

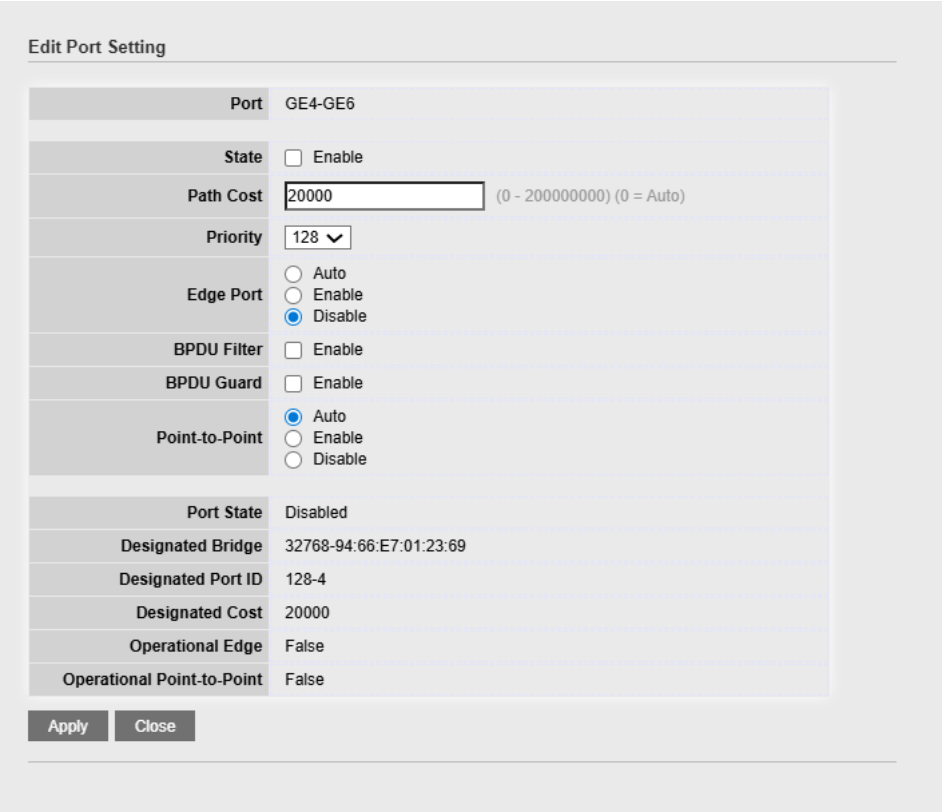
To configure and display the STP port settings, click **Spanning Tree** > **Port Setting**.



Entry	Port	State	Path Cost	Priority	BPDU Filter	BPDU Guard	Operational Edge	Operational Point-to-Point	Port Role	Port State	Designated Bridge	Designated Port ID	Designated Cost
1	GE1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-1	20000
2	GE2	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-2	20000
3	GE3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-3	20000
4	GE4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-4	20000
5	GE5	Disabled	20000	128	Disabled	Disabled	Disabled	Enabled	Designated	Forwarding	32768-94:66:E7:01:23:69	128-5	20000
6	GE6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-6	20000
7	GE7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-7	20000
8	GE8	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-8	20000
9	LAG1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-9	20000
10	LAG2	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-10	20000
11	LAG3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-11	20000
12	LAG4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-12	20000
13	LAG5	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-13	20000
14	LAG6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-14	20000
15	LAG7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-15	20000
16	LAG8	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Designated	Disabled	32768-94:66:E7:01:23:69	128-16	20000

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

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



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.

8.ERPS

ERPS (Ethernet Ring Protection Switching) is the G.8032 Ethernet ring protection protocol published by ITU-T, designed to meet telecom-grade reliability with fast convergence. If all devices in the ring support this protocol, interoperability can be achieved.

The concept of ERPS protocol mainly includes ERPS ring, nodes, port roles, and port states.

1.ERPS Instance

Unlike spanning tree instances, it is similar to the concept of an ERRP domain. A group of interconnected switches configured with the same instance ID and control VLAN forms an ERPS instance.

2.Control VLAN

The control VLAN is the VLAN used for transmitting ERPS protocol messages, similar to the role of the control VLAN in ERRP. The protocol messages will carry the corresponding control VLAN tag.

3.RPL

Ring Protection Link (RPL) is a link designated by a mechanism that is blocked during the idle state to prevent loops in the bridged ring.

4.ERPS Ring

An ERPS ring consists of a group of Layer 2 switches that are configured with the same control VLAN and interconnected. This is the basic unit of the ERPS protocol.

5.Node

A Layer 2 switch that joins an ERPS ring is referred to as a node. No node can have more than two ports in the same ERPS ring. Nodes are classified into four categories: RPL Owner, Neighbour, Next Neighbour, and Common.

6.Port Roles

The ERPS protocol defines four main port roles: RPL Owner, Neighbour, Next Neighbour, and Common.

(1)RPL Owner:

Each ERPS ring has only one RPL Owner port, which is determined by the user. The RPL Owner port is blocked to prevent loops in the ERPS ring. The node with the RPL Owner port is called the RPL Owner node.

(2)RPL Neighbour: Each ERPS ring has only one RPL Neighbour port, configured by the user. It must be the port connected to the RPL Owner port. During normal operation, this port will be blocked along with the RPL Owner port to prevent loops in the ERPS ring. The node with the RPL Neighbour port is called the RPL Neighbour node.

(3)RPL Next Neighbour: An ERPS ring can have up to two RPL Next Neighbour ports, configured by the user. These ports must connect to the RPL Owner or RPL Neighbour ports. The node with an RPL Next Neighbour port is called the RPL Next Neighbour node.

Note: RPL Next Neighbour nodes are similar to common nodes and can be replaced by Common nodes during configuration.

(4)Common: Common ports are all ports other than RPL Owner, Neighbour, and Next Neighbour ports. If a node only has Common ports, it is called a Common node.

7.Port States

In an ERPS ring, there are three port states when the ERPS protocol is enabled:

(1)Forwarding: In this state, the port forwards user traffic and receives/sends R-APS messages. It can also forward R-APS messages from other nodes.

(2)Discarding: In this state, the port can only receive/send R-APS messages, but cannot forward R-APS messages from other nodes.

(3)Disable: This state occurs when the port is in a Linkdown state.

8.Work Mode: ERPS Working Mode

There are two modes: revertive (reversible) and non-revertive (non-reversible).

(1)Revertive Mode: When a link failure occurs, the RPL link is unblocked for protection. When the failed link recovers, the RPL link is re-protected to prevent loops.

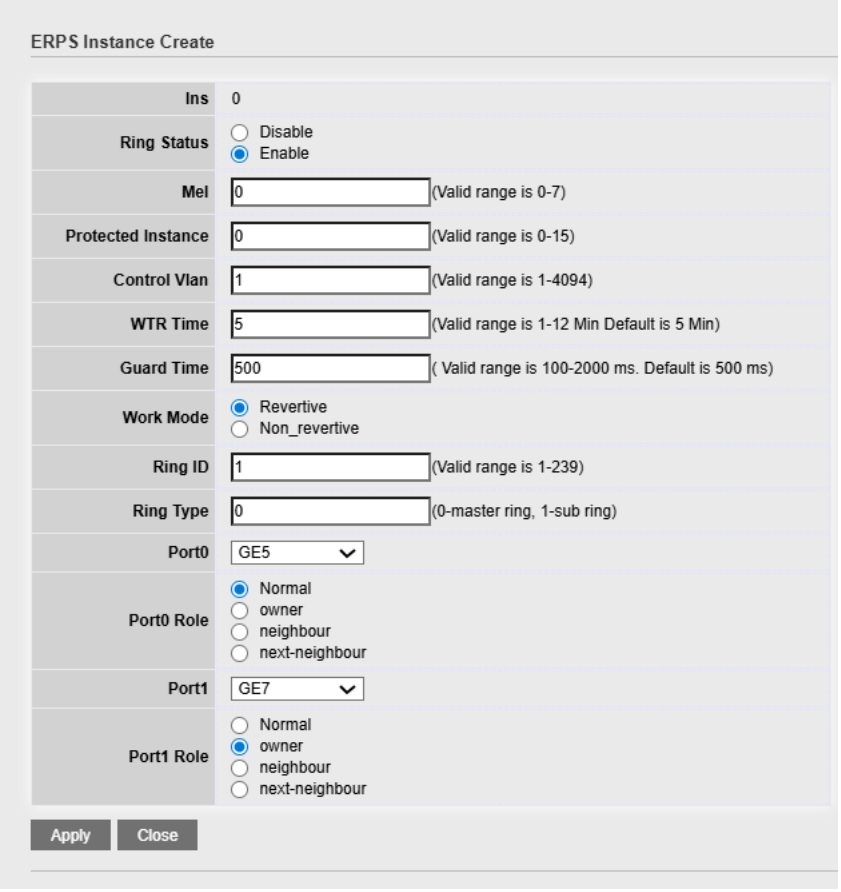
(2)Non-Revertive Mode: After a failure recovery, the failed node remains in the failed state (does not enter Forwarding), and the RPL link remains unprotected.

8.1.Property

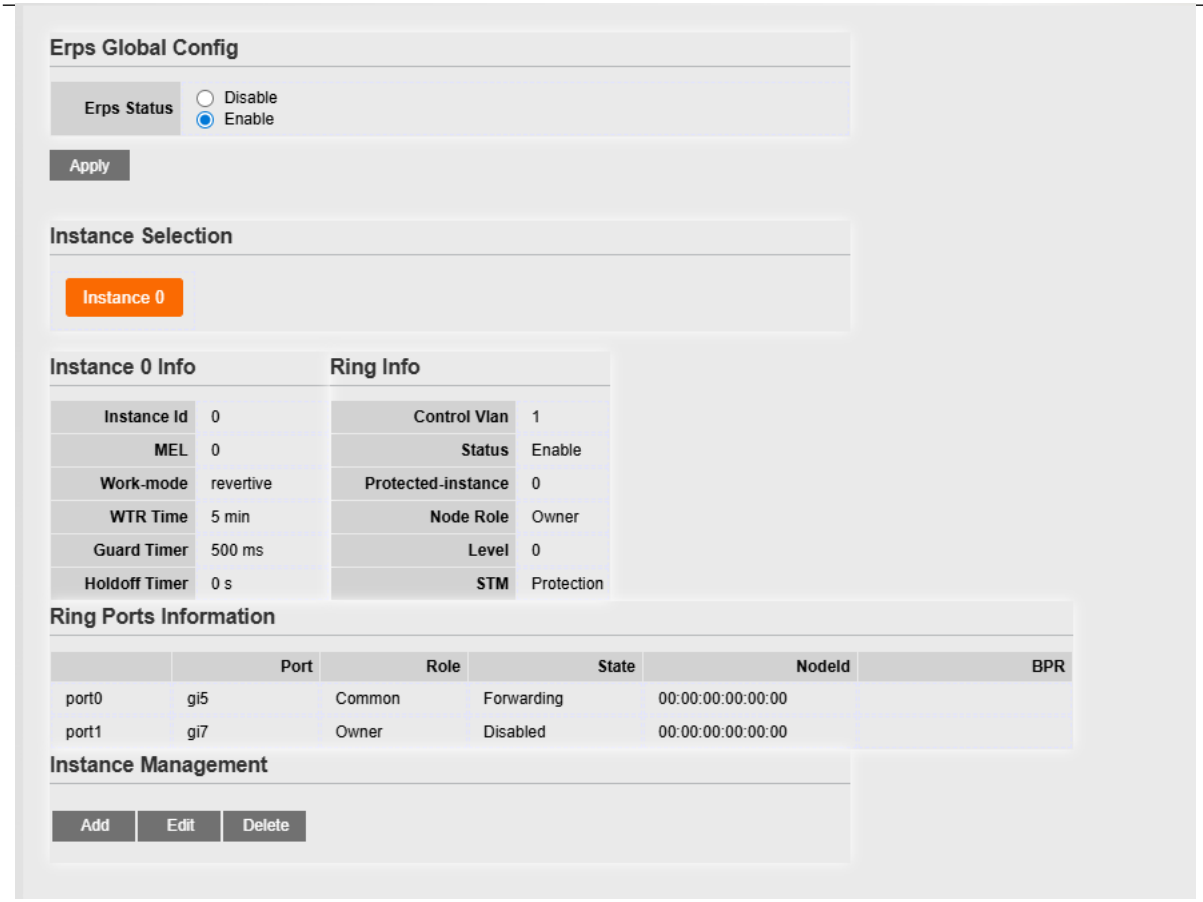
To display ERPS Property Setting web page, click **ERPS > Property**.

8.2 ERPS Instance

1.Click on “Add”. You can create an ERPS instance, view the configuration information for each instance, and delete instances if needed.



2. Select the instance (instance must be created first), then click the " **Edit** " button to enter the instance configuration page.


Erps Global Config
Erps Status
Disable
Enable
Apply
Instance Selection
Instance 0
Instance 0 Info
Instance Id 0
MEL 0
Work-mode revertive
WTR Time 5 min
Guard Timer 500 ms
Holdoff Timer 0 s
Ring Info
Control Vlan 1
Status Enable
Protected-instance 0
Node Role Owner
Level 0
STM Protection
Ring Ports Information
Port Role State NodeId BPR
port0 gi5 Common Forwarding 00:00:00:00:00:00
port1 gi7 Owner Disabled 00:00:00:00:00:00
Instance Management
Add
Edit
Delete

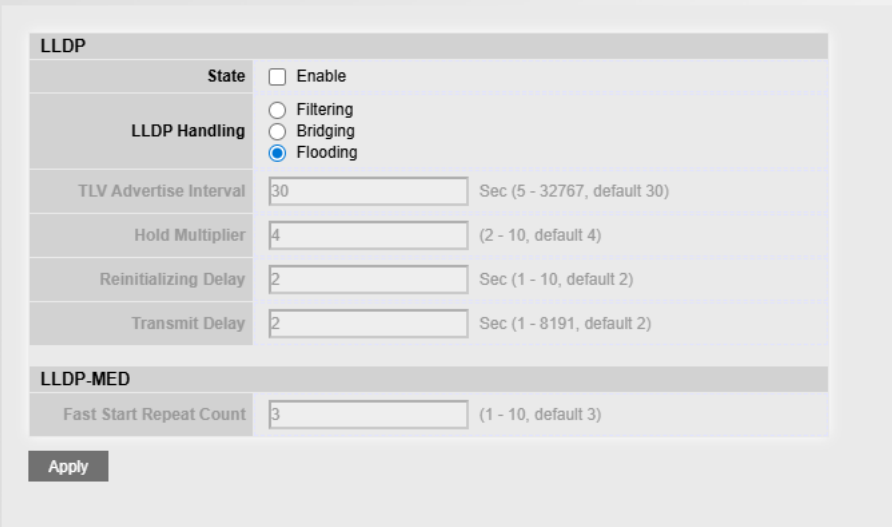
9.Discovery

9.1 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.

9.1.1 Property

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

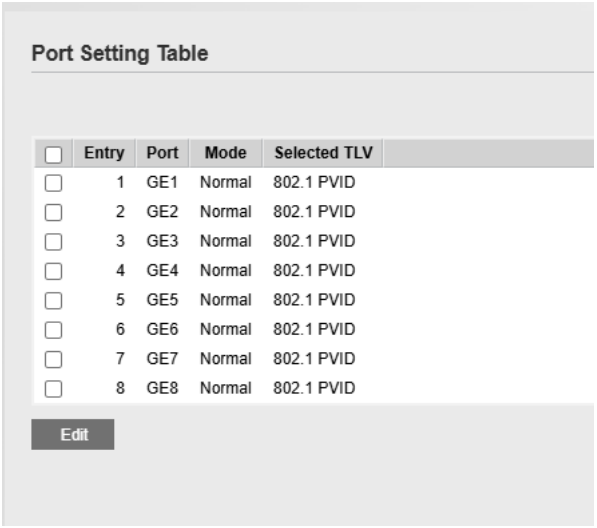


Field	Description
State	Enable/ Disable LLDP protocol on this switch.
LLDP Handling	Select LLDP PDU handling action to be filtered, bridging or flooded when LLDP is globally disabled. • **Filtering:** Deletes the packet. • **Bridging:** (VLAN-aware flooding) Forwards the packet to all VLAN members. • **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).

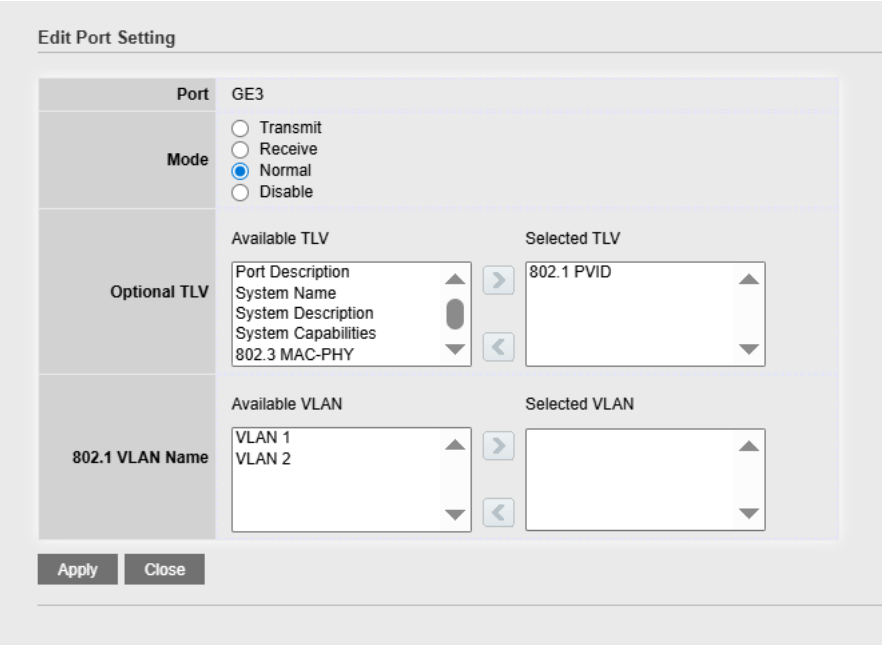
Reinitialization Delay	Select the delay before a re-initialization (range 1–10 seconds, default = 2).
Transmit Delay	Select the delay after an LLDP frame is sent (range 1–8191 seconds, default = 3).
Fast Start Repeat Count	Select fast start repeat count when port link up (range 1–10, default = 3).

