# 24-PORT WEB-MANAGED GIGABIT ETHERNET SWITCH WITH 2 SFP PORTS

# USER MANUAL

## MODEL 560917


INTELLINET®
NETWORK SOLUTIONS

**INT-560917-UM-0315-01**

# Table of Contents

# Chapter 1 Product Introduction

Congratulations on your purchase of the Web-Managed Gigabit Ethernet Switch. Before you install and use this product, read this manual carefully for a full understanding of its functions.

## 1.1 Product Overview

The Web-Managed Gigabit Ethernet Switch provides a seamless network connection. It integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities in a highly flexible package. With 24 10/100/1000Mbps Auto-Negotiation RJ45 ports, all ports support Auto MDI/MDIX function. The switch is a low-cost, easy-to-use, high-performance upgrade from your old network to a 1000Mbps Gigabit network, essential in helping solve network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources.

For efficient management, the switch is equipped with a remote Web interface. The switch can be programmed for advanced switch management functions, such as Port Management, Link Aggregation, VLAN, Spanning Tree, Multicast, QoS, Security, Access Control, MAC Address Table, LLDP, Diagnostics, RMON and Maintenance.

## 1.2 Features

- Comply with IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3z, IEEE802.3ad standards
- Supports IEEE802.3x flow control for full duplex mode and backpressure for half duplex mode
- Supports MAC address auto-learning and auto-aging
- Store and forward mode
- Supports SNMP/RMON/TELENT
- Supports IEEE802.1Q VLAN, 4K VLAN table
- Supports IEEE802.1p Priority Queues
- Supports ACL Function, 1.5K-entry ALC table
- Supports Storm Control
- Supports QoS, Port Mirroring, Link Aggregation Protocol
- LED indicators for monitoring power, link/activity
- Web-based management support
- Internal power adapter supply

# 1.3 External Component Description

## 1.3.1 Front Panel

The front panel of the switch features 24 10/100/1000Mbps RJ45 ports, two SFP ports, one Console port, a Reset button and a series of LED indicators as shown below.


Figure 1 - Front Panel

**10/100/1000Mbps RJ45 ports (1-24):**
Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding 10/100/1000Mbps LED.

**SFP ports (SFP1, SFP2):**
Designed to install the SFP module and connect to the device with a bandwidth of 1000Mbps. Each has a corresponding 1000Mbps LED.

**Console port (Console):**
Designed to connect with the serial port of a computer or terminal for monitoring and configuring the switch.

**Reset button (Reset):**
Keep the device powered on and press the button for about 5 seconds. The system restores the factory default settings.

**LED indicators:**
The LED indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the switch, connection or attached devices.


Figure 2 - LED Indicators

The following chart shows the LED indicators of the switch, along with an explanation of each indicator.

| LED | COLOR | STATUS | STATUS DESCRIPTION |
|---|---|---|---|
| Power | Red | On | Power On |
| | | Off | Power Off |
| LNK/ACT/ Speed (1~24) | 10/100Mbps: Amber | On | A device is connected to the port |
| | | Off | A device is disconnected to the port |
| | 1000Mbps: Green | Flashing | Sending or receiving data |
| SFP1 SFP2 | Green | On | A device is connected to the port |
| | | Off | A device is disconnected to the port |
| | | Flashing | Sending or receiving data |

### 1.3.2 Rear Panel

The rear panel of the switch features an AC power connector and ground connection as shown below.

Figure 3 - Rear Panel

**AC Power Connector:**
Power is supplied through an external AC power adapter. It supports AC 100-240V, 50/60Hz.

**Grounding Terminal:**
The switch already comes with a lightning protection mechanism. You can also ground the switch through the PE cable on the AC cord or with a separate ground wire.

## 1.4 Package Contents

Before installing the switch, make sure that the following items are enclosed. If any part is missing or damaged, contact your local agent immediately.

- ☐ One Web-Managed Gigabit Ethernet Switch
- ☐ Four rubber feet, two mounting ears and eights screws
- ☐ AC power cord
- ☐ User manual

# Chapter 2 Installing and Connecting the Switch

This part describes how to install your Web-Managed Gigabit Ethernet Switch and make connections to it.

## 2.1 Installation

The following steps will help prevent damage to the device while also helping to maintain proper security.

- ☐ Place the switch on a stable surface or desktop to minimize the chances of falling.
- ☐ Make sure the switch works in the proper AC input range and matches the voltage labeled on the switch.
- ☐ To keep the switch free from lightning damage, do not open the switch's chassis even if it fails to receive power.
- ☐ Make sure that there is proper heat dissipation from and adequate ventilation around the switch.
- ☐ Make sure the surface the switch is placed on can support the weight of the switch and its accessories.

### 2.1.1 Desktop Installation

When installing the switch on a desktop (if not in a rack), attach the enclosed rubber feet to the bottom corners of the switch to minimize vibration. Allow adequate space for ventilation between the device and the objects around it.

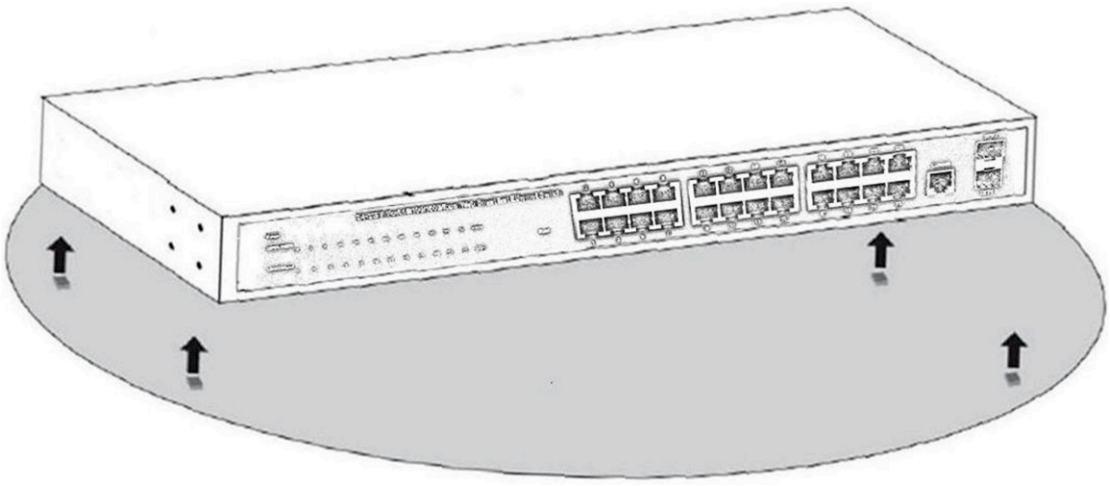


Figure 4 - Desktop Installation

### 2.1.2 Rack-mountable Installation in 19-inch Cabinet

The switch can be mounted in an EIA standard-sized, 19-inch rack, which can be placed in a wiring closet with other equipment. To install the switch, follow these steps:

a. Attach the mounting brackets on the switch's side panels (one on each side) and secure them with the screws provided.

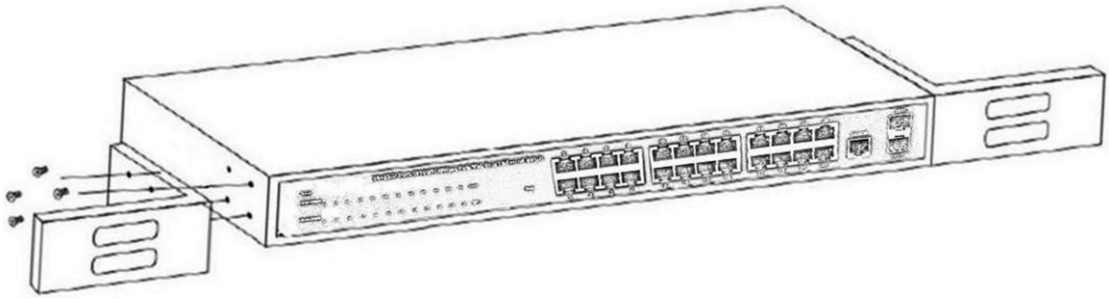


Figure 5 - Bracket Installation

b. Use the screws provided with the equipment rack to mount the switch on the rack and tighten it.

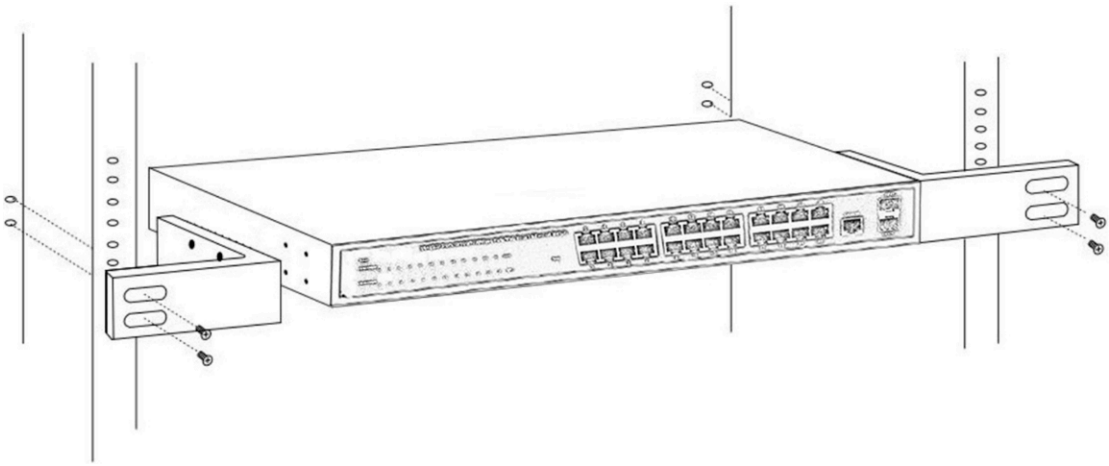


Figure 6 - Rack Installation

### 2.1.3 Power on the Switch

The switch is powered on by connecting it to an outlet using the AC 100-240V 50/60Hz internal high-performance power supply.

**AC Electrical Outlet:**

It is recommended to use a single-phase, three-wire receptacle with a neutral outlet or multifunctional computer professional receptacle. Be sure to connect the metal ground connector to the grounding source on the outlet.

**AC Power Cord Connection:**

Connect the AC power connector on the back panel of the switch to an external receptacle

with the included power cord, then check that the power indicator is ON. When it is ON, it indicates the power connection is okay.

# Chapter 3 How to Login the Switch

## 3.1 Switch to End Node

Use standard Cat5/5e Ethernet cable (UTP/STP) to connect the switch to end nodes as described below. Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which they are connected.

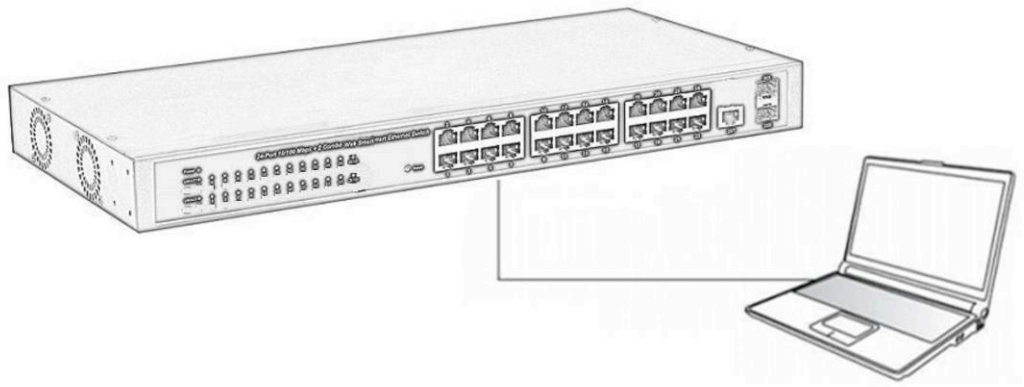


Figure 7 - PC Connect

The LNK/ACT/Speed LEDs for each port light when the link is available.

## 3.2 How to Login the Switch

As the switch provides Web-based management login, you can configure your computer's IP address manually to log on to the switch. The default settings of the switch are shown below.

| Parameter | Default Value |
|---|---|
| Default IP address | 192.168.2.1 |
| Default Username | admin |
| Default Password | admin |

You can log on to the configuration window of the switch through following steps:

1. Connect the switch with the computer NIC interface.
2. Power on the switch.
3. Check whether the IP address of the computer is within this network segment: 192.168.2.xxx ("xxx" range is 2-254); for example, 192.168.2.100.
4. Open the browser, and enter *http://192.168.2.1* and then press "Enter." The switch login window appears, as shown below.


Figure 8 - Login Window

5. Enter the Username and Password (the factory default Username is **admin** and Password is **admin**), and then click “LOGIN” to log in to the switch configuration window as below.

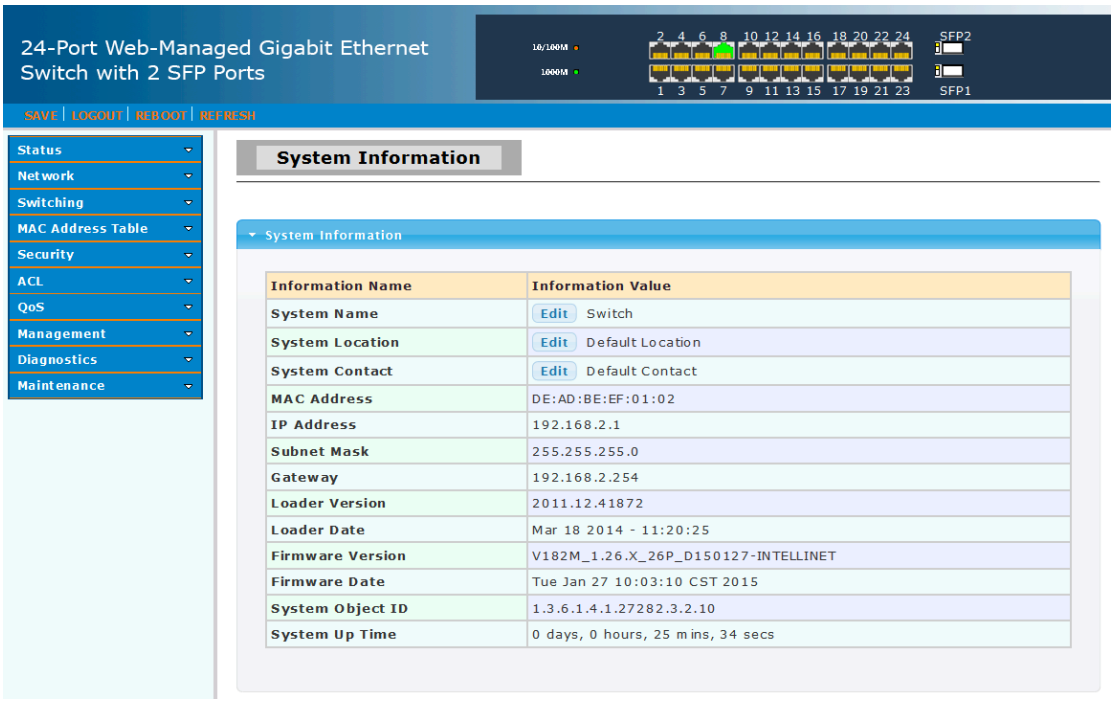
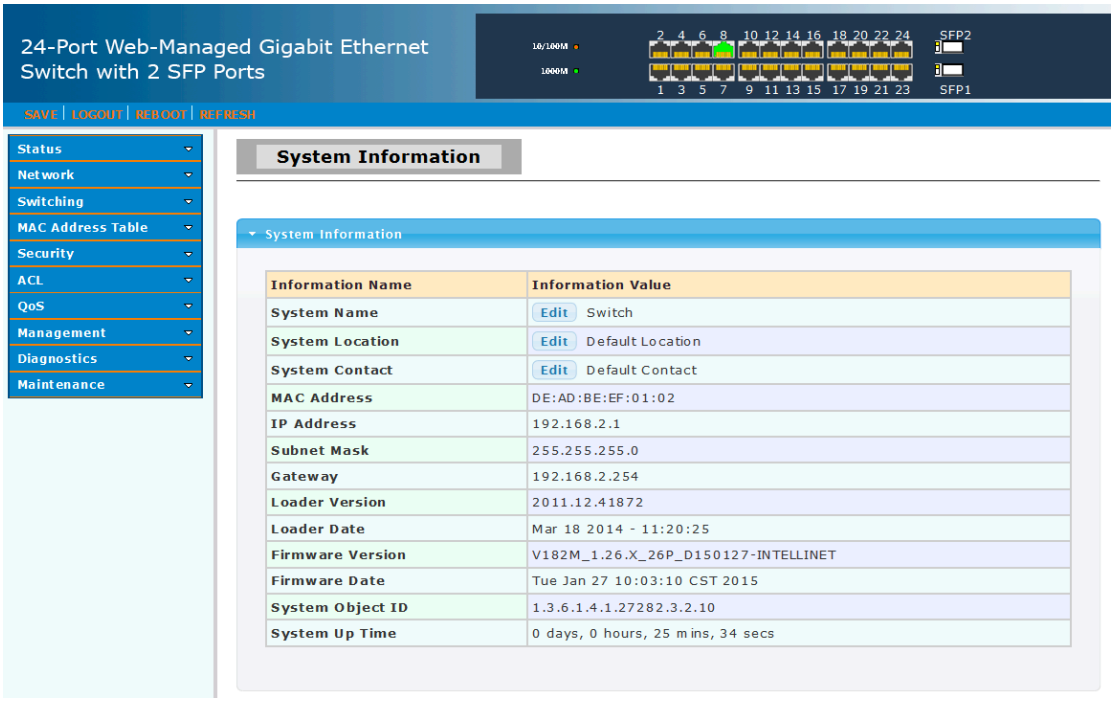



Figure 9 - Configuration Window

# Chapter 4 Switch Configuration

The Web-Managed Gigabit Ethernet Switch software provides rich Layer 2 functionality for switches in your networks. This chapter describes how to use the Web-based management interface (Web UI) for this switch to configure managed-switch software features.

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.



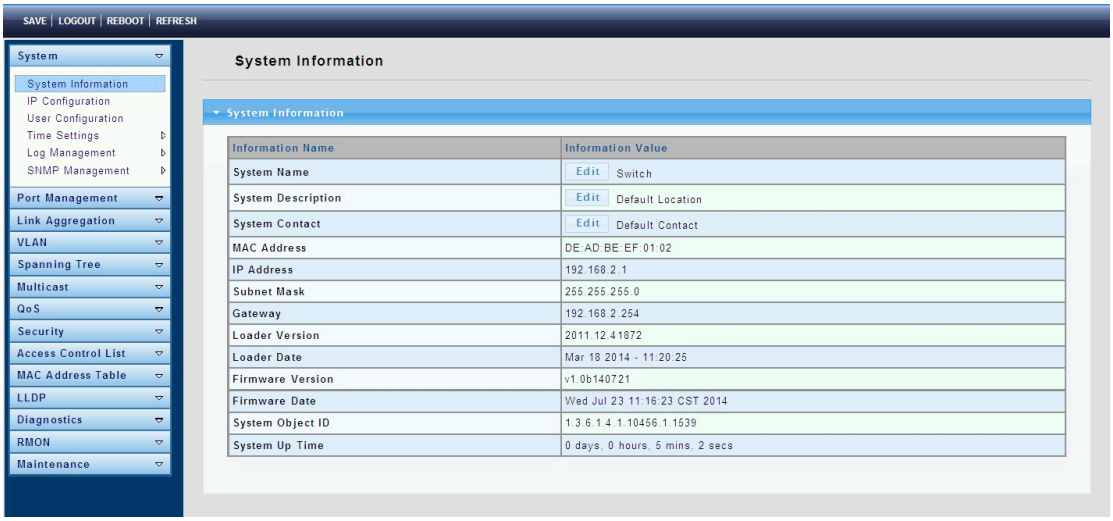

## 4.1 Status

Use the Status pages to view system information and status.