9.1.2 Port Setting

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



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



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** • **802.1 PVID**

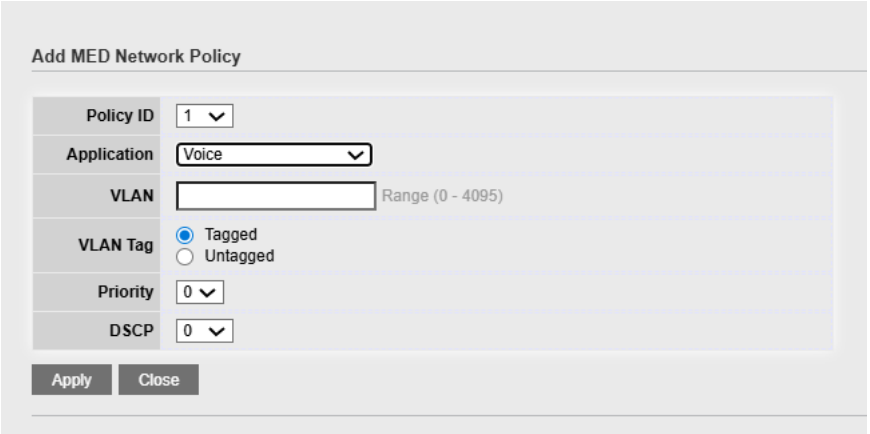
802.1 VLAN Name	Select the VLAN Name ID to be carried (multiple selection is allowed).

9.1.3 MED Network Policy

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

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

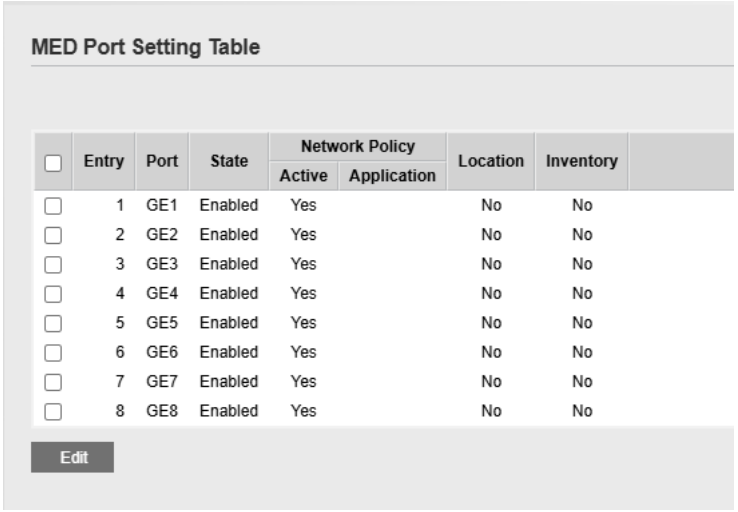
To Edit LLDP MED Network Policy entry, select the entry which to edit, Click button **Edit**



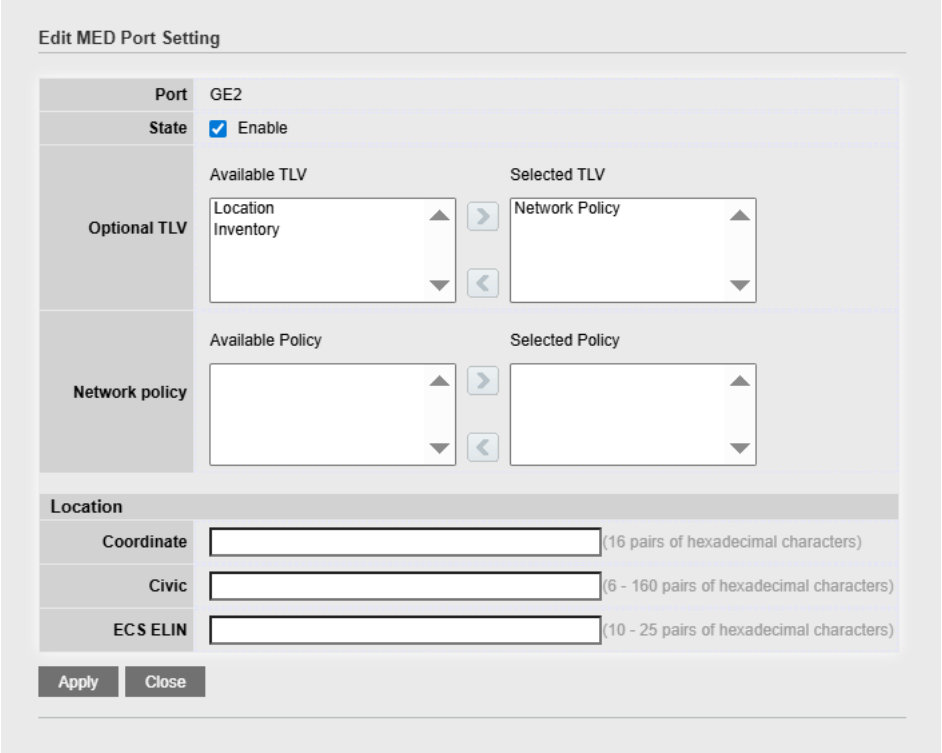
Field	Description
Policy ID	Select specified network policy ID to configure.
Application	Select the network policy application type. • **Voice** • **Voice Signaling** • **Guest Voice** • **Guest Voice Signaling** • **Softphone Voice** • **Video Conferencing** • **App Streaming Video** • **Video Signaling**
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

9.1.4 MED Port Setting

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



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

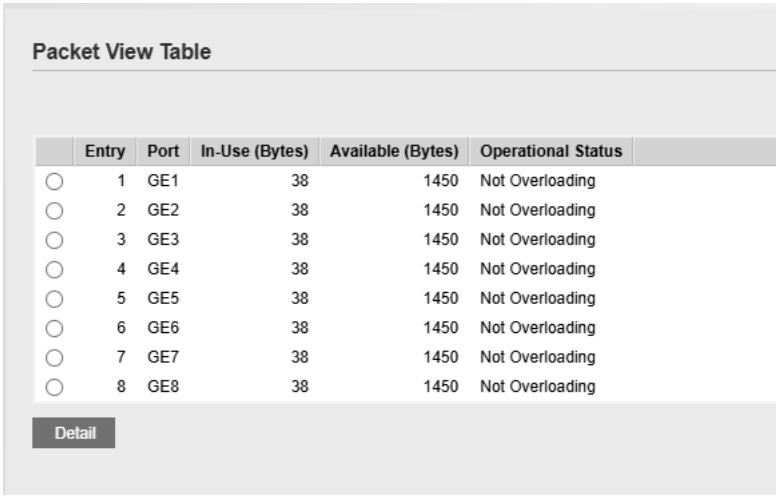


Field	Description
Port	Select specified port or all ports to configure LLDP MED.
State	Select LLDP MED enable status
Optional TLV	Select LLDP MED optional TLVs (multiple selection is allowed) • **Network Policy** • **Location** • **Inventory**
Network Policy	Select the network policy IDs to be bound to ports. The network policy should be created in MED Network Policy page at first.

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

9.1.5 Packet View

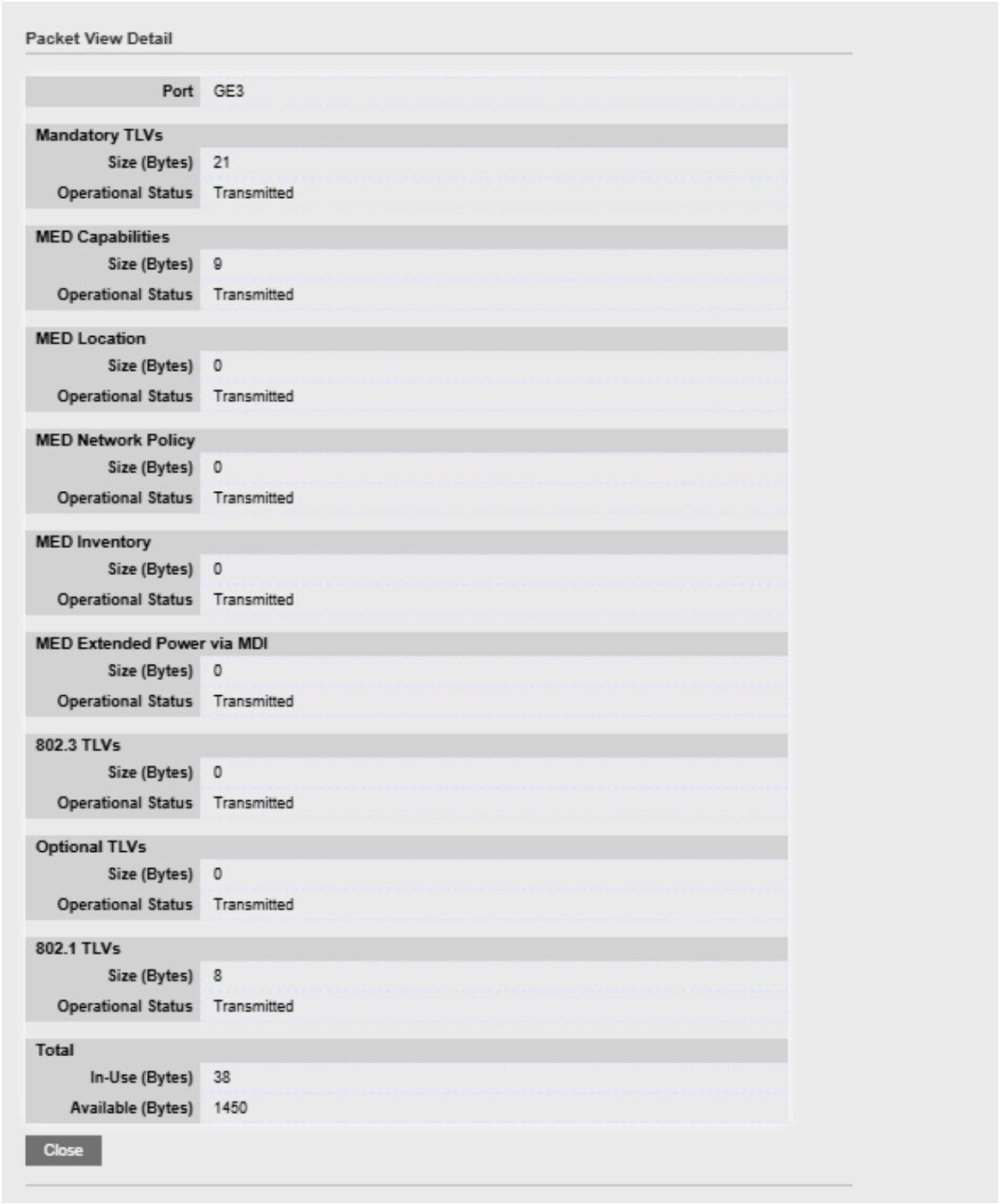
To display LLDP Overloading, click **Discovery > LLDP > Packet View**.



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

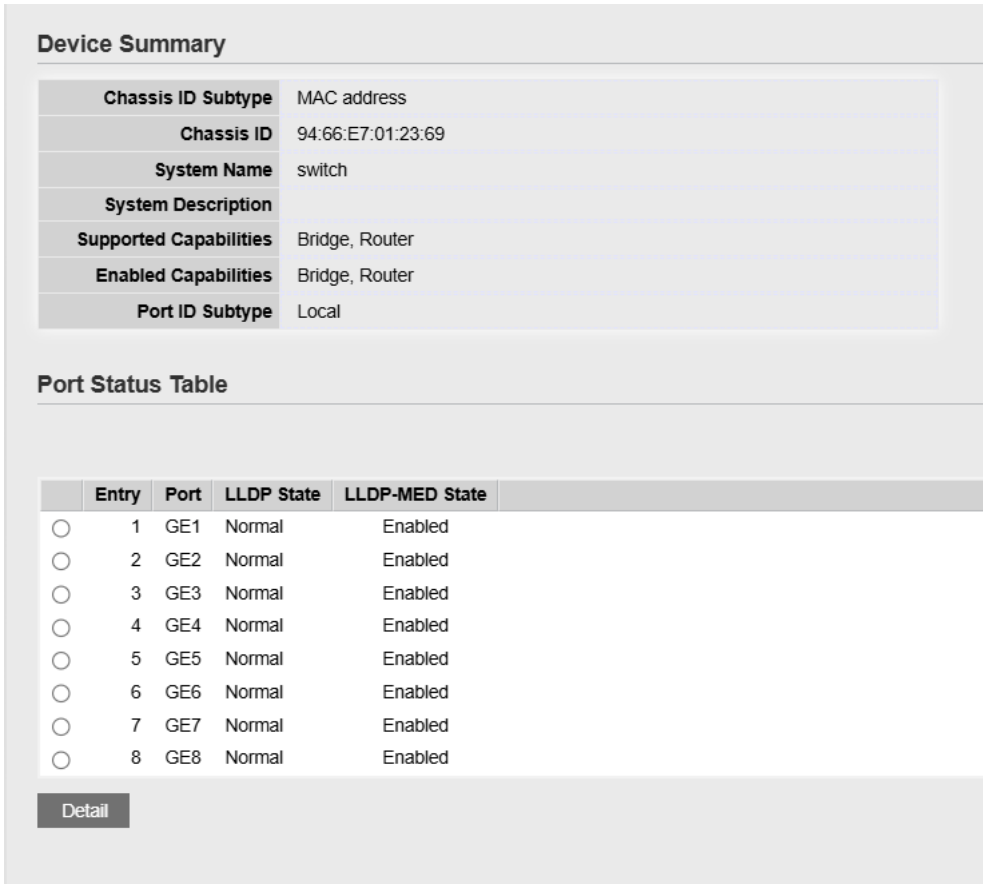
If need detail information, select the port, then click **detail**



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.

9.1.6 Local Information

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

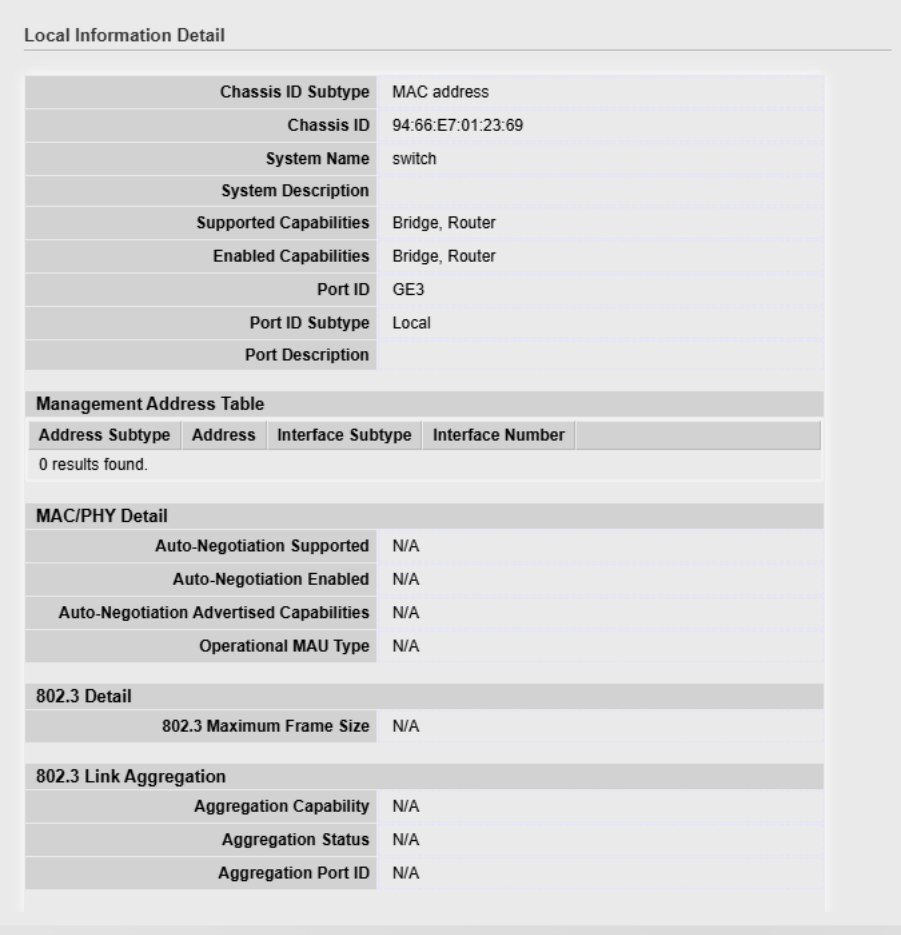


Use the LLDP Local Information to view LLDP local device information.

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.
Capabilitis Supported	Primary functions of the device, such as Bridge, WLAN AP, or Router.
Capabilitis Enabled	Primary enabled functions of the device.
Port ID Subtype	Type of the port identifier that is shown.
LLDP Status	LLDP Tx and Rx abilities.
LLDP Med Status	LLDP MED enable state.

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



9.1.7 Neighbor

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

Use the LLDP Neighbor page to view LLDP neighbors information.

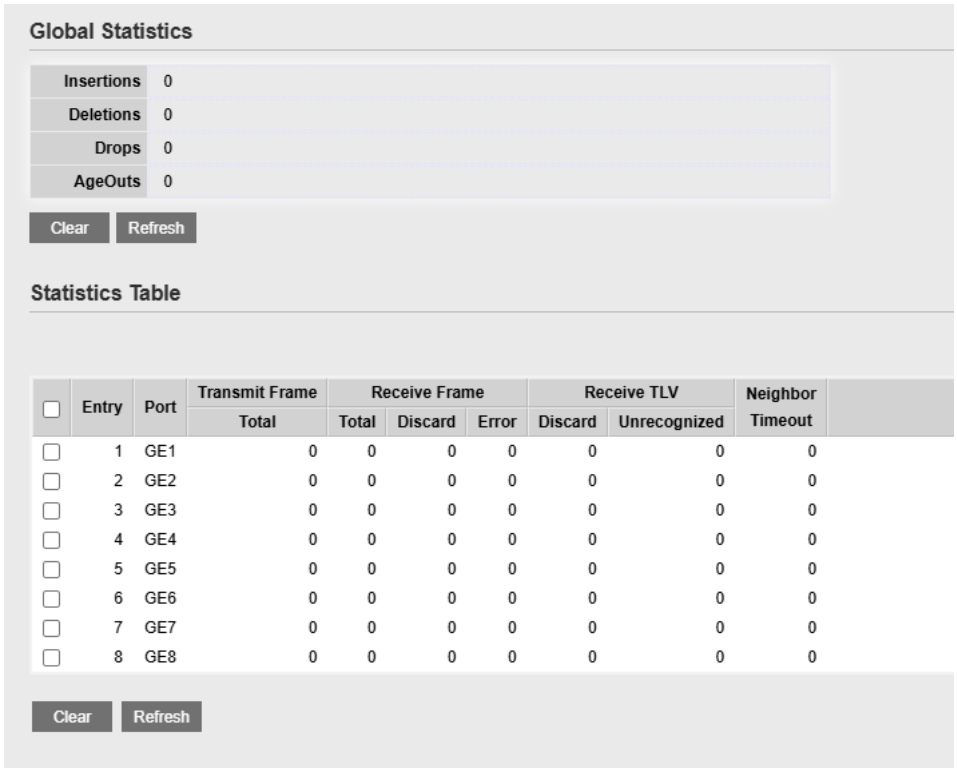
Field	Description
Local Port	Number of the local port to which the neighbor is connected.
Chassis ID Subtype	Type of chassis ID (for example, MAC address).
Chassis ID	Identifier of the 802 LAN neighboring device's chassis.
Port ID Subtype	Type of the port identifier that is shown.
Port ID	Identifier 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.