### 4.1.1 System Information

To display the System Information page, click **Status > System Information.**

This page allows you to configure System-related information and browse some system information, such as MAC address, IP address, firmware version, loader version and such.

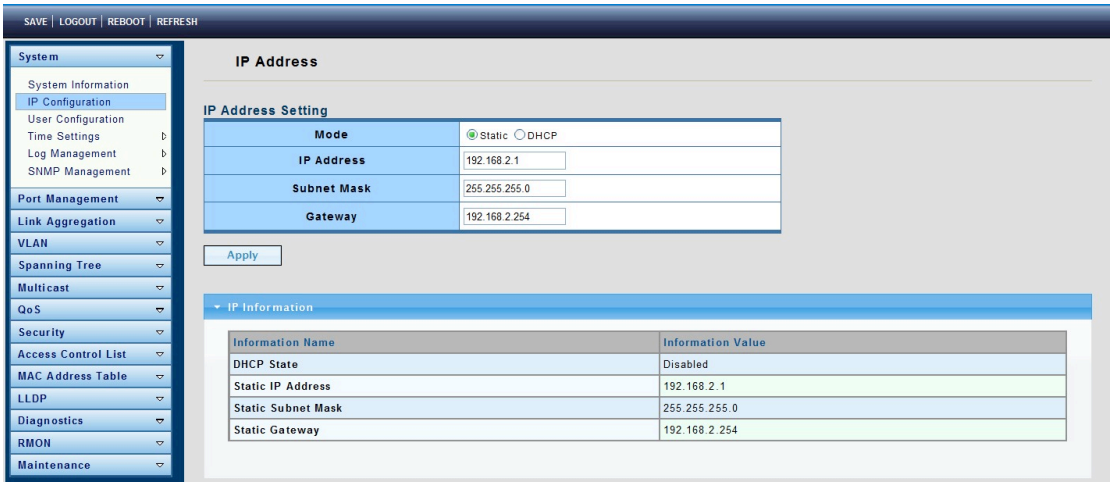



**System Name:** System name of the switch. This name will also use as CLI prefix of each line. (“Switch>” or “Switch#”).
**System Description:** System location of the switch.
**System Contact:** System contact of the switch.

## 4.1.2 IP Configuration

To display the IP Configuration page, click **System > IP Configuration.**

This page allows you to edit the IP address, Subnet Mask and Gateway.




**Mode:** Select the mode of network connection.

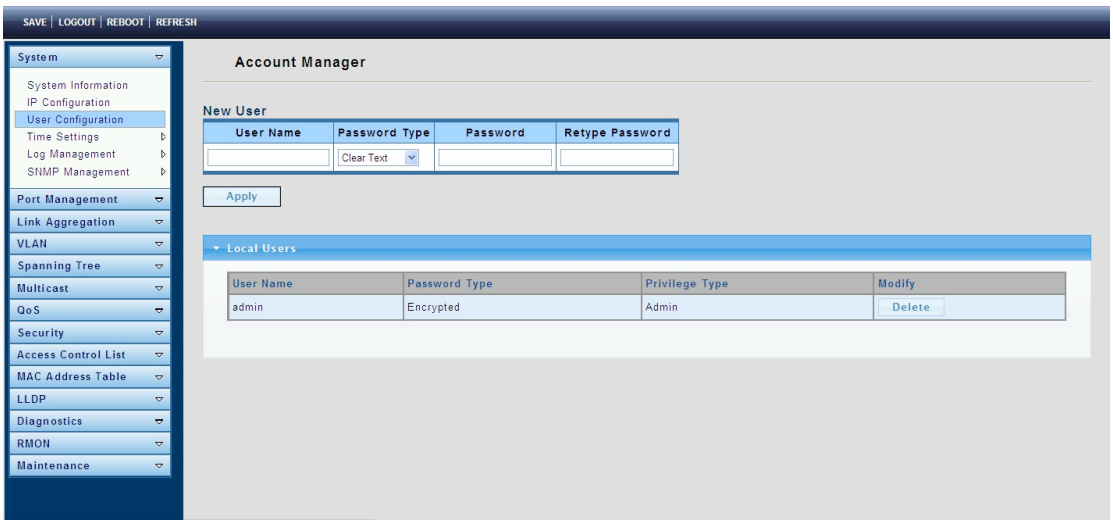
- Static: Enable static IP address.
- DHCP: Enable DHCP to obtain IP information from a DHCP server on the network.

**IP Address:** If static mode is enabled, enter an IP address in this field.
**Subnet Mask:** If static mode is enabled, enter a subnet mask in this field.
**Gateway:** If static mode is enabled, enter a gateway address in this field.

## 4.1.3 User Configuration

To display the User Configuration page, click **System > User Configuration.**

This page allows you to Input User Name, Password Type and Password.

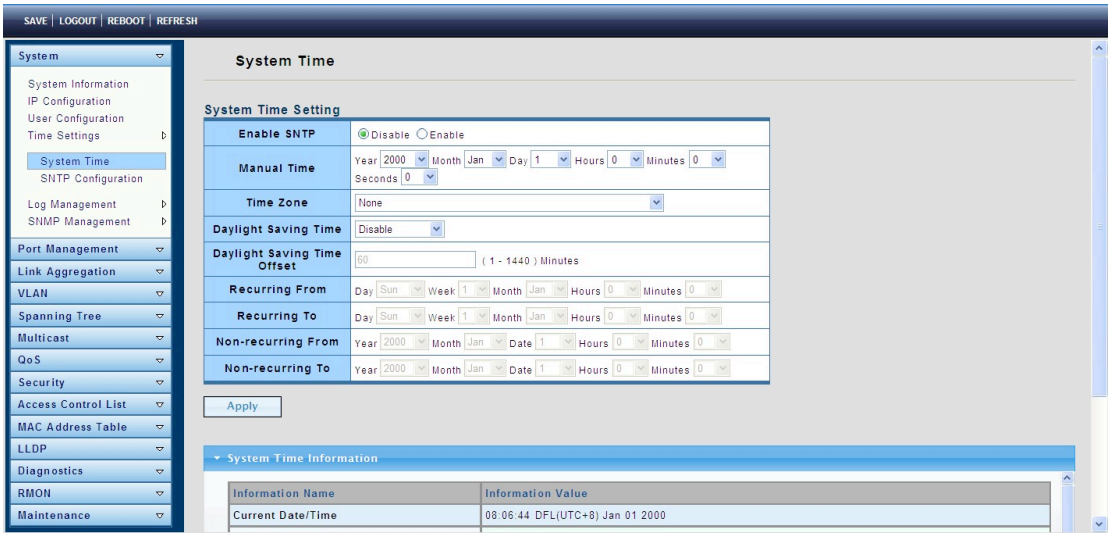



## 4.1.4 Time Settings

### 4.1.4.1 System Time

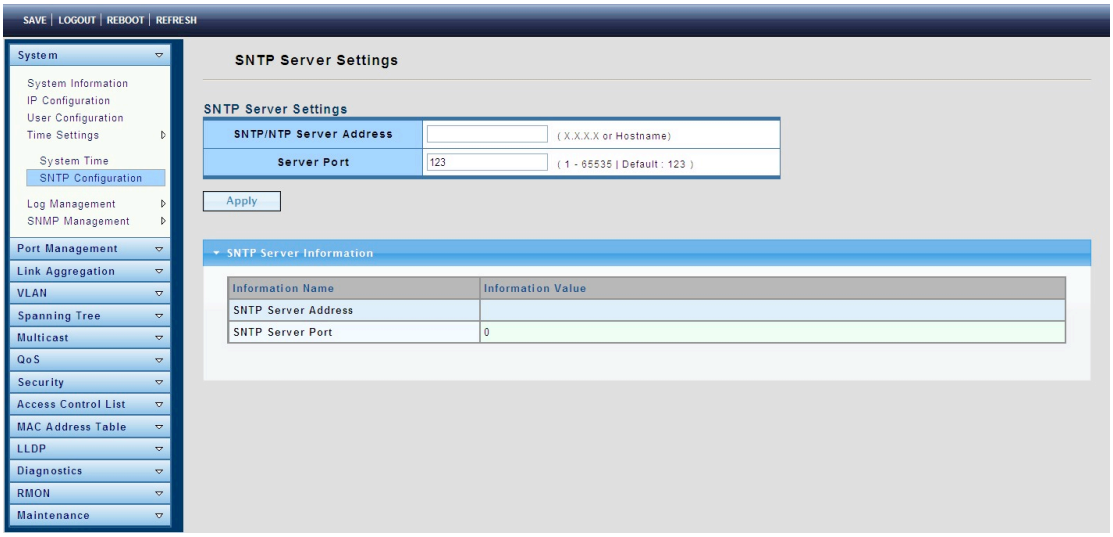
To display the System Time page, click **System > Time Settings > System Time.**

System time settings include time zone and Daylight Saving time.