Click “detail” to view selected neighbor detail information.

9.1.8 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.



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

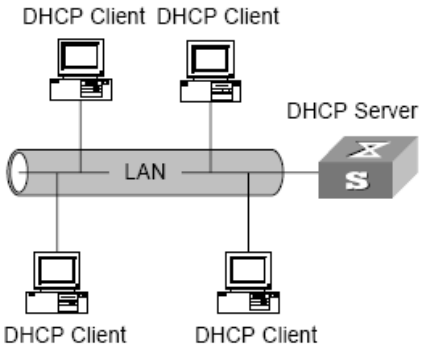
	systems.
Drops	The number of times the complete set of information advertised by MSAP could not be entered into tables associated with the remote systems because of insufficient resources.
Age Outs	The number of times the complete set of information advertised by MSAP has been deleted from tables associated 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.

10.DHCP

With the expansion of network scale and the increasing complexity of networks, network configuration has become more complicated. It is common to encounter situations such as changes in computer locations (e.g., portable devices or wireless networks) and the number of computers exceeding the available IP addresses. The Dynamic Host Configuration Protocol (DHCP) was developed to meet these needs.

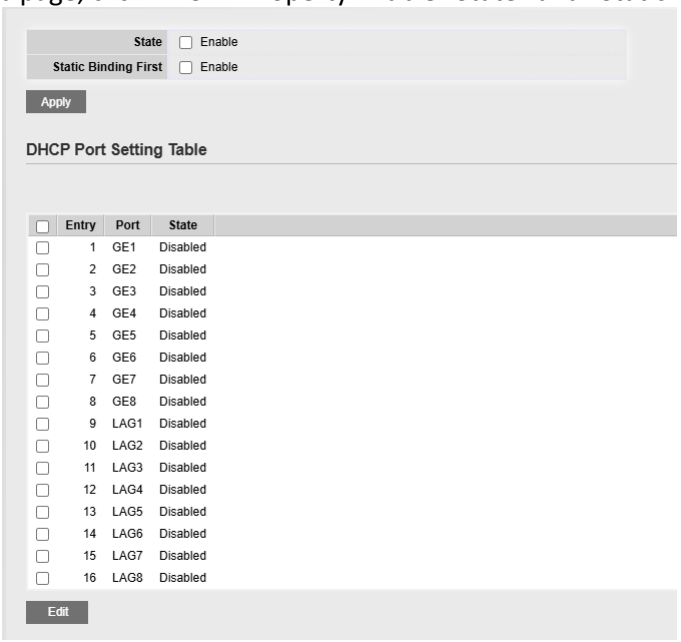
DHCP operates in a client-server (Client/Server) model, where the DHCP Client dynamically requests configuration information from the DHCP Server, and the DHCP Server returns the appropriate configuration based on its policy.

In a typical DHCP application, there is usually one DHCP server and multiple clients (such as PCs and portable devices).



10.1 Property

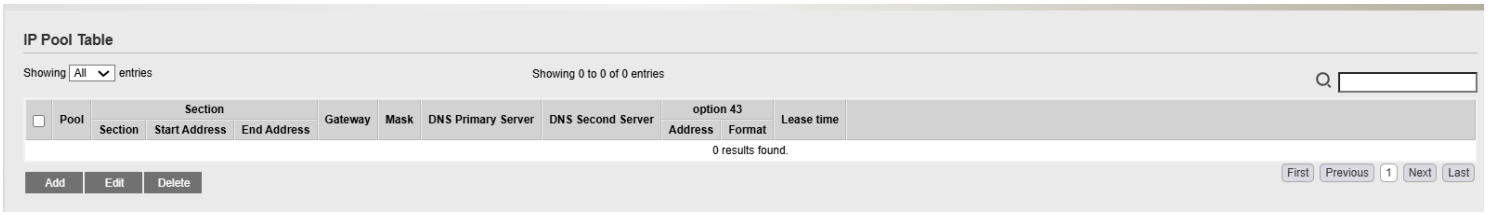
1.To display DHCP Property web page, click DHCP > Property.Enable “State” and “Static Binding First”.



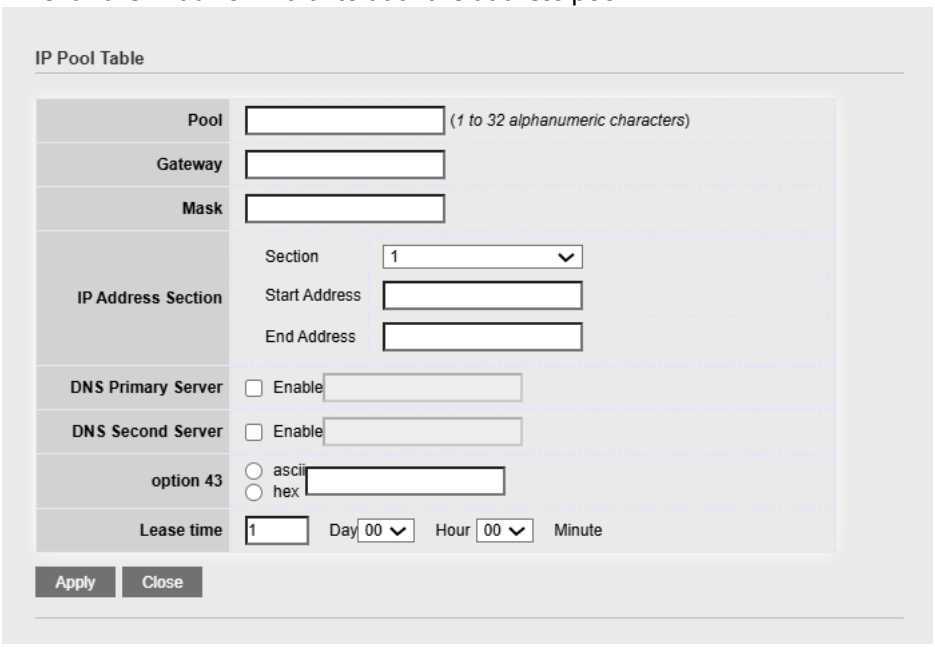
2. Click "Edit" to enter the port configuration page, where you can enable or disable the DHCP server function for the port

10.2 IP Pool Setting

1. Click " IP Pool setting" ,enter the interface, you can view and configure the address pool for the DHCP server.

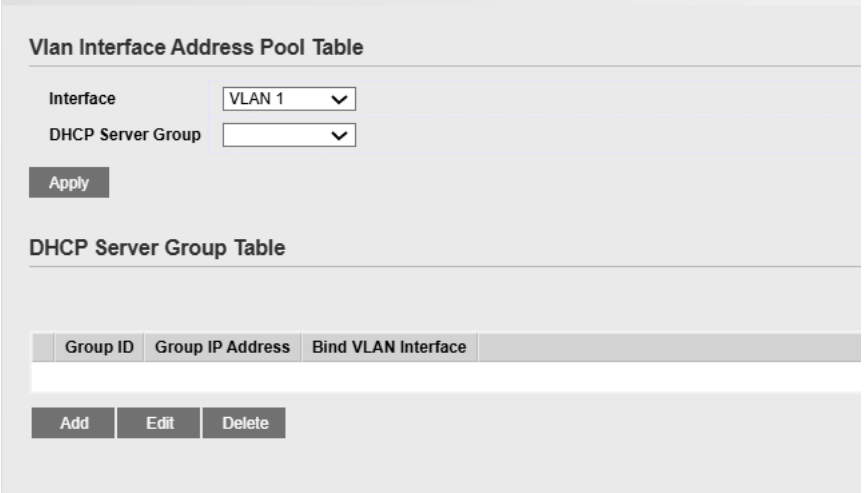


2. Click the "Add" or "Edit" to add the address pool .

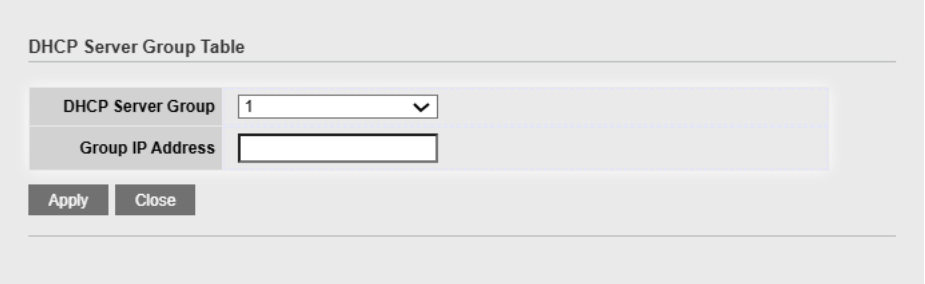


10.3 VLAN IP Address Group Setting

1.To display VLAN IP Address Group Setting web page, click DHCP > Property, where you can configure and view the VLAN interface address groups and the DHCP server group table.



2. Click the "Add" or "Edit" to add the DHCP Server Group



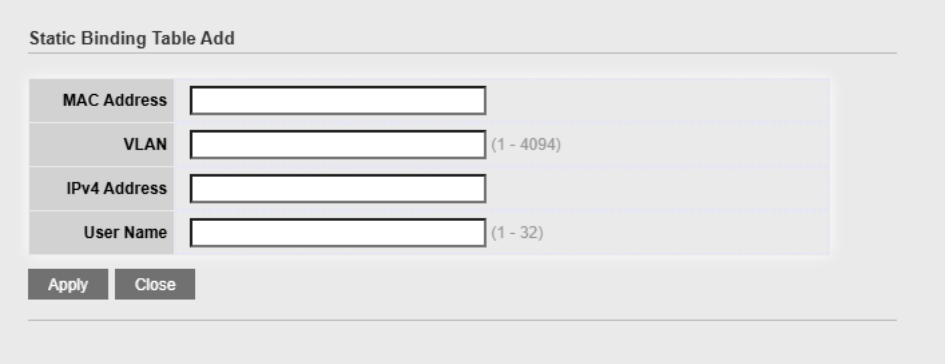
10.4 Client List

Click DHCP > Client List you can view the DHCP client list information

10.5 Client Static Binding Table

1.To display Client Static Binding Table web page, click DHCP > Client Static Binding Table, you can view and configure static bindings for clients.

3. Click the "Add" to to configure the client static binding table.



11. Multicast

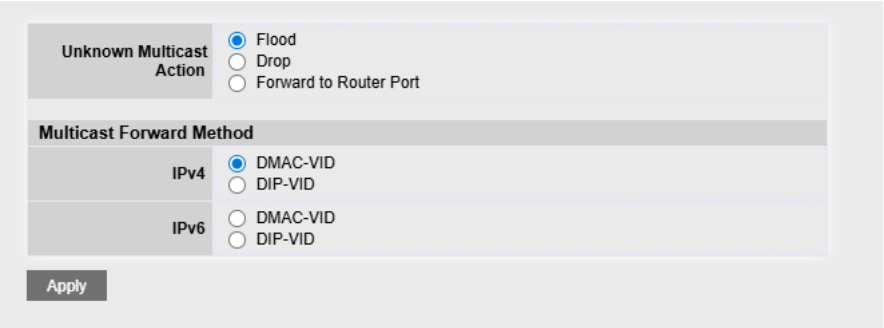
11.1 General

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

11.1.1 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.



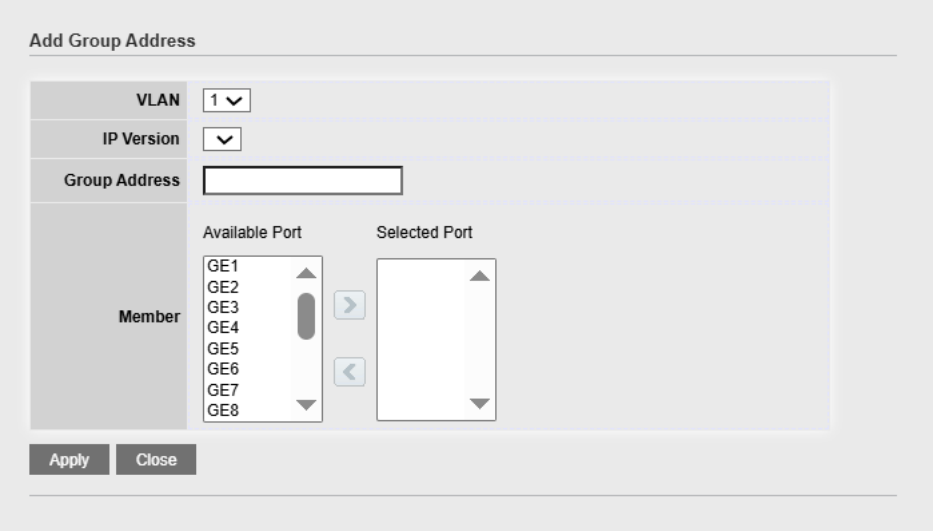
Field	Description
Unknown Multicast Action	Set the unknown multicast action • **Drop:** drop the unknown multicast data. • **Flood:** flood the unknown multicast data. • **Router port:** forward the unknown multicast data to router port.
IPv4	Set the ipv4 multicast forward method. • **MAC-VID:** forward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

11.1.2 Group Address

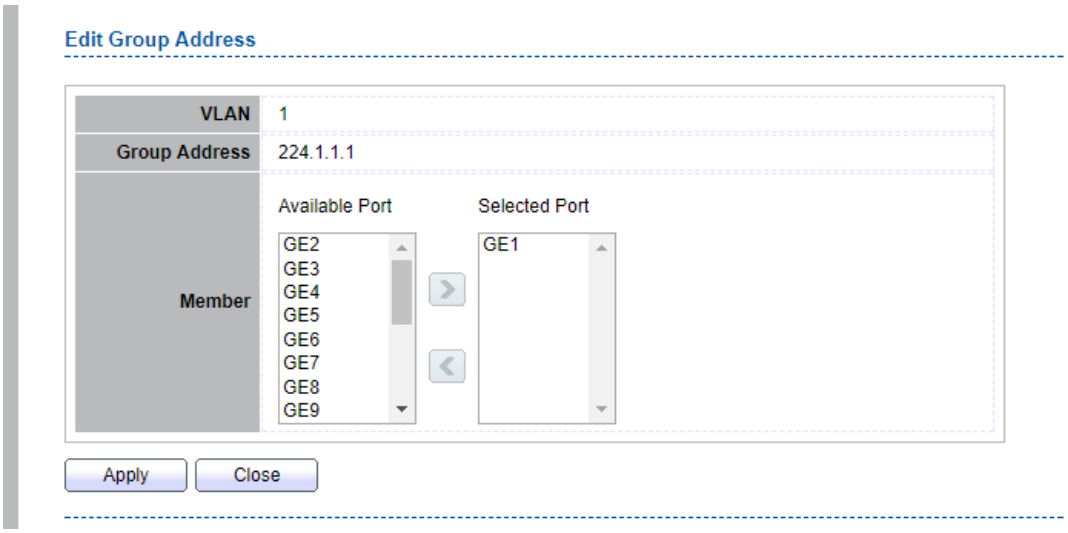
To display Multicast General Group web page, click **Multicast> General> Group Address**

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

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.



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



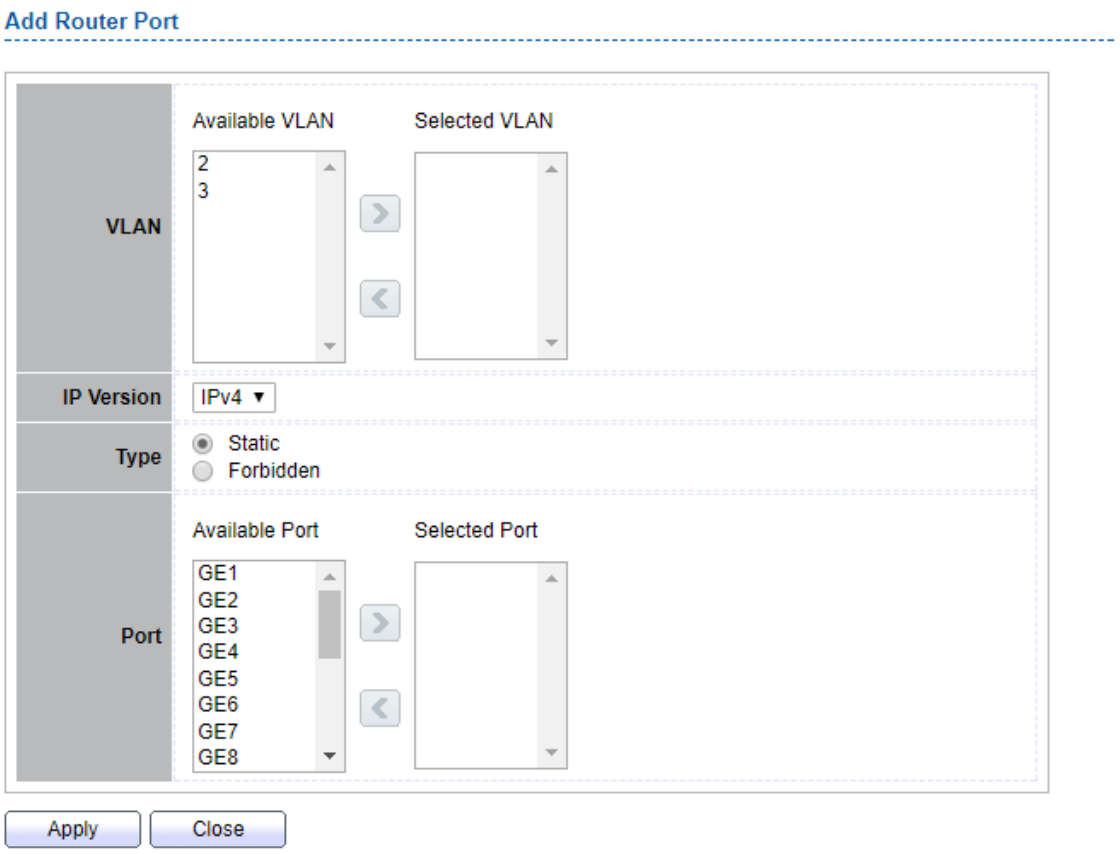
Field	Description
VLAN	The VLAN ID of edited group.
Group Address	The group IP address.
Member	The member ports of group. • **Available Port:** Optional port member • **Selected Port**: Selected port member

11.1.3 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.