#### 4.1.4.2 SNTP Configuration

To display the SNTP Configuration page, click **System > Time Settings > SNTP Configuration.**



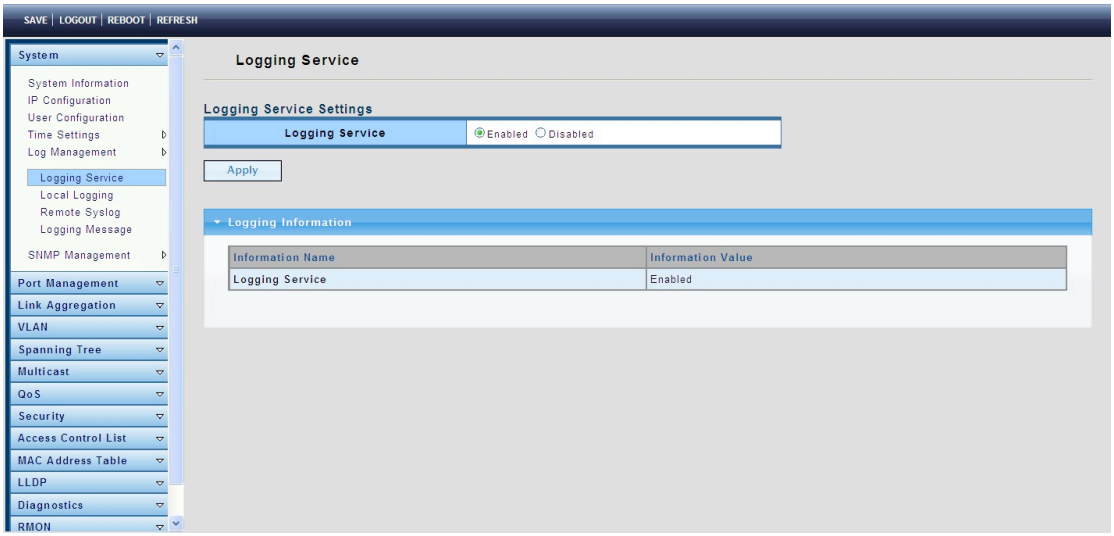

**SNTP Server Address:** The IP address of the SNTP/NTP server.
**Server Port:** The Port Number of the SNTP/NTP server.

### 4.1.5 Log Management

#### 4.1.5.1 Logging Service

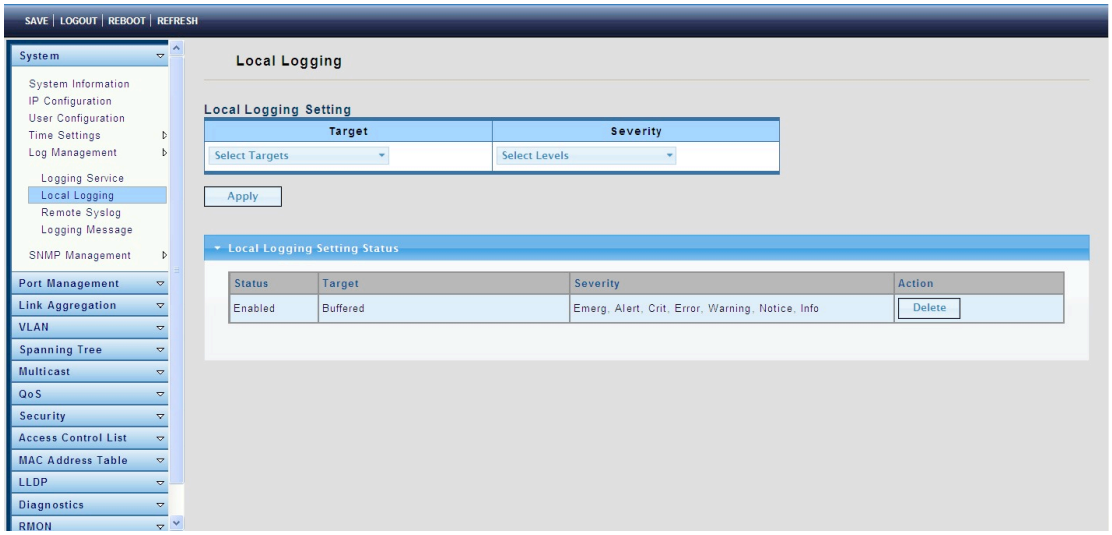
To display the Logging Service page, click **System > Log Management > Logging Service.**

This page allows you to enable or disable the logging service, and will display the information of logging.



### 4.1.5.2 Local Logging

To display the Local Logging page, click **System > Log Management > Local Logging.**



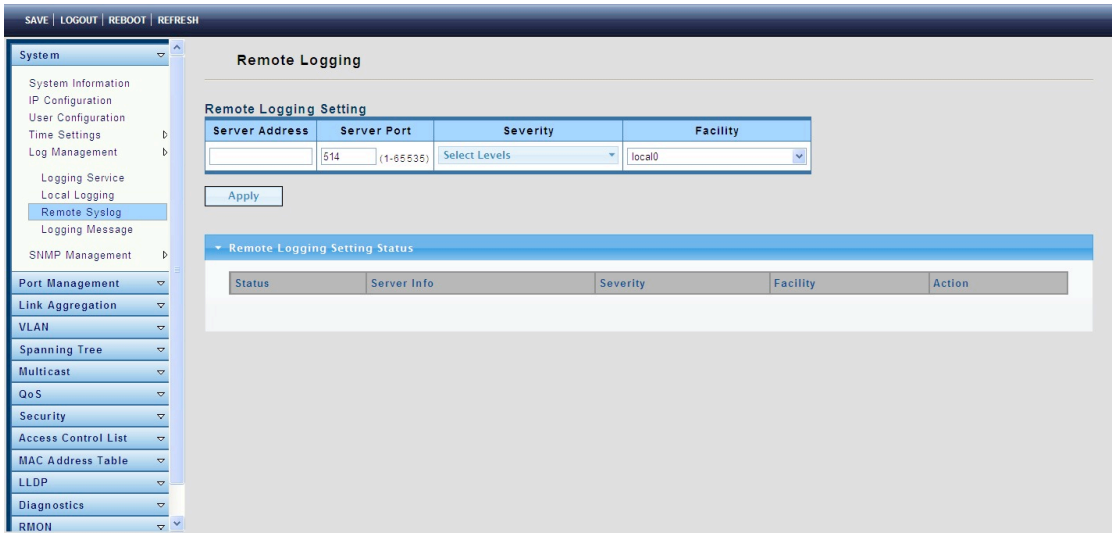

**Target:** Select the target to store log messages.

- RAM: Store log messages in RAM disk. All log messages will disappear after system reboot.
- FLASH: Store log messages in FLASH. All log messages will not disappear after system reboot.

**Severity:** Select the severity of log messages which will be stored.

### 4.1.5.3 Remote Syslog

To display the Remote Syslog page, click **System > Log Management > Remote Syslog.**



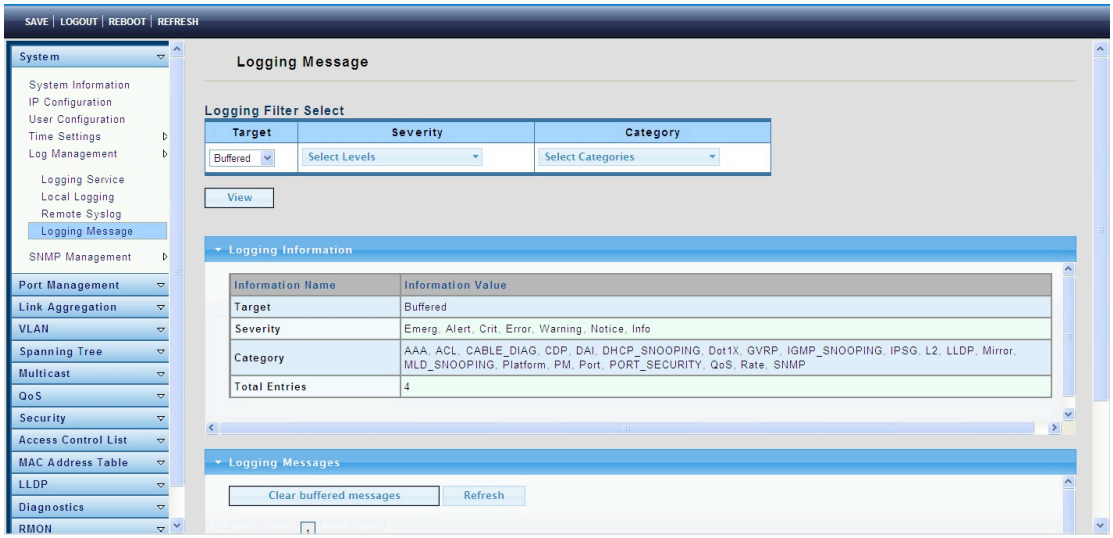

**Server Address:** The IP address of the remote log server.

**Server Port:** The Port number of the remote log server.

**Severity:** Select the severity of log messages which will be sent.

#### 4.1.5.4 Logging Message

To display the Logging Message page, click **System > Log Management > Logging Message.**




**Target:** Select the log message source to show on the table.

- RAM: Logs store in the RAM disk.
- DHCP: Logs store in the FLASH.

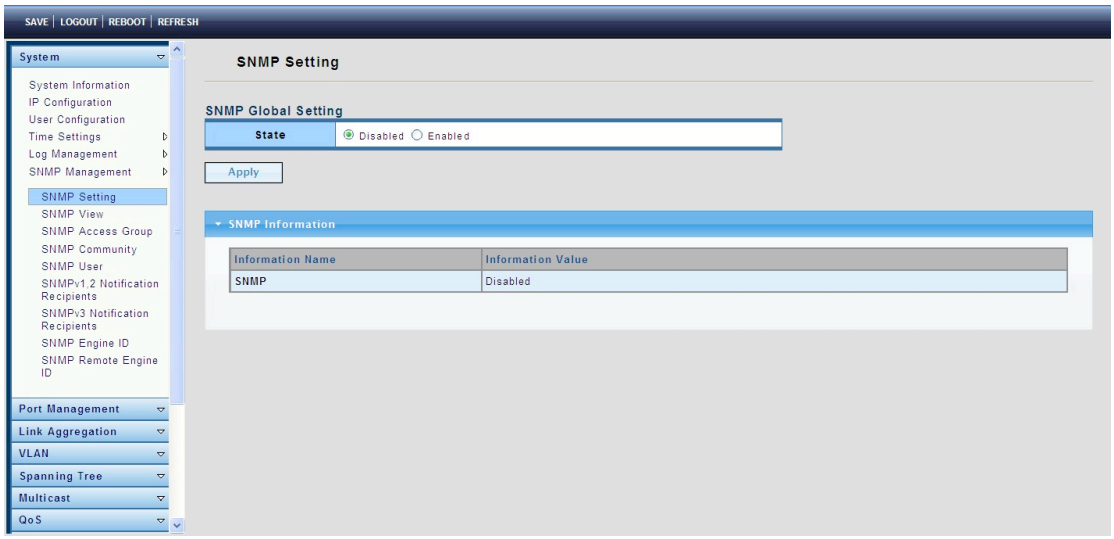
**Severity:** Select the severity to filter log messages.