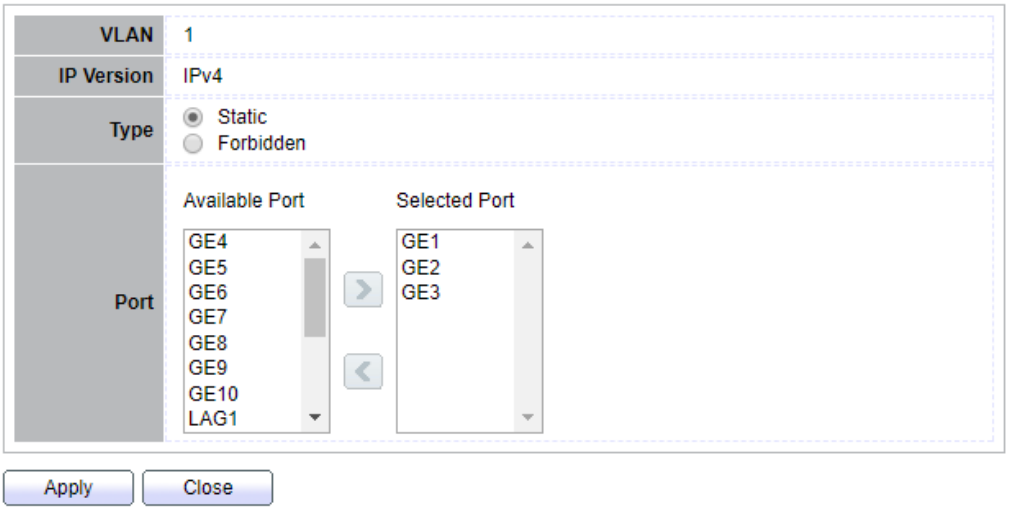
Field	Description
IP Version	IP Version • **IPv4:** ipv4 multicast router • **IPv6:** ipv6 multicast router
VLAN	The VLAN ID router entry
Member	Router Port member (include static and learned port member).
Static Port	Static router port member
Forbidden Port	Forbidden router port member
Life (Sec)	The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



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

Edit Router Port



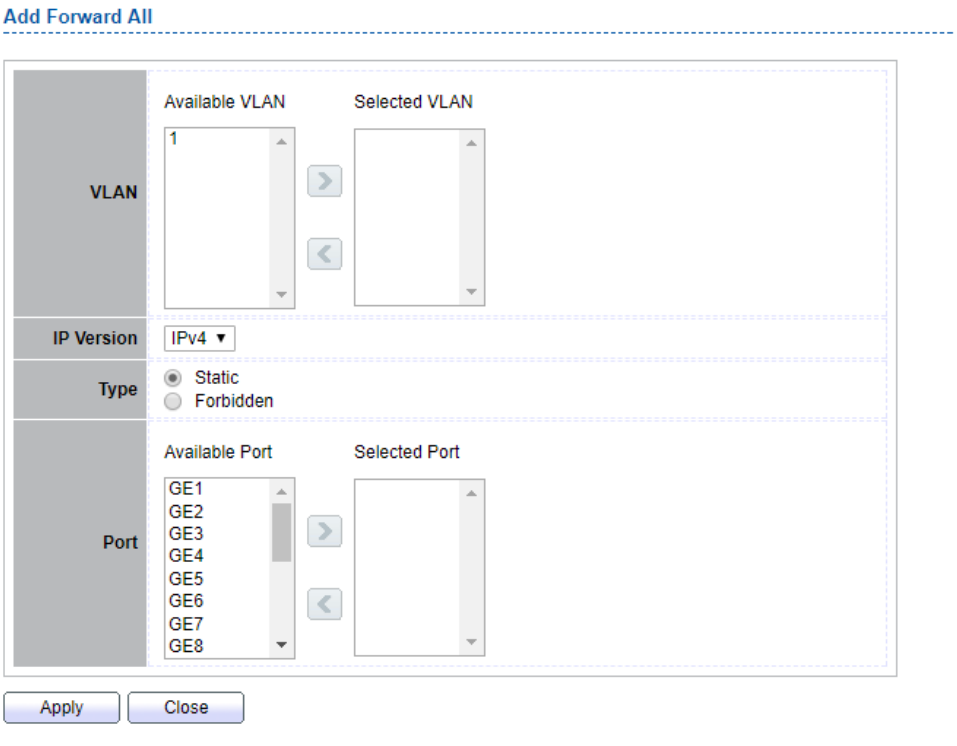
Field	Description
VLAN	VLAN ID of Selected router entry
IP Version	Selected IP version
Type	The router port type • **Static:** static router port • **Forbidden:** forbidden router port, can't learn dynamic router port member
Port	The member ports of router entry for selected port type. • **Available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

11.1.4 Forward All

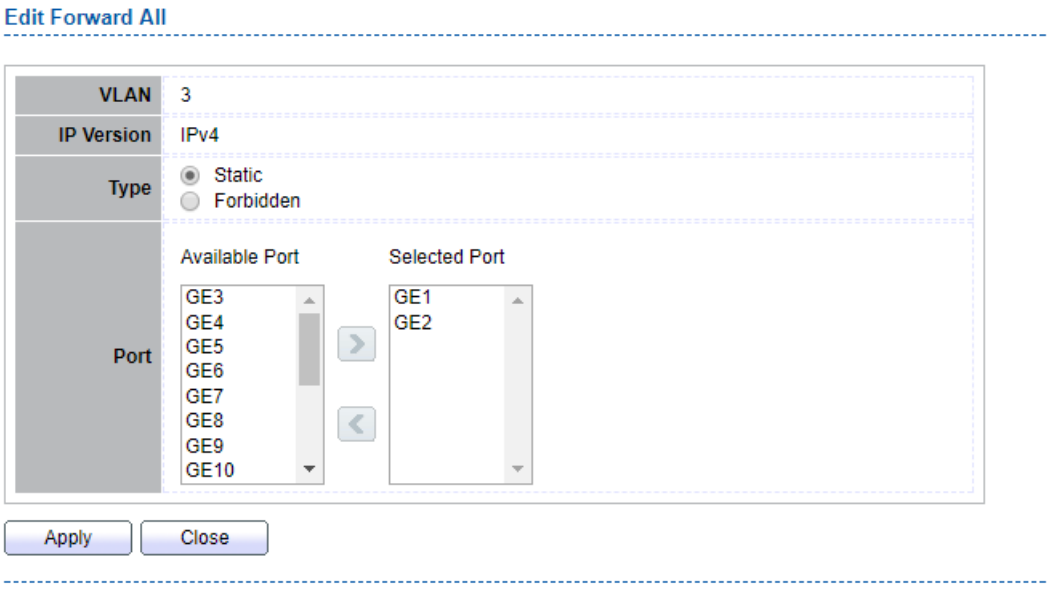
To display multicast Forward All web page, click **Multicast> General> Forward All**

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

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



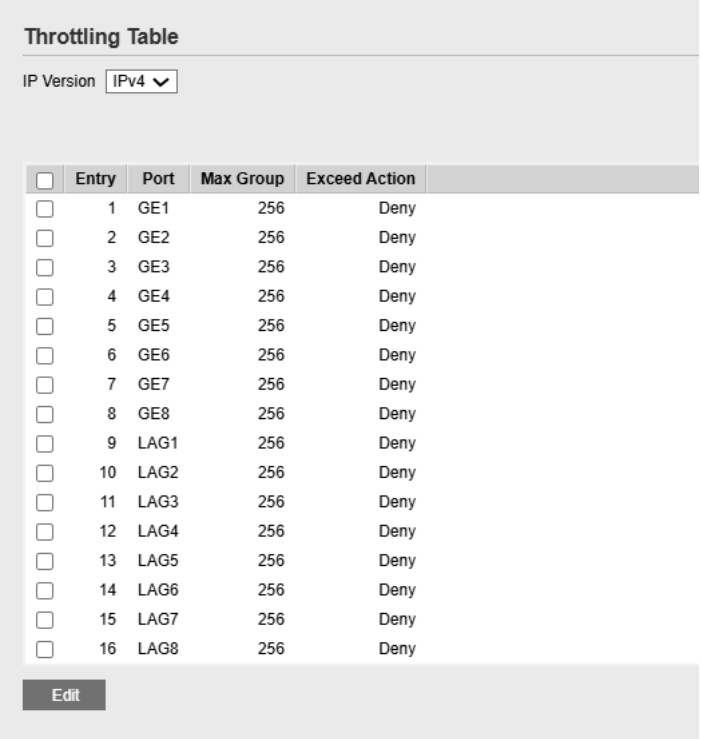
Field	Description
VLAN	The VLAN ID for forward all entry • **Available VLAN:** Optional VLAN member • **Selected VLAN**: Selected VLAN member
IP Version	IP Version • **IPv4:** ipv4 multicast forward all • **IPv6:** ipv6 multicast forward all
Type	The forward all port type • **Static:** static forward 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



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

11.1.5 Throttling

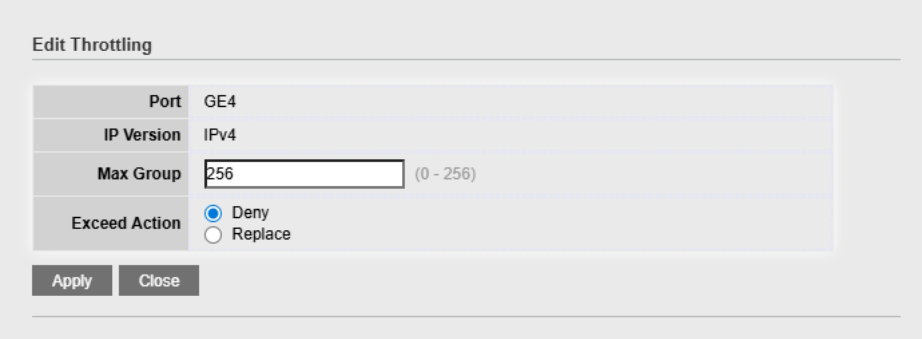
To display multicast max-group number and action setting web page, click **Multicast> General> Throttling**



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

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



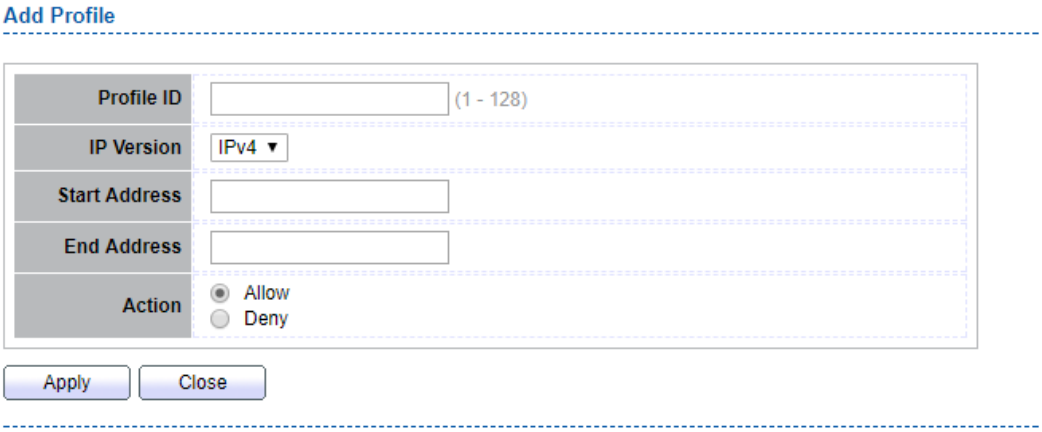
Field	Description
Port	Display the selected port list
IP Version	Display the selected IP version
Max Group	Max number of group for port
Exceed Action	Excess Max number of port learning group action • **Deny:** do not learning group. • **Replace:** random replace one exist group

11.1.6 Filtering Profile

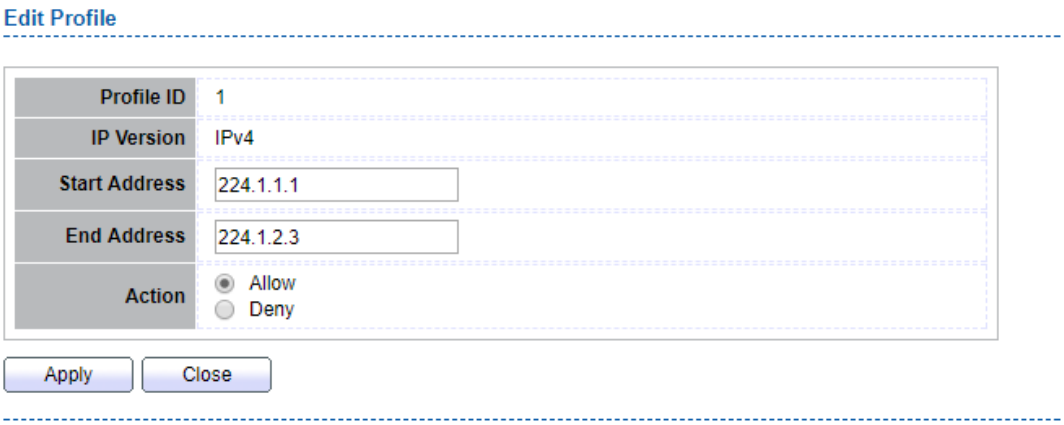
To display Multicast Profile Setting web page, click **Multicast> General> Filtering Profile**

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

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



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.



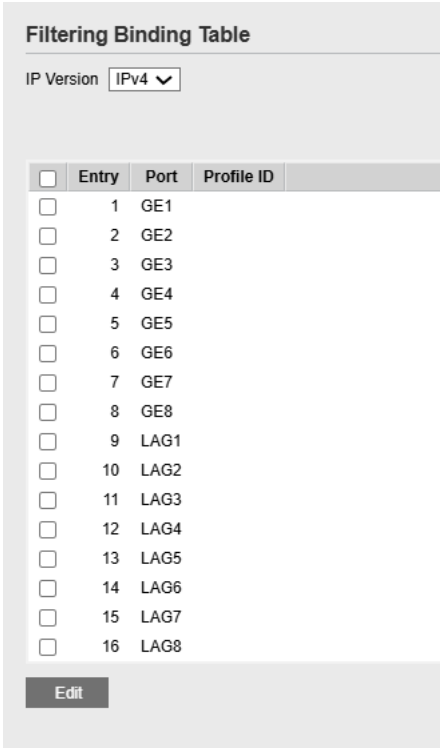
Field	Description
Profile ID	Edit Profile ID
IP Version	Display the edit profile ip version
Start Address	The start group address of profile

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.

11.1.7 Filtering Binding

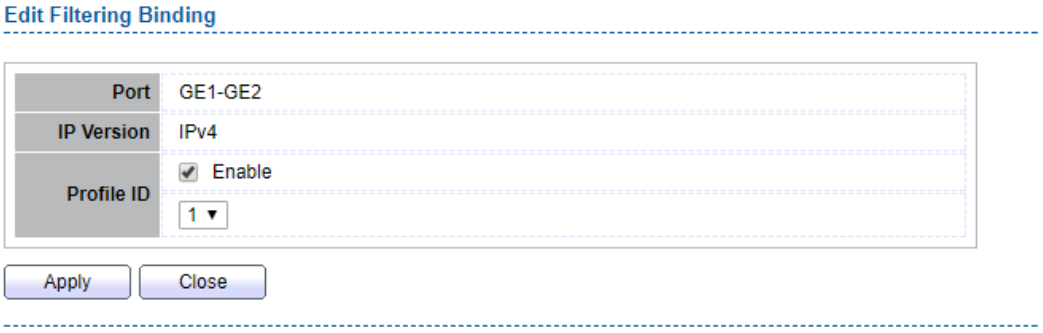
To display Multicast port filter binding profile web page, click **Multicast> General> Filtering Binding**

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



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



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

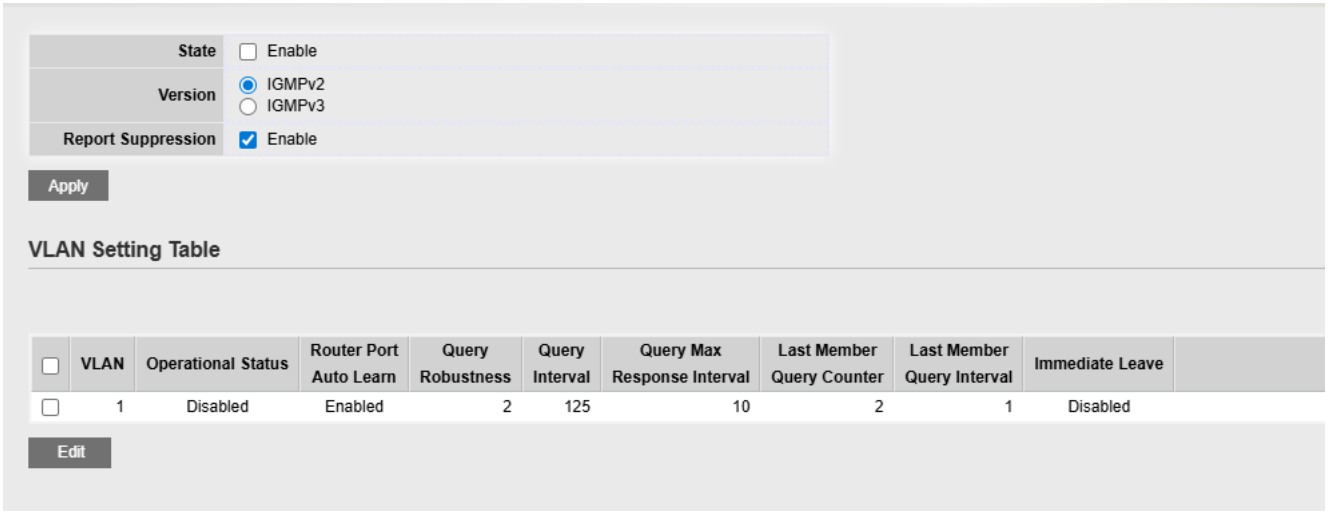
11.2 IGMP Snooping

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

11.2.1 Property

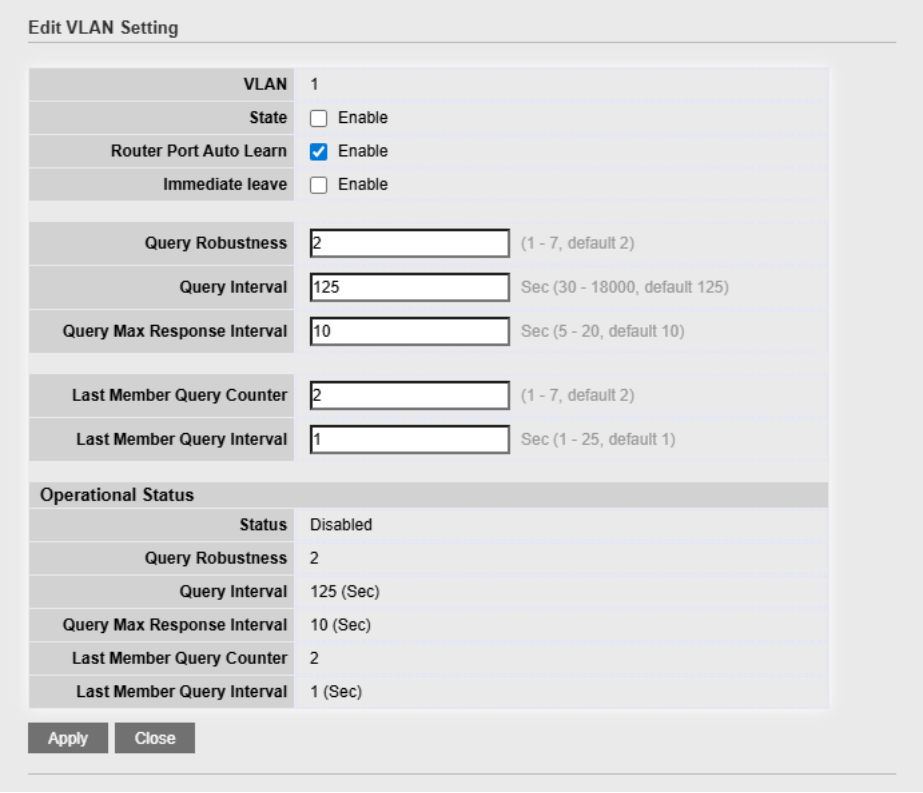
To display IGMP Snooping global setting and VLAN Setting web page, click **Multicast> IGMP Snooping> Property**

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



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.

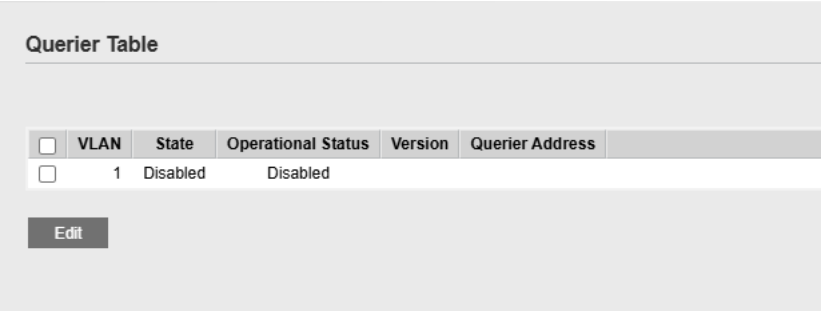


Field	Description
VLAN	The selected VLAN List
State	Set the enabling status of IGMP Snooping VLAN functionality • **Enable:** If Checked Enable IGMP Snooping VLAN, else is Disabled IGMP Snooping VLAN.
Router Port Auto Learn	Set the enabling status of IGMP Snooping router port learning • **Enable:** If 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

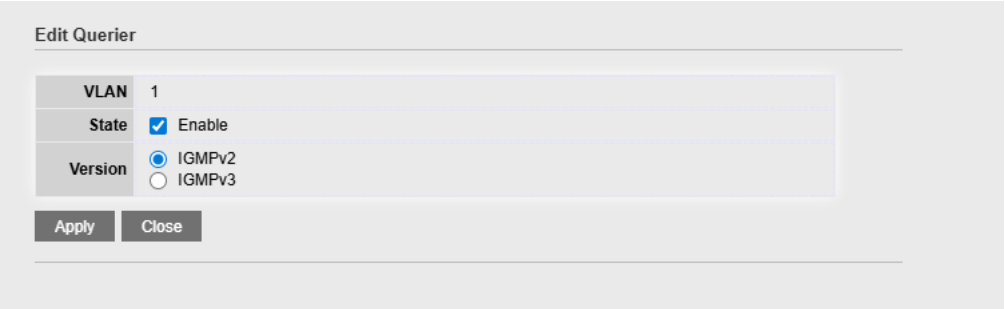
11.2.2 Querier

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



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

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

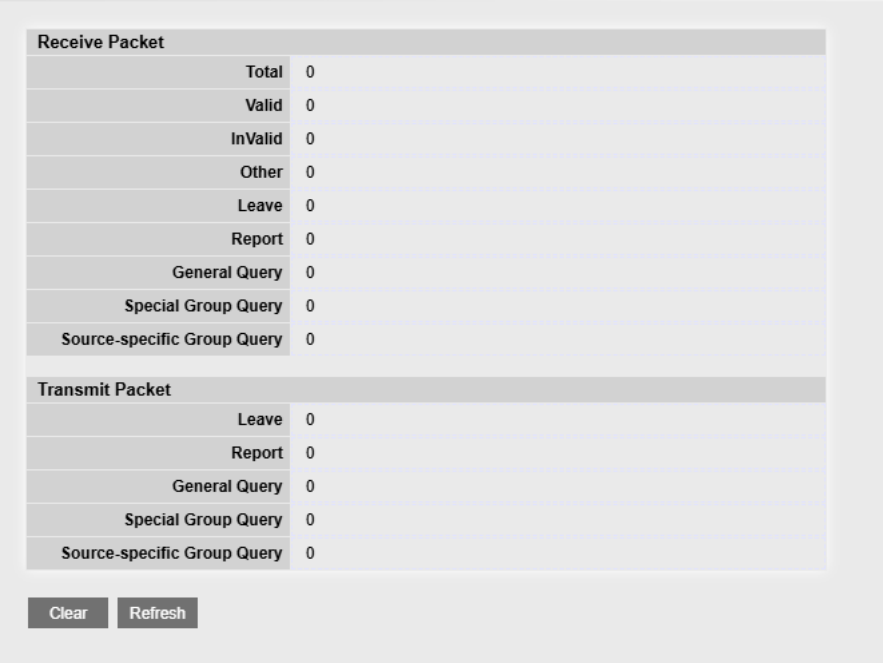


Field	Description
VLAN	The Selected Edit IGMP Snooping querier VLAN List
State	Set the enabling status of IGMP Querier Election on the chose VLANs • **Enabled:** if checked Enable IGMP Querier else Disable IGMP Querier
Version	Set the query version of IGMP Querier Election on the chose VLANs • **IGMPv2:**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

11.2.3 Statistics

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

This page allow user to clear igmp snooping statics.



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

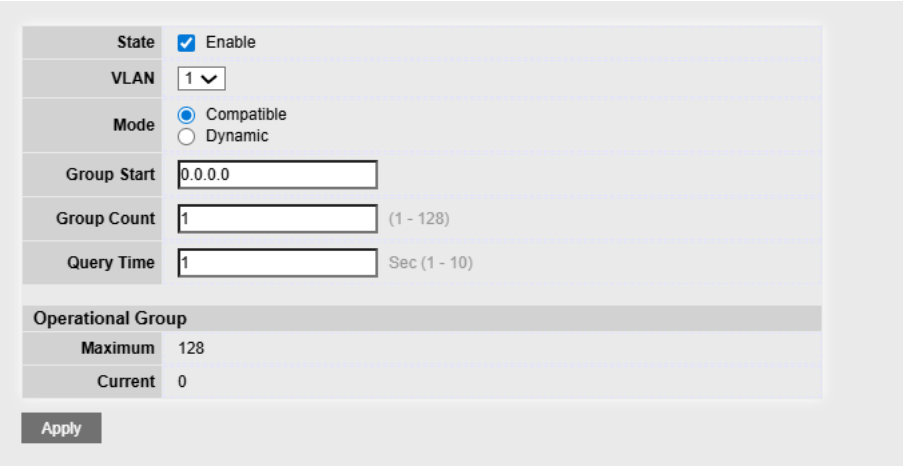
11.3 MVR

Use the MVR pages to configure settings of MVR function.

11.3.1 Property

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

This page allow user to set MVR property.

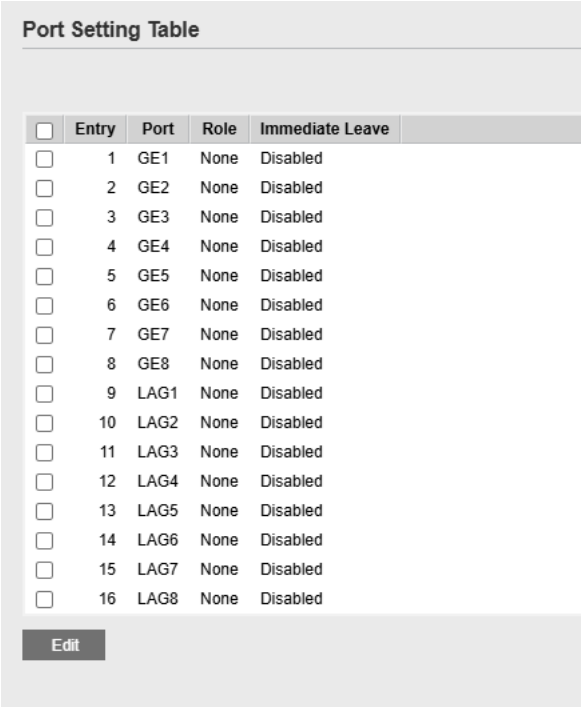


Field	Description
State	• **Enable:** if checked enable the MVR state, else disable the MVR state
VLAN	The MVR VLAN ID
Mode	Set the MVR mode. • **Compatible:** compatible mode • **Dynamic:** dynamic mode, will learn group member on source port
Group Start	MVR group range start
Group Count	MVR group continue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

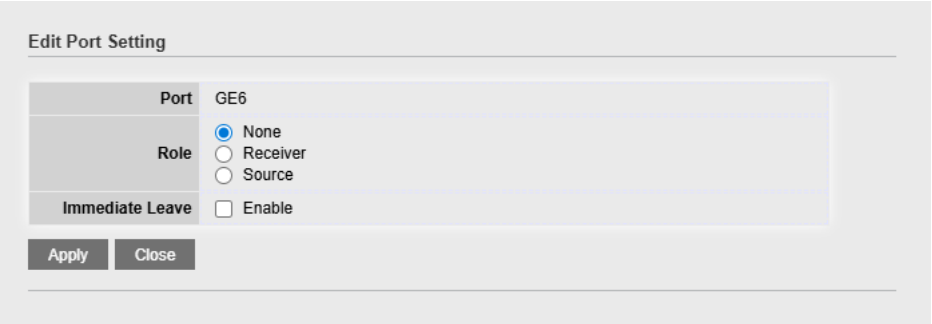
11.3.2 Port Setting

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



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



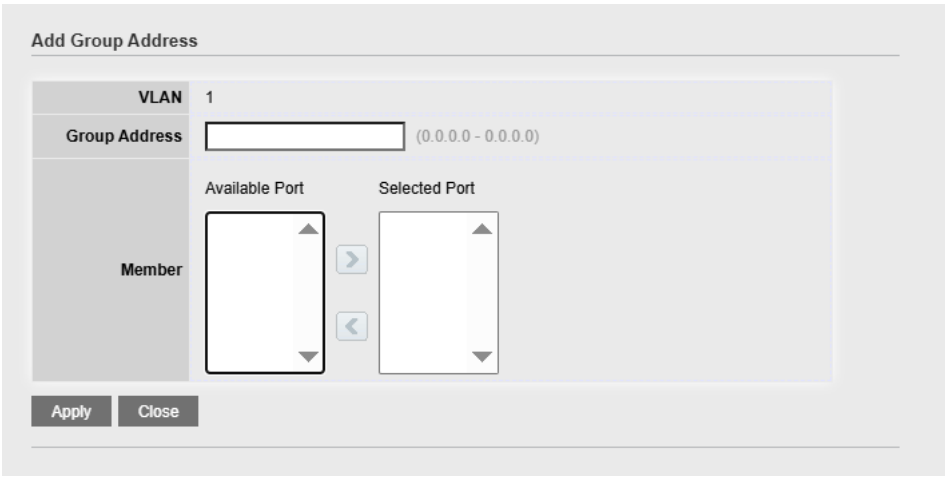
Field	Description
Port	Display the selected port list
Role	MVR port role • **None:** port role is none • **Receiver:** port role is receiver • **Source:** port role is source
Immediate Leave	MVR Port immediate leave • **Enable:** if checked is enable immediate leave, else disable immediate leave.

11.3.3 Group Address

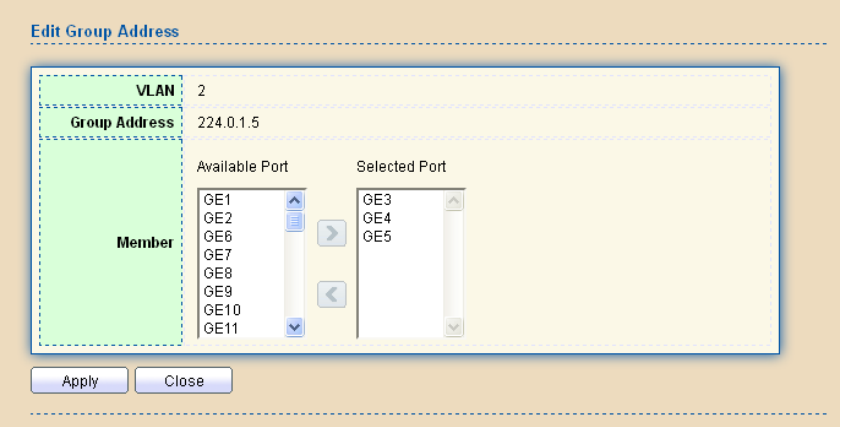
To display Multicast MVR Group web page, click **Multicast> MVR> Group Address**

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

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.



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



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

12. Routing

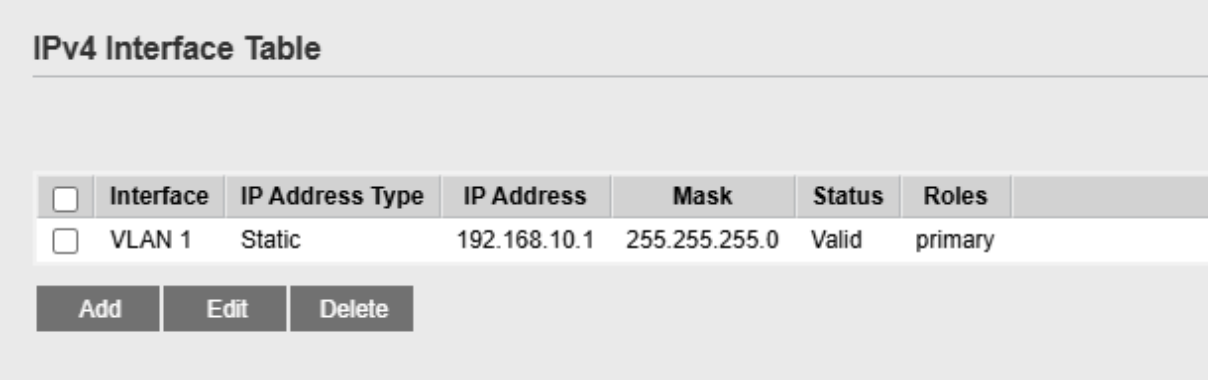
The switch provides three layers of VLAN interface, which is used to communicate with network layer devices. VLANIF interface is a network layer interface, which can be configured with IP address. Before creating VLANIF interface, the corresponding VLAN should be created first. With the help of VLANIF i nterface, switches can communicate with other network layer devices.

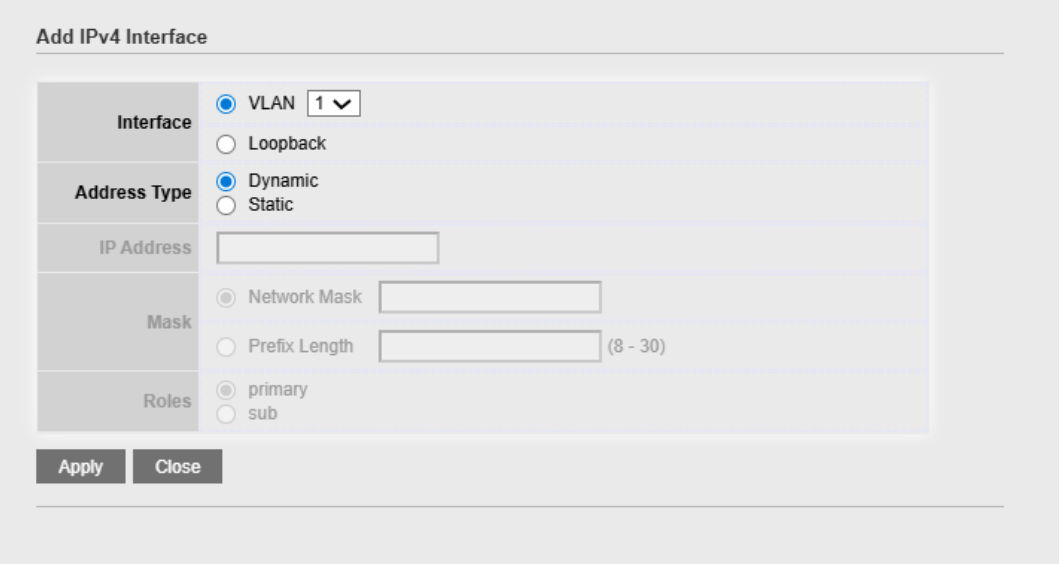
12.1 IPv4 Management and Routing

Use this page to configure settings of IPv4 Interface 、 Routes and ARP common function.