**Category:** Select the category to filter log messages.

### 4.1.6 SNMP Management

#### 4.1.6.1 SNMP Setting

To display the SNMP Setting page, click **System > SNMP Management > SNMP Setting.**



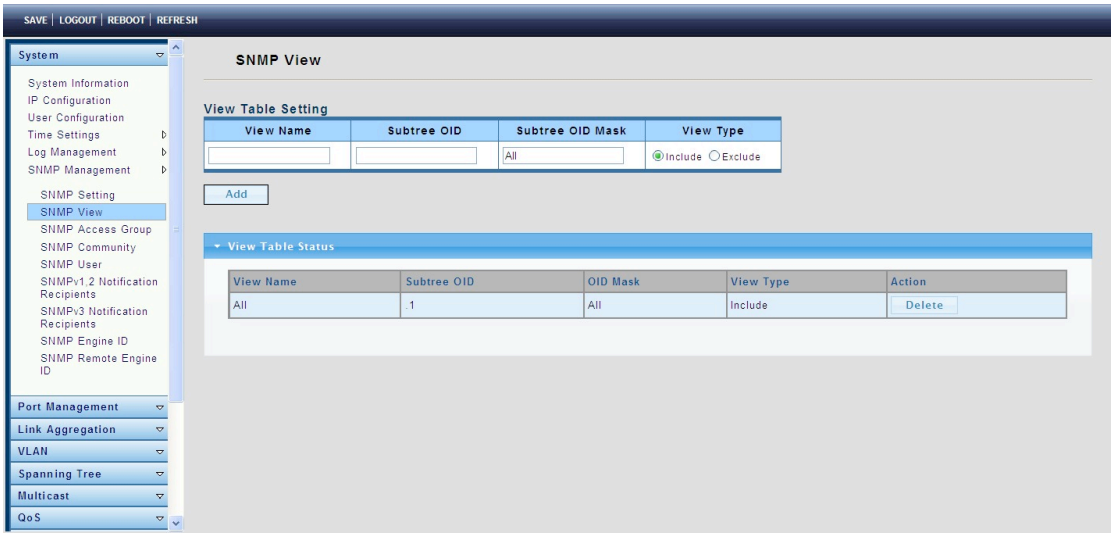

**State:** SNMP daemon state.

- Enabled: Enable SNMP daemon.
- Disabled: Disable SNMP daemon.

### 4.1.6.2 SNMP View

To display the SNMP View page, click **System > SNMP Management > SNMP View.**

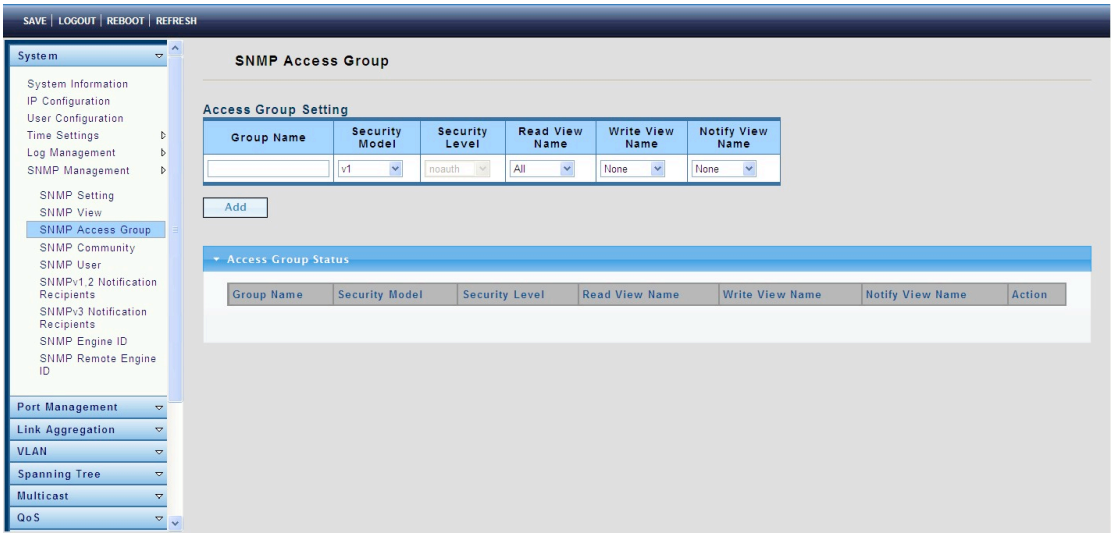
This page is used to configure the SNMP View. Used in the SNMP message management variables (OID) to describe the switch in the management object, MIB (Management Information Base) is a set of the monitoring network equipment management variables. View is used to control how these variables are to be managed.




### 4.1.6.3 SNMP Access Group

To display the SNMP Access Group page, click **System > SNMP Management > SNMP Access Group.**

This page is used to configure the SNMP group.

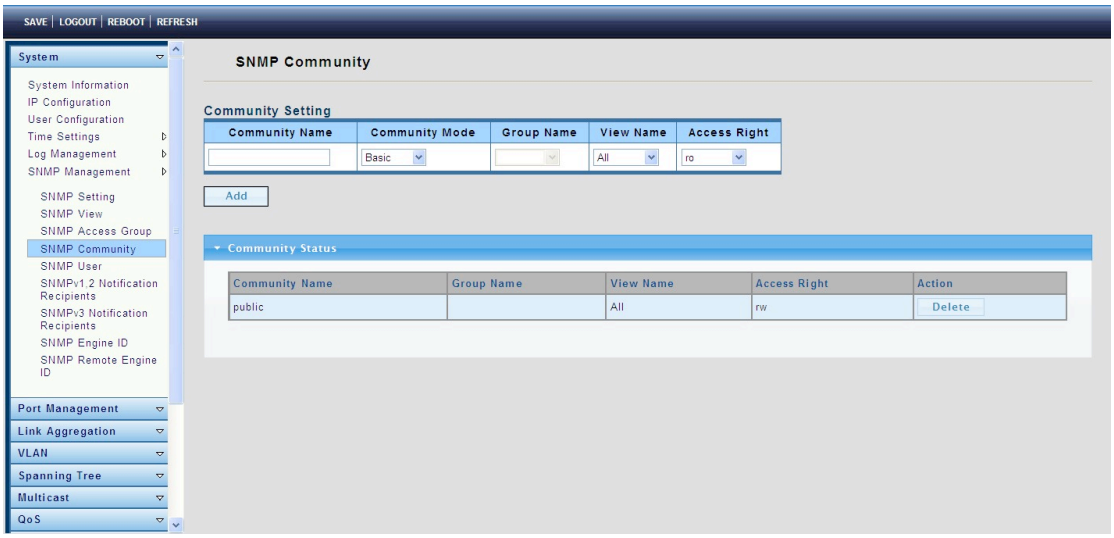



### 4.1.6.4 SNMP Community

To display the SNMP Community page, click **System > SNMP Management > SNMP Community.**

SNMP v1 and SNMP v2c use the group name (Community Name) certification, which plays a role similar to the password. If using SNMP v1 and SNMP v2c, you can go directly

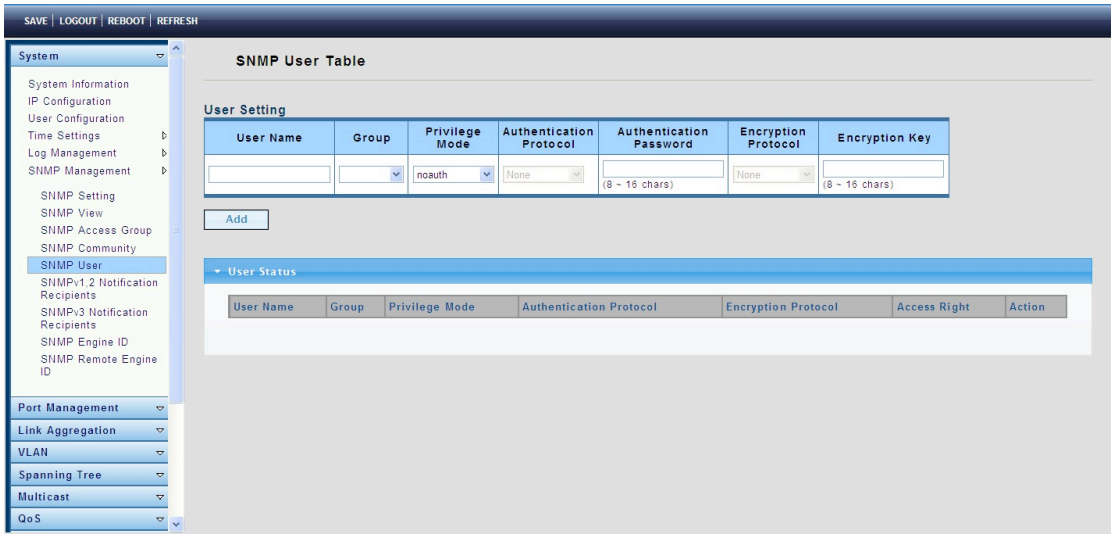
from the configuration settings to this page to configure the SNMP community.