12.1.1 IPv4 Interface

To display IPv4 Interface web page, click **IPv4 Management and interfaces > IPv4 Interface**

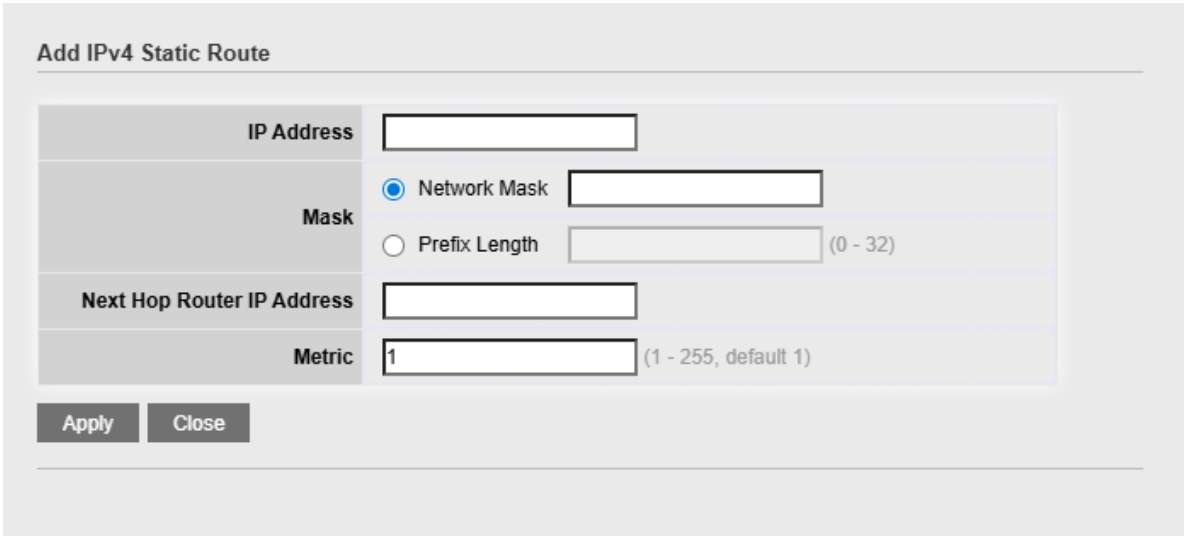




Configuration Items	Description
VLAN	VLAN ID to be configured
Address Type	Dynamic: The IP address of the interface is obtained by DHCP Static: The IP address of the interface is configured manually
IP Address	The IP address of the interface
Mask	The IP address mask of the interface

12.1.2 IPv4 Routes

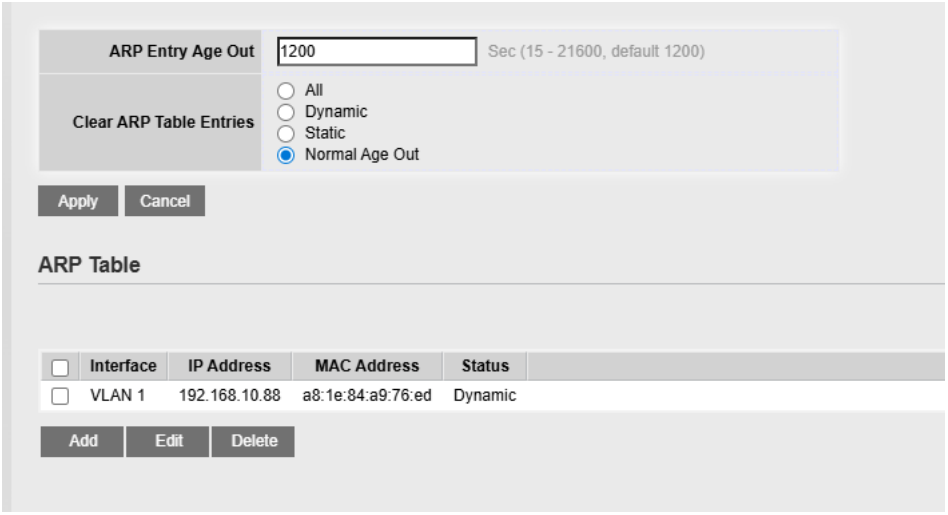
To display IPv4 Routes web page, click **IPv4 Management and Interfaces > Routes**



Configuration Items	Description
IP Address	Destination IP address segment
Mask	Destination IP address mask
Next Hop Router IP Address	The next hop IP address needs to be in the same network segment as the interface gateway
Metric	Network hops

12.1.3 ARP

To display ARP web page, click **IPv4 Management and Interfaces > ARP**



Configuration Items	Description
Interface	VLANIF interface
IP Address	IP address of the same network segment as the interface gateway
MAC Address	MAC address corresponding to IP address

13. Security

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

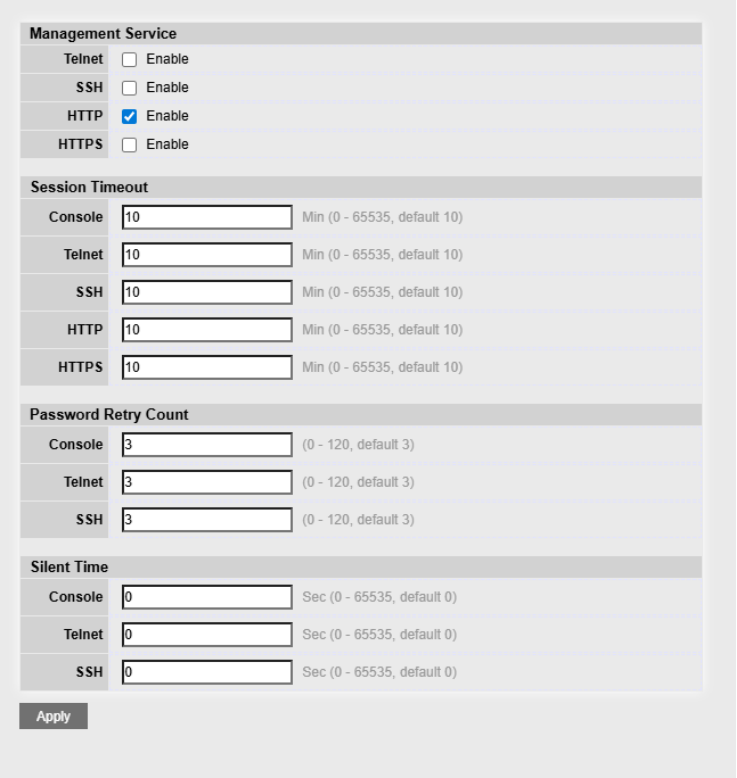
13.1 Management Access

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

13.1.1 Management Service

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

This page allow user to change management services related configurations.



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
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.

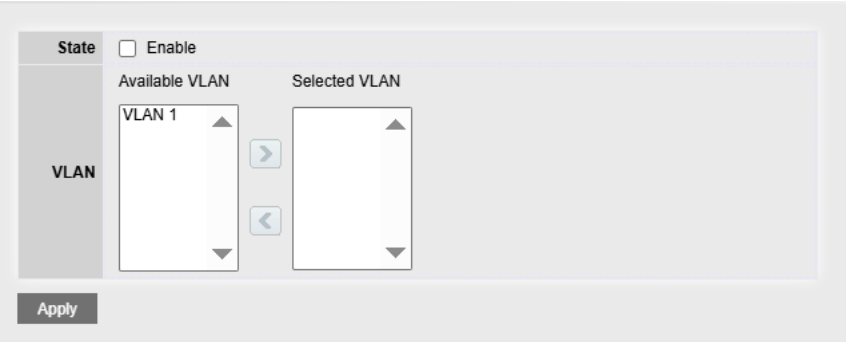
13.2 DHCP Snooping

Use the DHCP Snooping pages to configure settings of DHCP Snooping

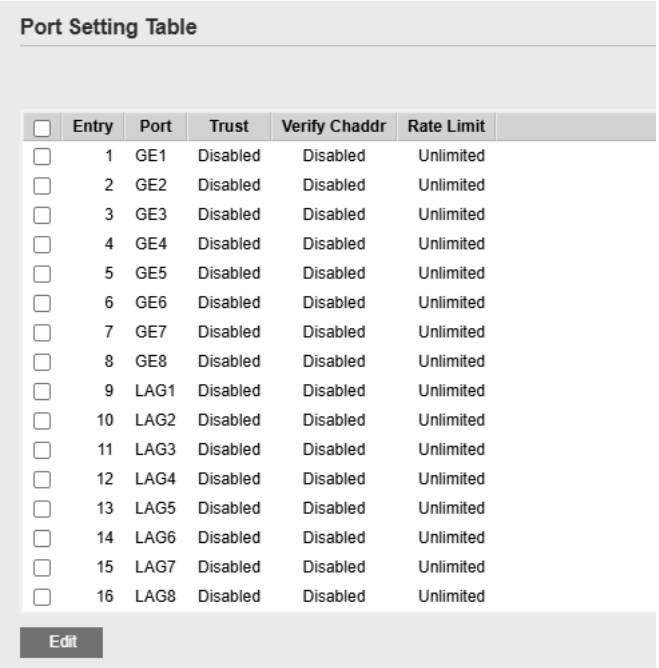
13.2.1 Property

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

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



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.



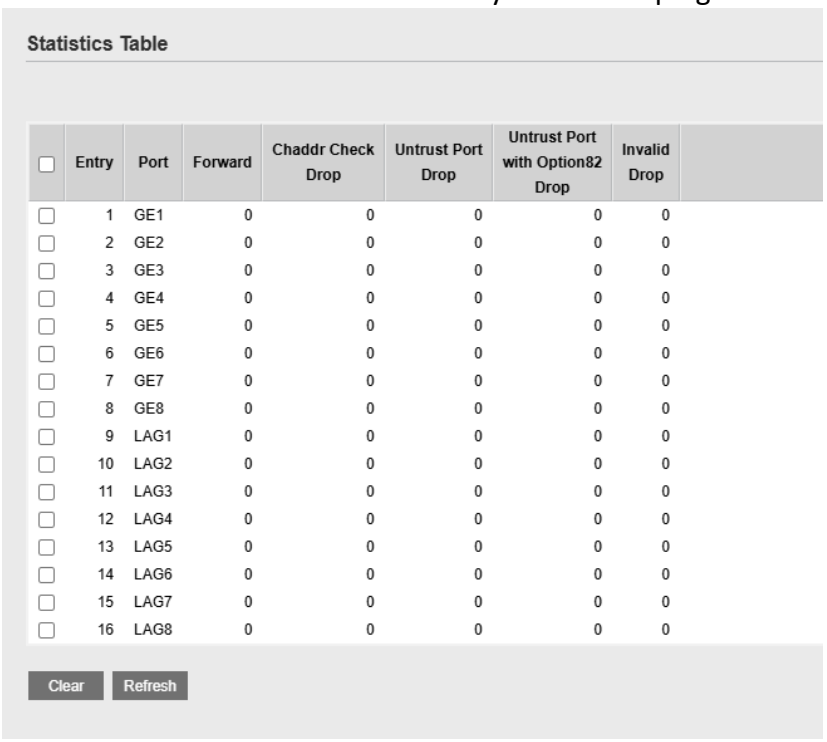
Field	Description
Port	Display port ID.
Trust	Display enable/disabled trust attribute of interface
Verify Chaddr	Display enable/disabled chaddr validation attribute of interface
Rate Limit	Display rate limitation value of interface.

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.

13.2.2 Statistics

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

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

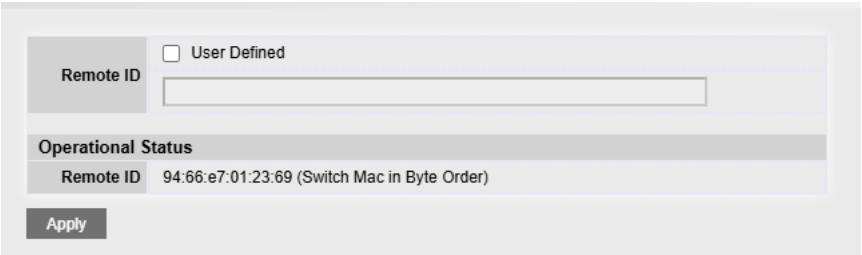


Field	Description
Port	Display port ID
Forwarded	Display how packets forwarded normally.
Chaddr Check Drop	Display how many packets dropped by chaddr validation.
Untrusted Port Drop	Display how many DHCP server packets that are received by untrusted port dropped.
Untrusted Port with Option82 Drop	Display how many packets dropped by untrusted port with option82 checking.
Invalid Drop	Display how many packets dropped by invalid checking.

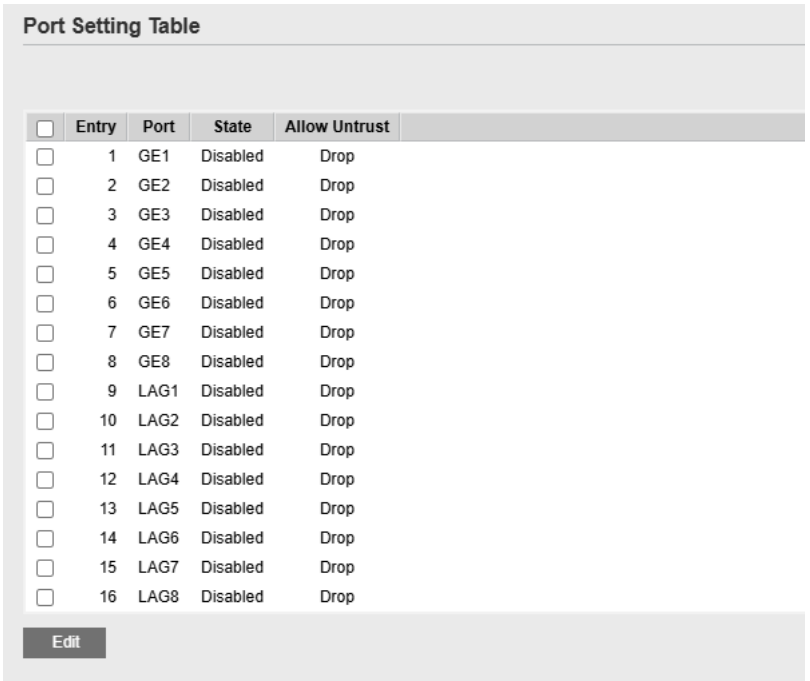
13.2.3 Option82 Property

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

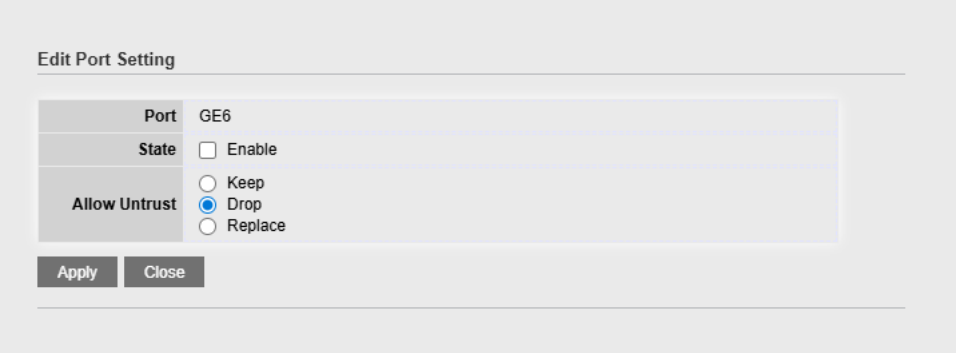
This page allow user to set string of DHCP option82 remote ID filed. The string will attach in option82 if option inserted.



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



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



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.

13.2.4 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.

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

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.

14. QoS

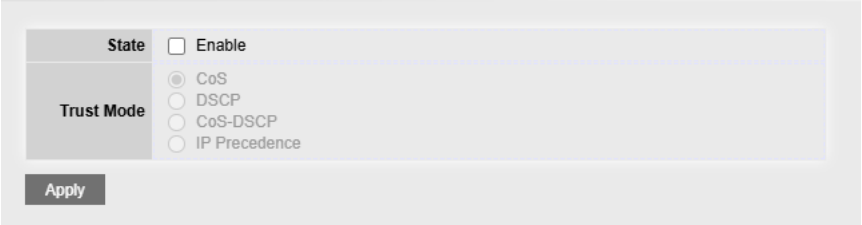
Use the QoS pages to configure settings for the switch QoS interface.

14.1 General

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

14.1.1 Property

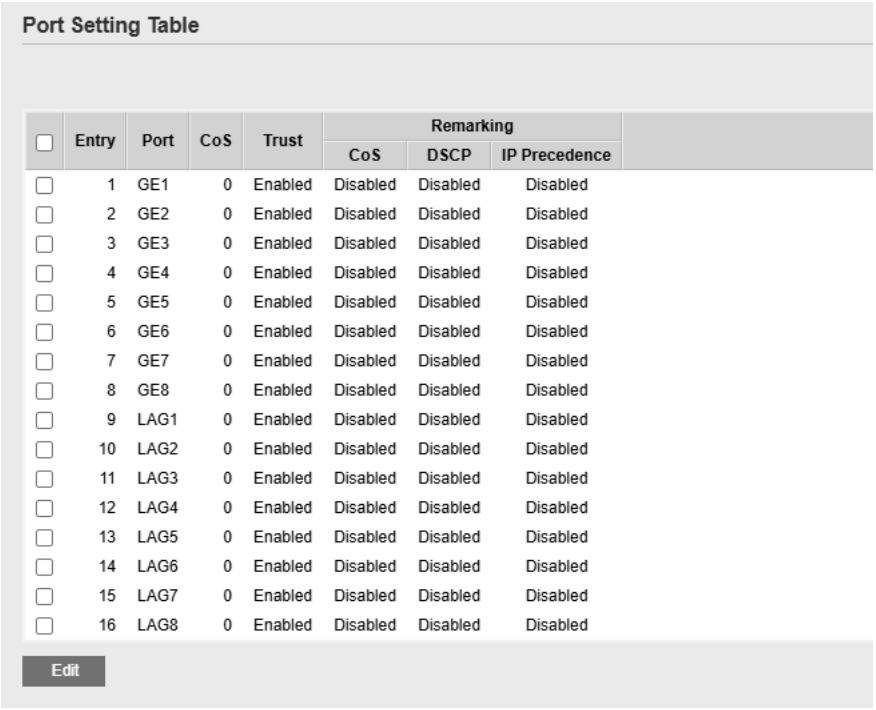
To display Property web page, click **QoS > General > Property**



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.



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

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

14.1.2 Queue Scheduling

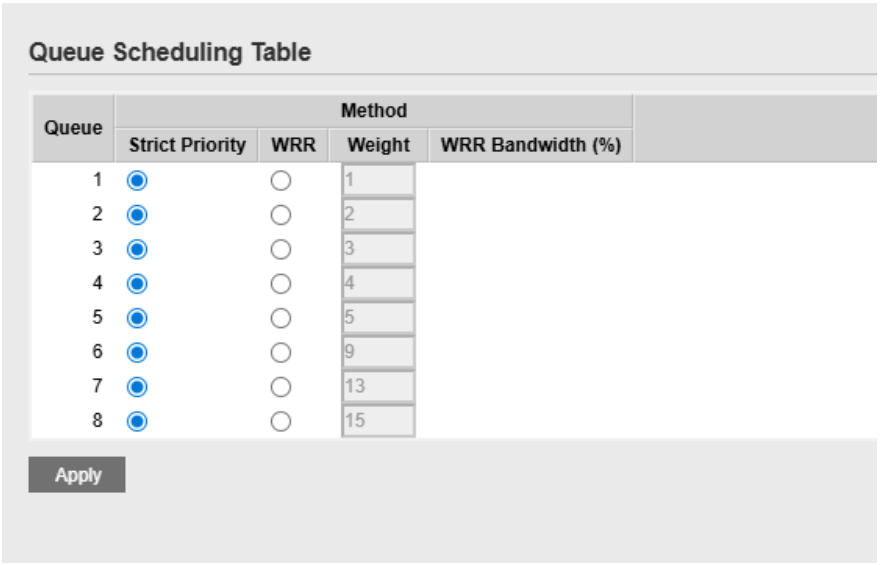
To display Queue Scheduling web page, click **QoS** > **General** > **Queue Scheduling**.

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).



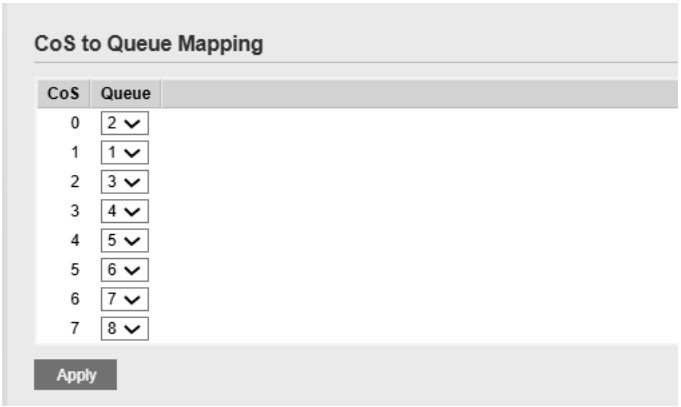
Field	Description
Queue	Queue ID to configure
Strict Priority	Set queue to strict priority type
WRR	Set queue to Weight round robin type
Weight	If the queue type is WRR, set the queue weight for the queue.
WRR Bandwidth	Percentage of WRR queue bandwidth

16.1.3 CoS Mapping

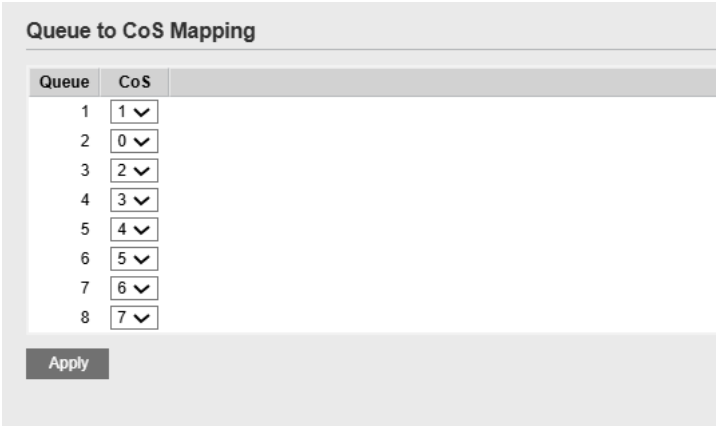
To display CoS Mapping web page, click **QoS > General > CoS Mapping**

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.



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



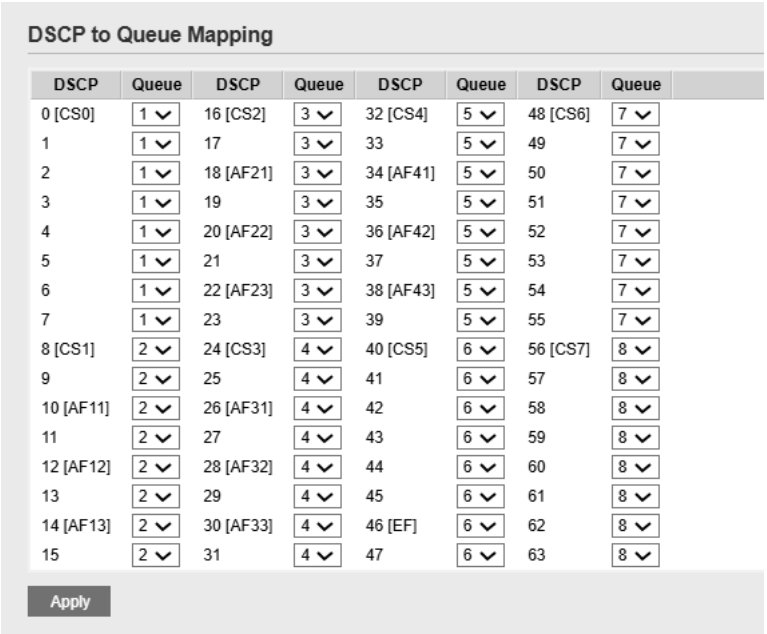
Field	Description
Queue	Queue ID
Cos	Select CoS value for the queue id

14.1.4 DSCP Mapping

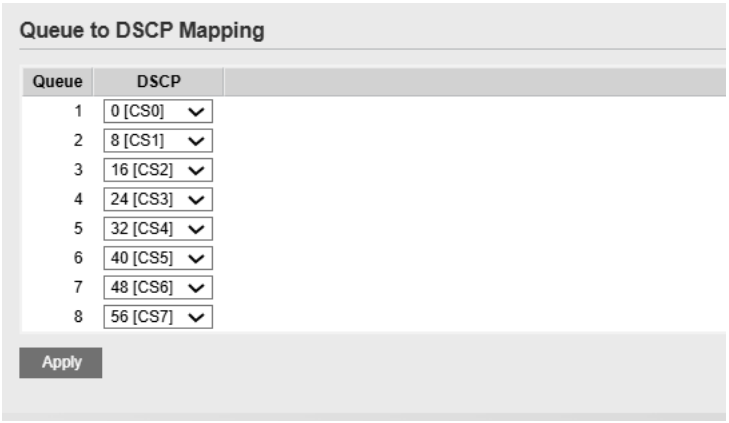
To display DSCP Mapping web page, click **QoS > General > DSCP Mapping**

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.



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

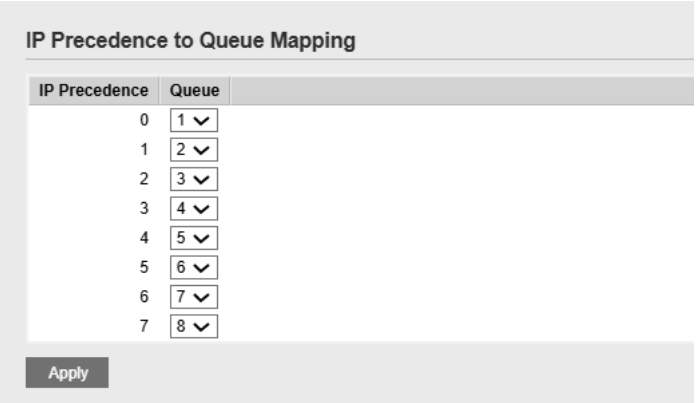


Field	Description
Queue	Queue ID
DSCP	Select DSCP value for queue id

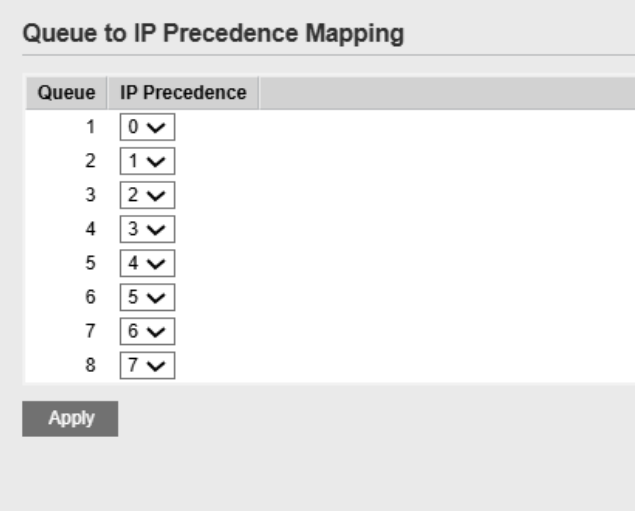
14.1.5 IP Precedence Mapping

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.



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



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

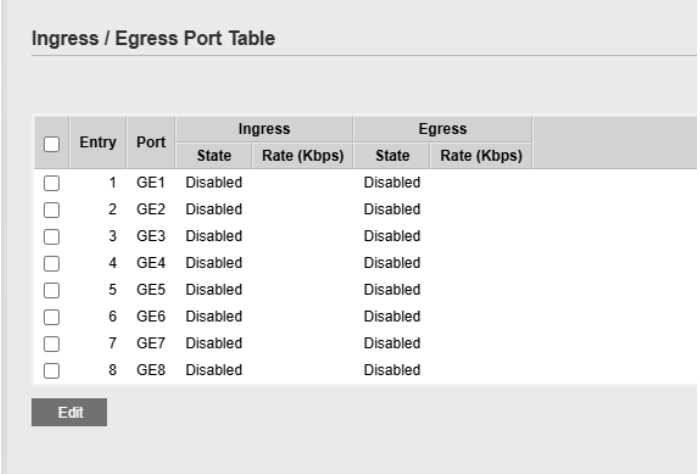
14.2 Rate Limit

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

14.2.1 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.



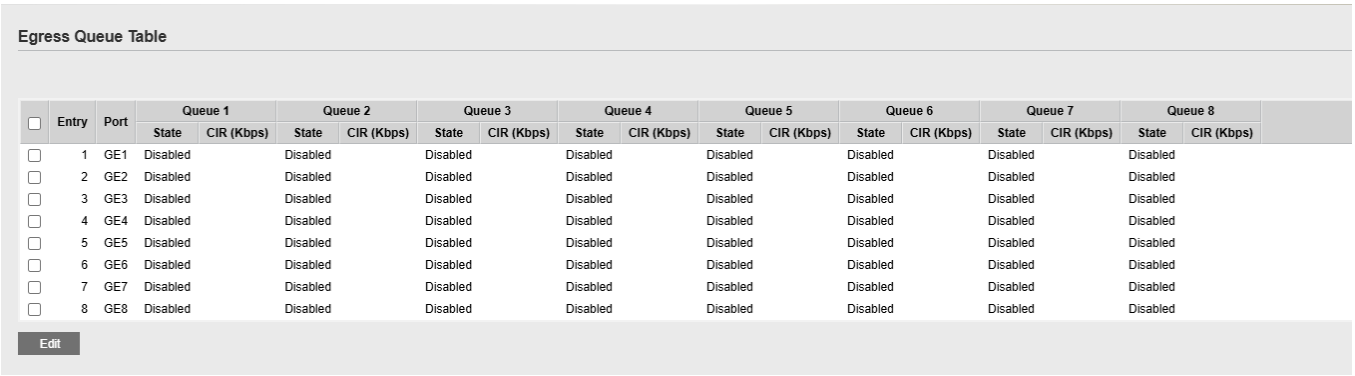
Field	Description
Port	Port name
Ingress (State)	Port ingress rate limit state • **Enabled:** Ingress rate limit is enabled • **Disabled:** Ingress rate limit is disabled
Ingress (Rate)	Port ingress rate limit value if ingress rate state is enabled
Egress (State)	Port egress rate limit state • **Enabled:** Egress rate limit is enabled • **Disabled:** Egress rate limit is disabled
Egress (Rate)	Port egress rate limit value if egress rate state is enabled

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.

14.2.2 Egress Queue

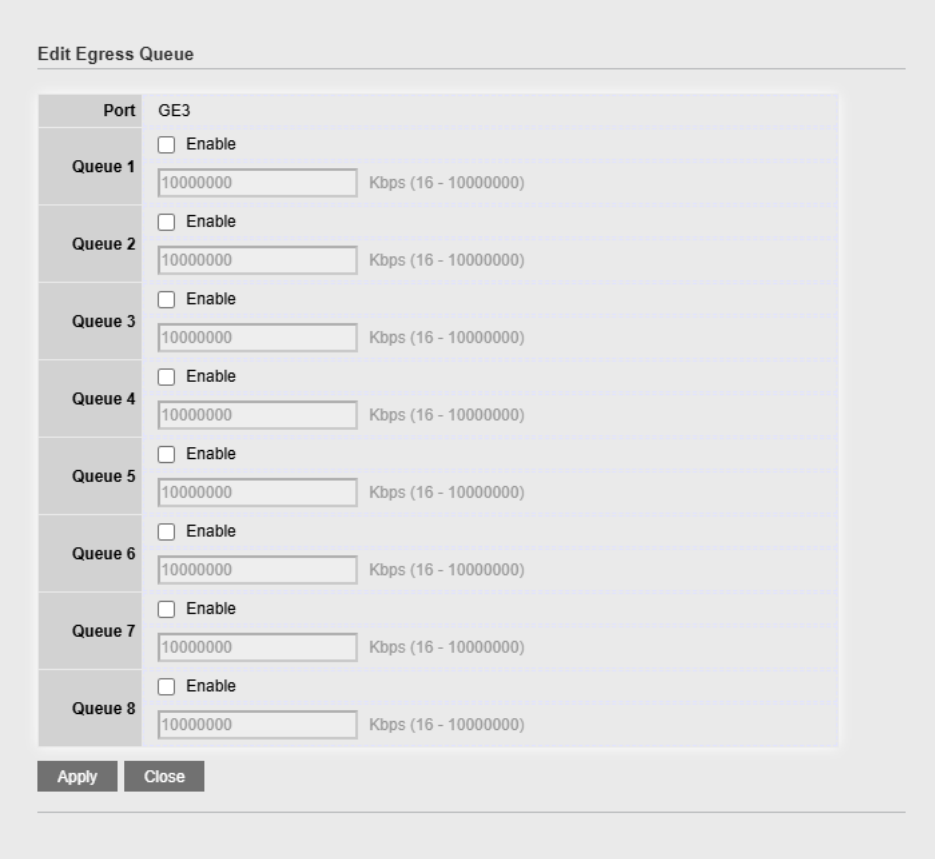
To display Egress Queue web page, click **QoS** > **Rate Limit** > **Egress Queue**.

Egress rate limiting is performed by shaping the output load.



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



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.

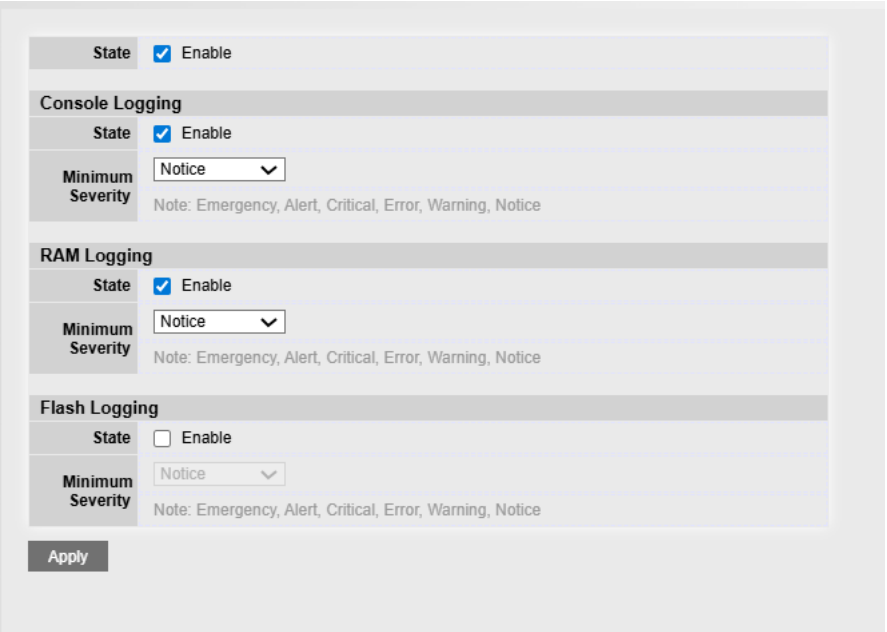
15. Diagnostics

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

15.1. Logging

15.1.1. Property

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



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.

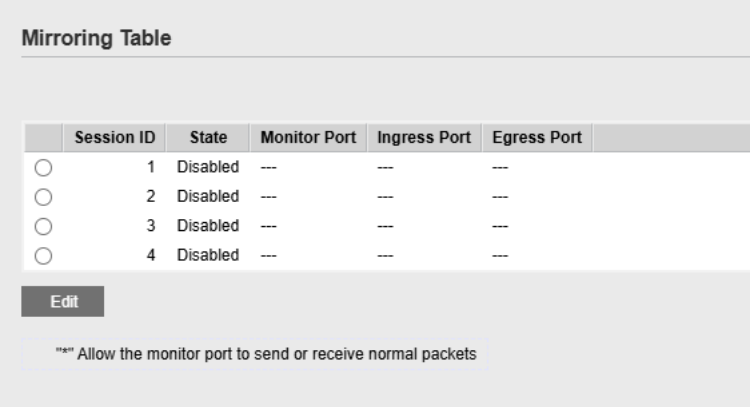
Field	Description
State	Enable/Disable the console logging service.
Minimum Severity	The minimum severity for the console logging.