### 4.1.6.5 SNMP User

To display the SNMP User page, click **System > SNMP Management > SNMP User.**

This page is used to create SNMP users in a group, which would have the same level of security and access control permissions.



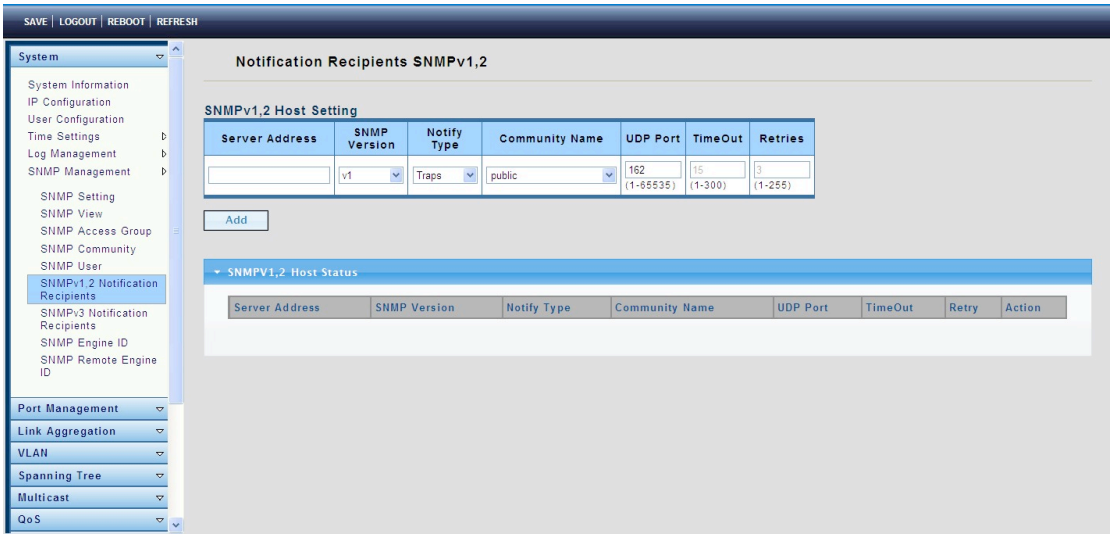

### 4.1.6.6 SNMPv1,2 Notification Recipients

A trap receiver entry contains the IP address of the node and the SNMP credentials corresponding to the version that is included in the trap message. When an event arises that requires a trap message to be sent, it is sent to every node listed in the Notification Recipient Table.

To display the SNMPv1,2 Notification Recipients page, click **System > SNMP Management > SNMPv1,2 Notification Recipients.**

This page contains recipients for SNMPv1,2. It allows you configure the destination to which SNMP notifications are sent, and the types of SNMP notifications that are sent to each destination (traps or informs). The Add/Edit pop-ups enable configuring the

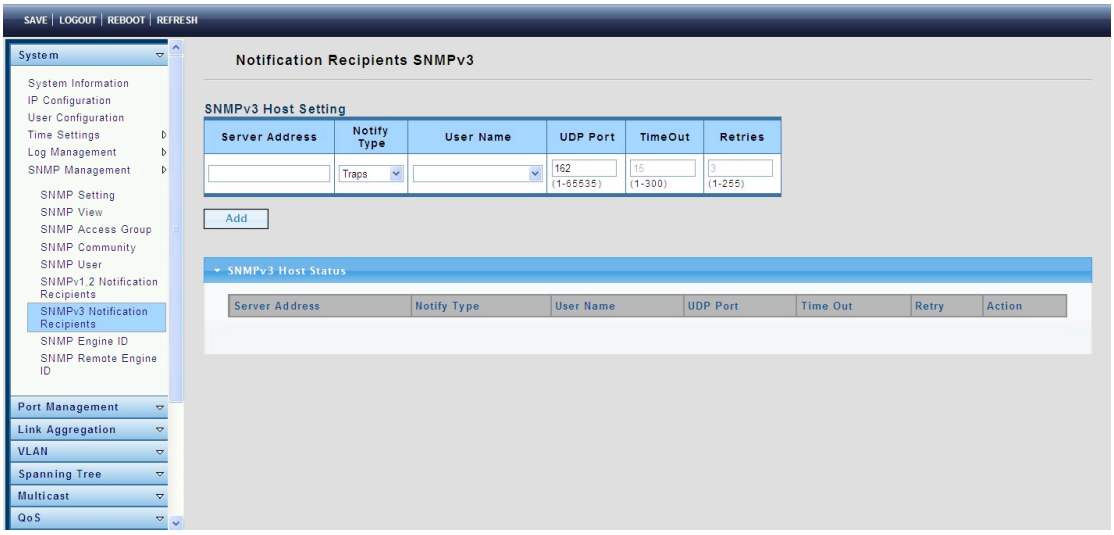
attributes of the notifications.




### 4.1.6.7 SNMPv3 Notification Recipients

To display the SNMPv3 Notification Recipients page, click **System > SNMP Management > SNMPv3 Notification Recipients.**

This page contains recipients for SNMPv3. It allows you to configure the destination to which SNMP notifications are sent, and the types of SNMP notifications that are sent to each destination (traps or informs). The Add/Edit pop-ups enable configuring the attributes of the notifications.




### 4.1.6.8 SNMP Engine ID

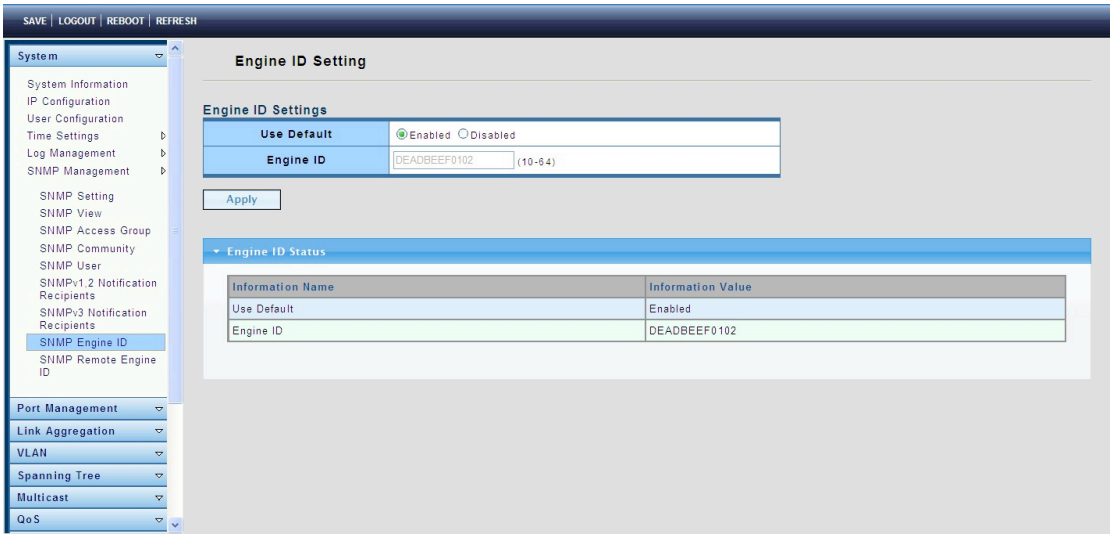
The Engine ID is used by SNMPv3 entities to uniquely identify them. An SNMP agent is considered an authoritative SNMP engine. This means that the agent responds to incoming messages (Get, GetNext, GetBulk, Set) and sends trap messages to a manager. The agent's local information is encapsulated in fields in the message.

Each SNMP agent maintains local information that is used in SNMPv3 message exchanges. The default SNMP Engine ID is composed of the enterprise number and the default MAC address. This engine ID must be unique for the administrative domain, so

that no two devices in a network have the same engine ID.

To display the SNMP Engine ID page, click **System > SNMP Management > SNMP Engine ID.**

This page allows you to define the SNMP engine ID.

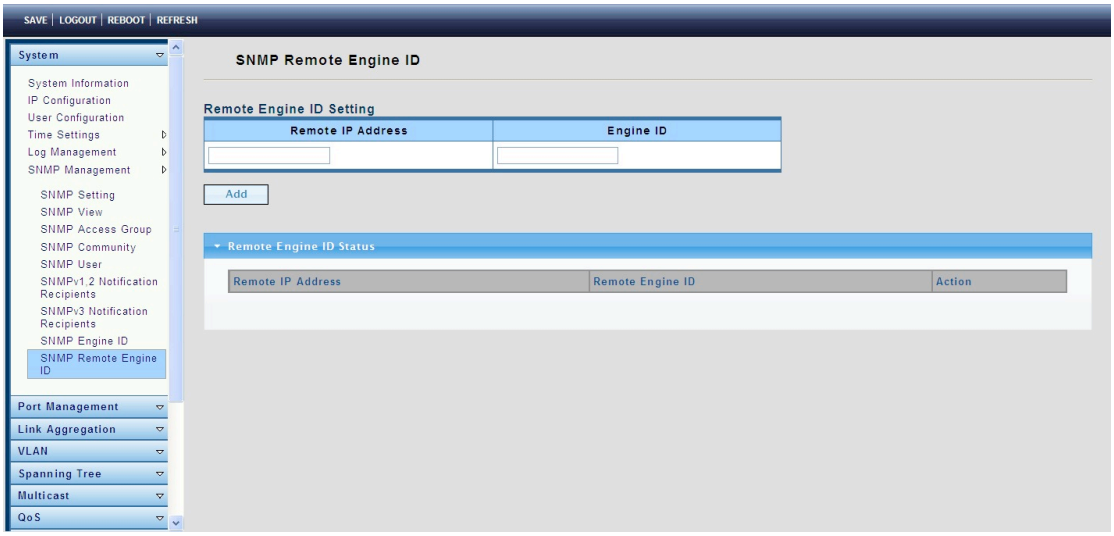



**Use Default:** Select the Use Default enable or disable.
**Engine ID:** Enter the local device engine ID. The field value is a hexadecimal string (range: 10 - 64). Each byte in the hexadecimal character strings is represented by two hexadecimal digits.
All remote engine IDs and their IP addresses are displayed in the Remote Engine ID table.