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

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

15.2. Mirroring

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

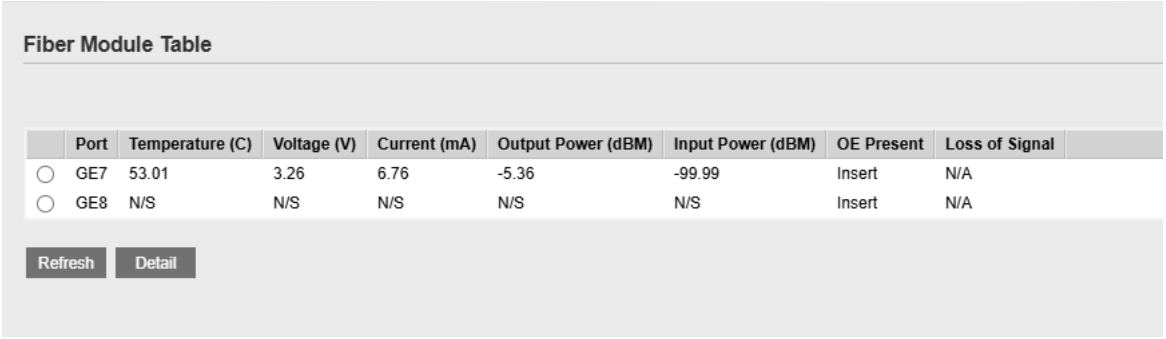


Field	Description
Session ID	Select mirror session ID
State	Select mirror session state : port-base mirror or disable • **Enabled:** Enable port based mirror • **Disabled:** Disable mirror.
Monitor Port	Select mirror session monitor port, and select whether normal packet could be sent or received by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

15.3. Fiber Module

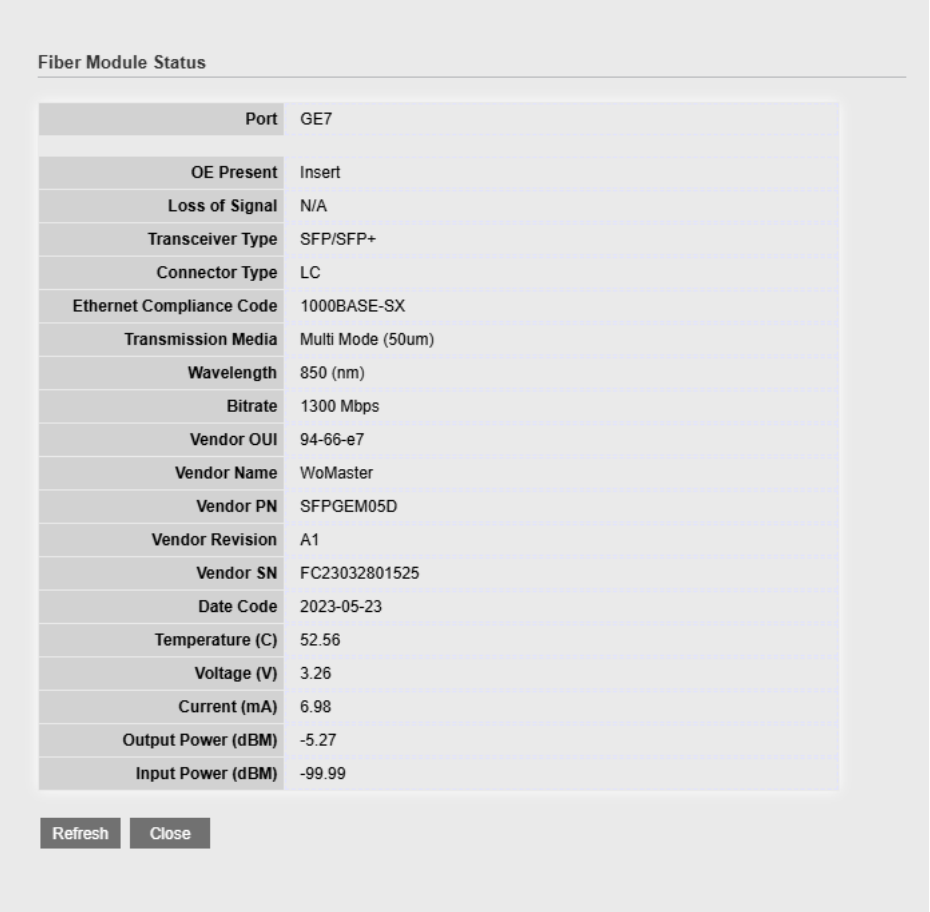
The Optical Module Status page displays the operational information reported by the Small Form-factor Pluggable (SFP) transceiver. Some information may not be available for SFPs without the supports of digital diagnostic monitoring standard SFF-8472.

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



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.



16. Management

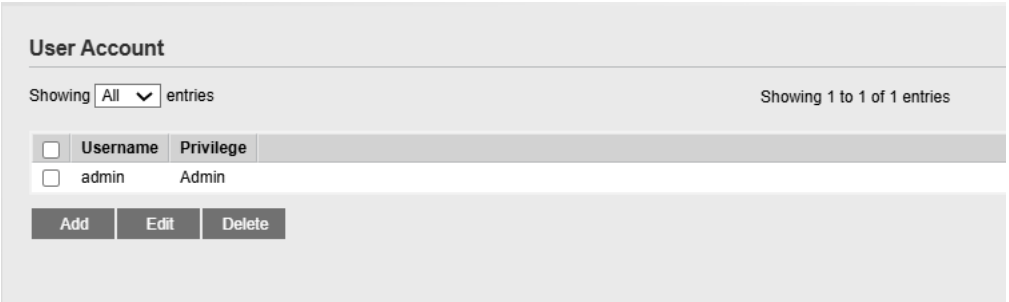
Use the Management pages to configure settings for the switch management features.

16.1. User Account

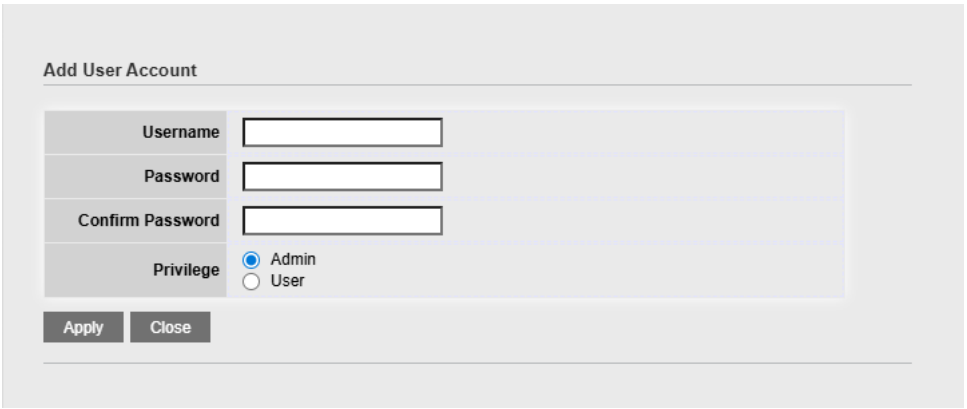
To display User Account web page, click **Management > User Account**

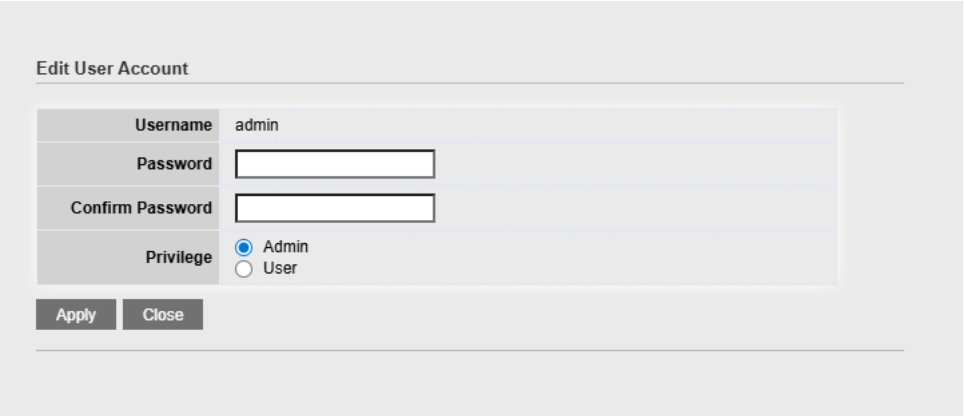
The default username/password is **admin**/**admin**. And default account is not able to be deleted.

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



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.





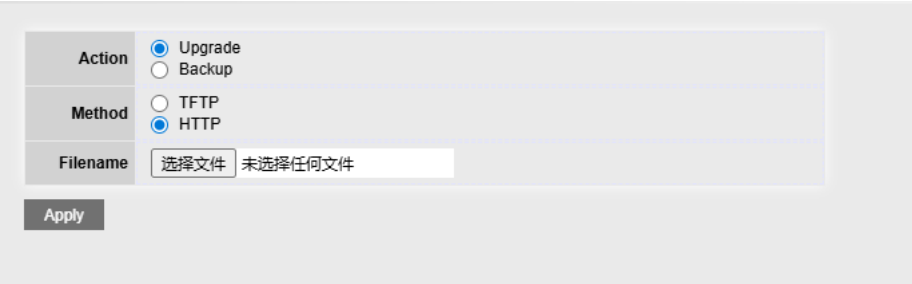
Field	Description
Username	User name of the account
Password	Set password of the account
Confirm Password	Set the same password of the account as in “Password” field
Privilege	Select privilege level for new account. • **Admin:** Allow to change switch settings. Privilege value equals to 15. • **User:**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

16.2. Firmware

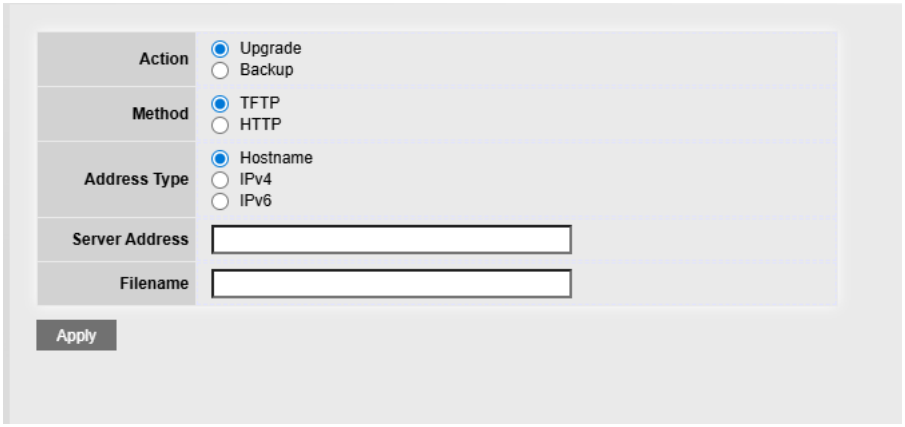
16.2.1. Upgrade / Backup

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

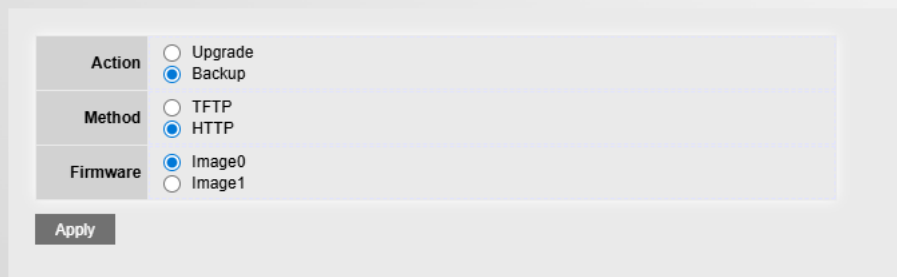
This page allow user to upgrade or backup firmware image through HTTP or TFTP server.



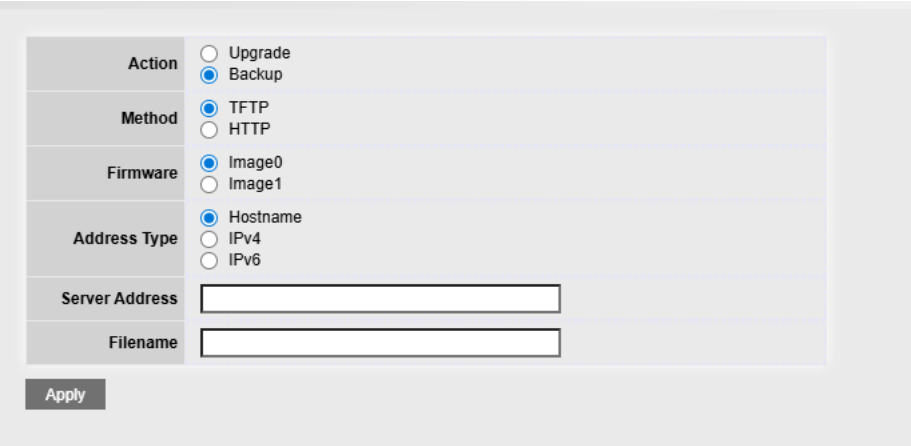
Field	Description
Action	Firmware operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Firmware upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup firmware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



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



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



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

16.3. Configuration

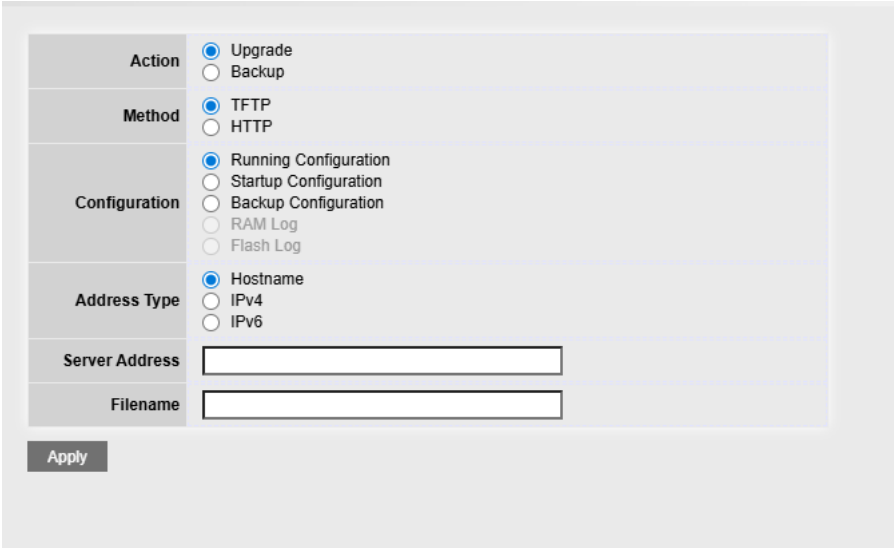
16.3.1. Upgrade / Backup

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.

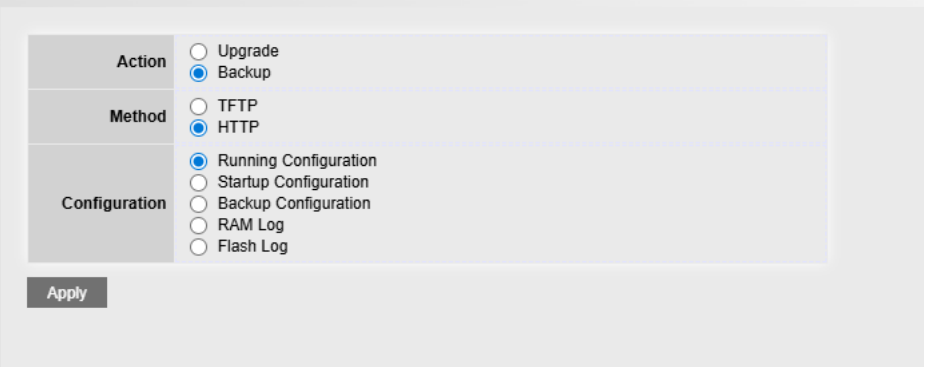
Field	Description
Action	Configuration operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Configuration upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup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

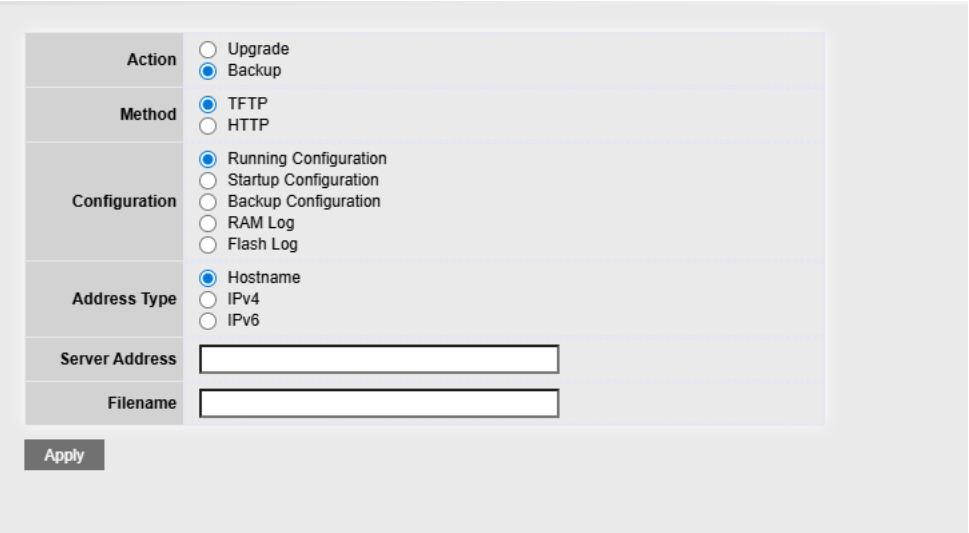


Field	Description
Action	Configuration operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Configuration upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup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



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

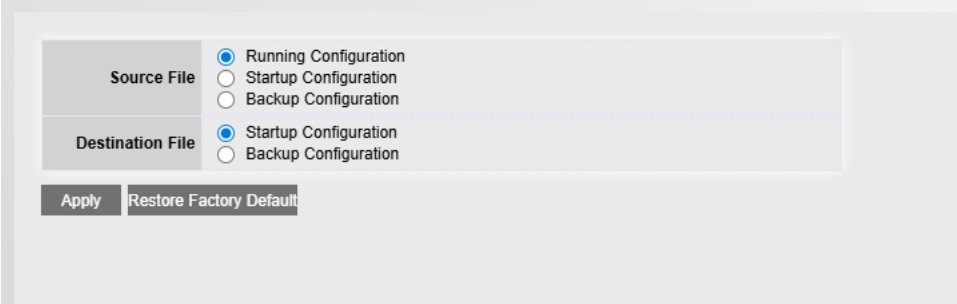


Field	Description
Action	Firmware operations • **Upgrade:** Upgrade firmware from remote host to DUT • **Backup:** Backup firmware image from DUT to remote host
Method	Firmware upgrade / backup method • **TFTP:** Using TFTP to upgrade/backup firmware • **HTTP:** Using WEB browser to upgrade/backup firmware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

16.3.2. 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.



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