### 4.1.6.9 SNMP Remote Engine ID

To display the SNMP Remote Engine ID page, click **System > SNMP Management > SNMP Remote Engine ID.**

This page allows you to create an SNMP Remote Engine ID.

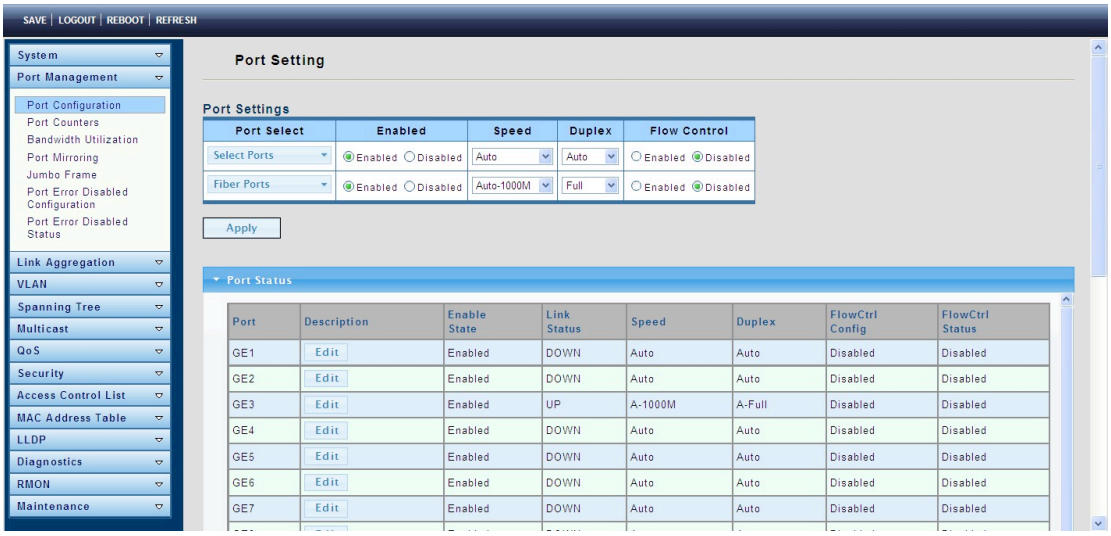


# 4.2 Port Management

## 4.2.1 Port Configuration

To display the Port Configuration page, click **Port Management > Port Configuration.**

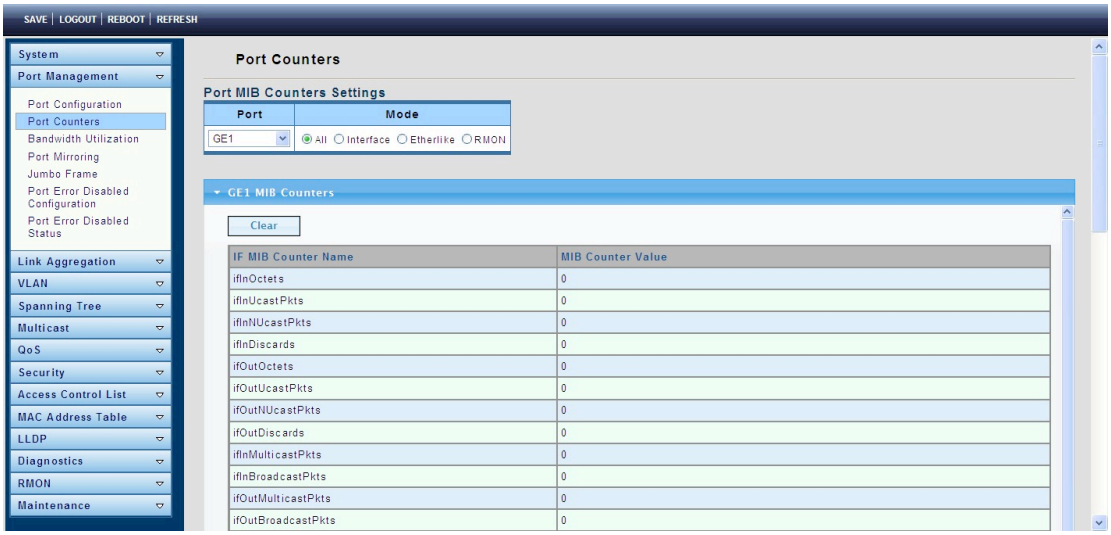
This page allows you to configure ports, such as enabling or disabling, setting Ethernet link speeds, duplex modes and flow control.




## 4.2.2 Port Counters

To display the Port Counters page, click **Port Management > Port Counters.**

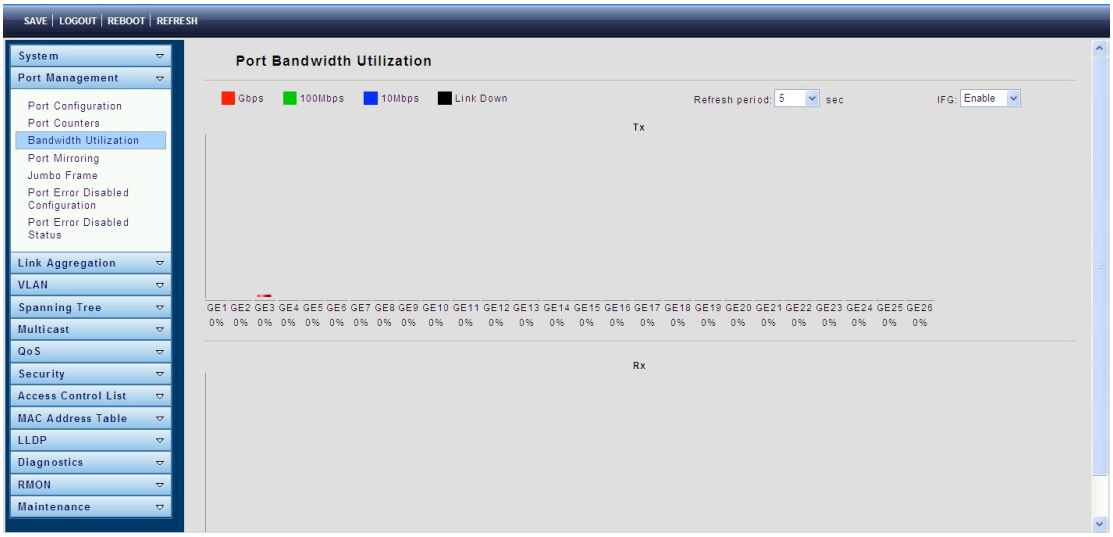
This page displays standard counters of network traffic using modes like Interface, Ethernetlike and RMON. Interfaces and Ethernetlike counters display errors on the traffic passing through each port. RMON counters provide a total count of different frame types and sizes passing through each port.



### 4.2.3 Bandwidth Utilization

To display the Bandwidth Utilization page, click **Port Management > Bandwidth Utilization.**

This page displays and lets you switch each port's TX and RX bandwidth utilization.



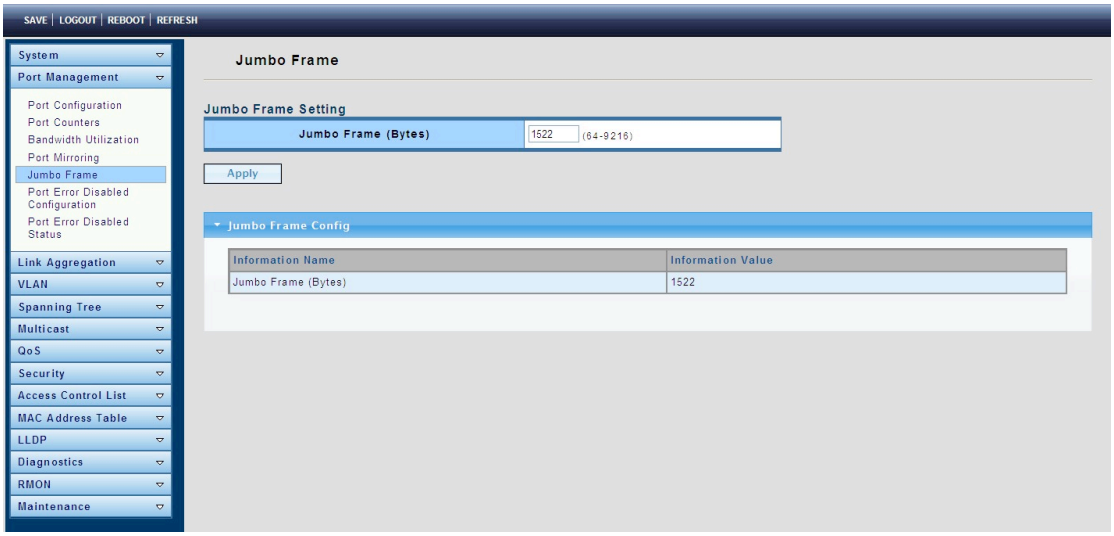

### 4.2.4 Port Mirroring

To display the Port Mirroring page, click **Port Management > Port Mirroring.**

Port mirroring copies the TX/RX data flow from the source port to the target, or destination, port.

### 4.2.5 Jumbo Frame

To display the Jumbo Frame page, click **Port Management > Jumbo Frame.**

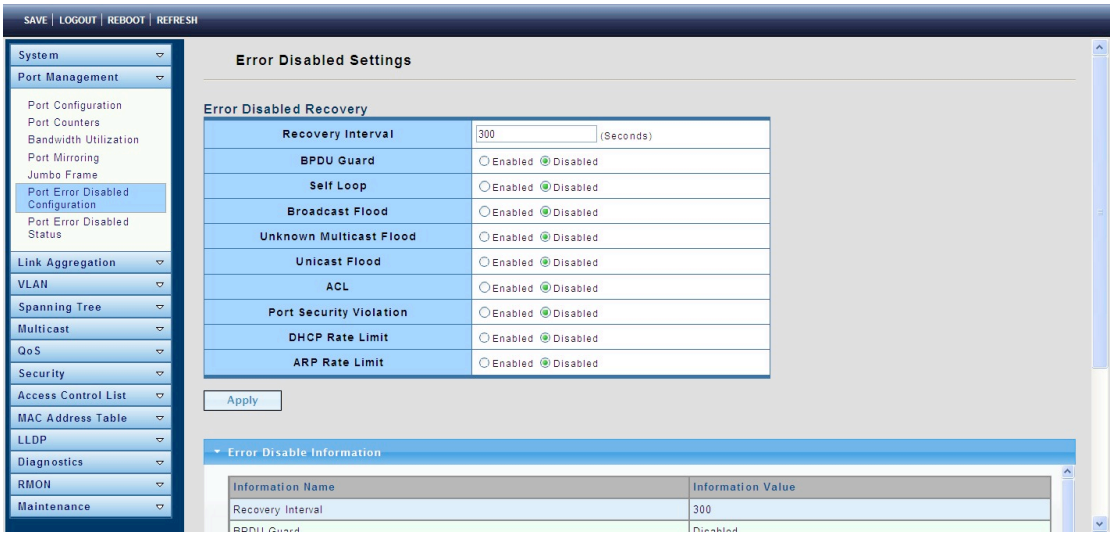



**Jumbo Frame:** The valid size range is 64 bytes – 9216 bytes.

### 4.2.6 Port Error Disabled Configuration

To display the Port Error Disabled Configuration page, click **Port Management > Port Error Disabled Configuration.**

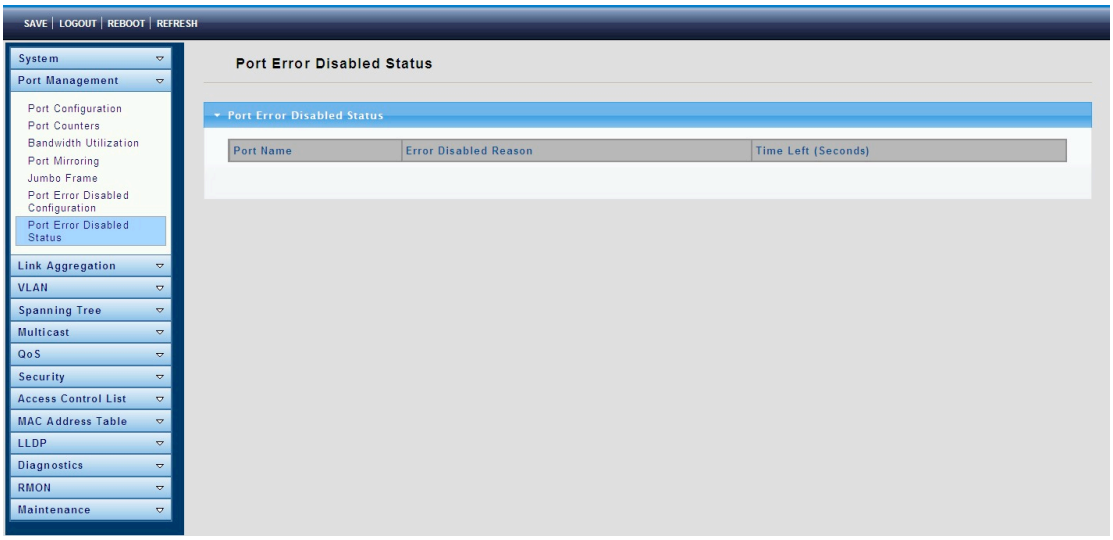
This page allows you to browse ports disabled by certain protocols, such as BPDU Guard, Loop Back and UDLD. The “Recovery” button will re-enable those error-disabled ports.



### 4.2.7 Port Error Disabled Status

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

This page is used to display the port error disabled status.

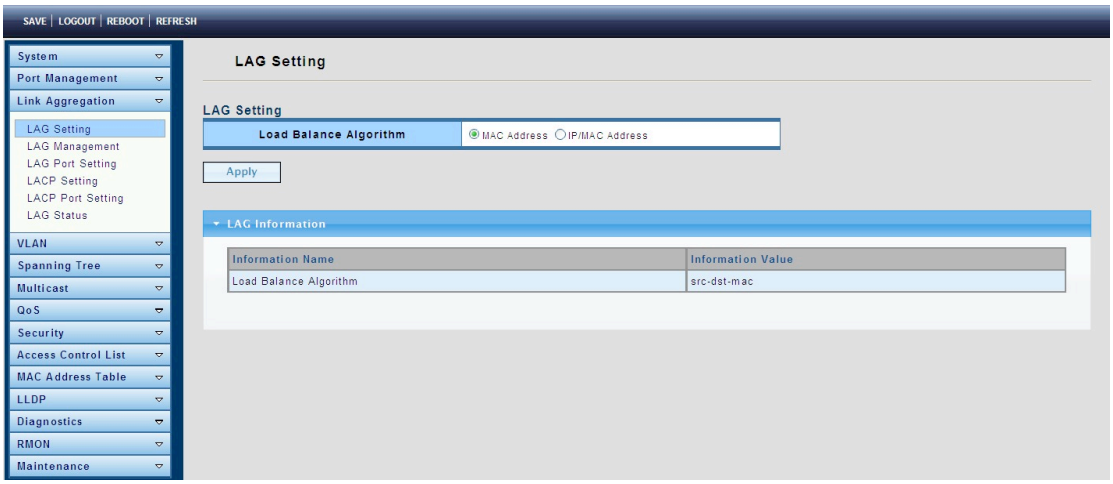



## 4.3 Link Aggregation

### 4.3.1 LAG Setting

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

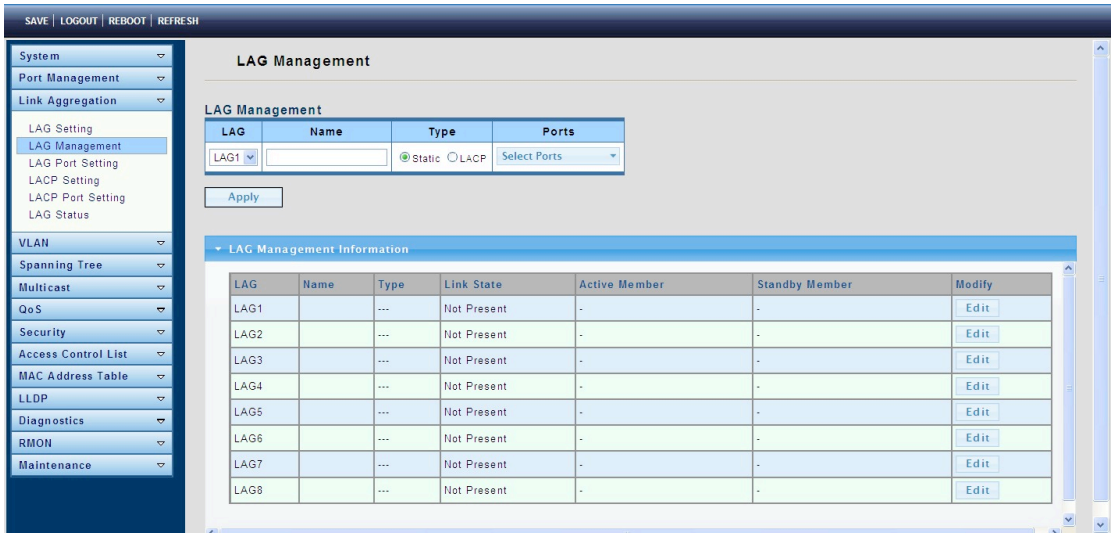
This page allows you to configure ports' aggregation rules by selecting MAC Address or IP/MAC Address.




### 4.3.2 LAG Management

To display the LAG Management page, click **Link Aggregation > LAG Management.**

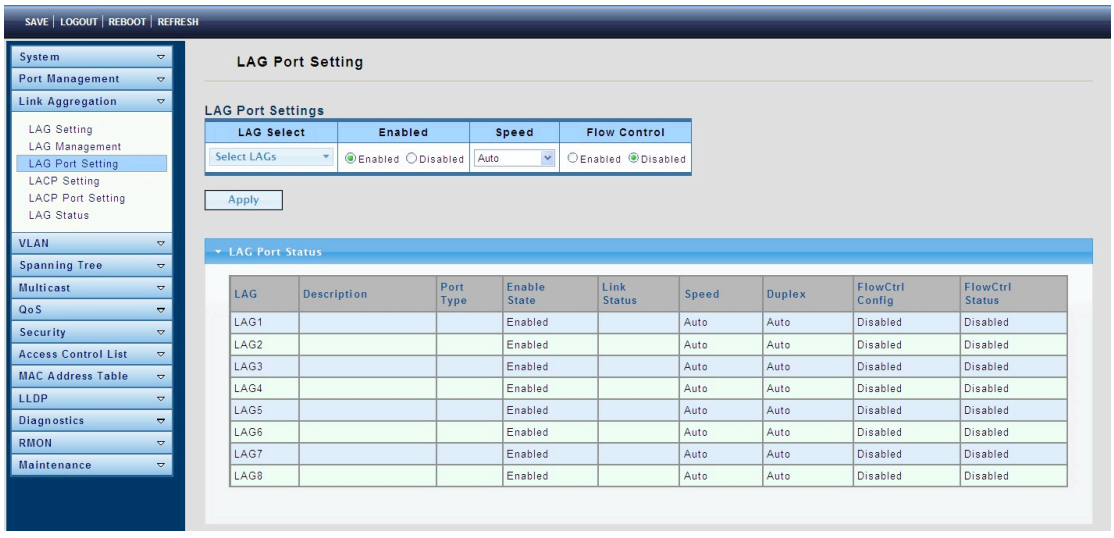
This page is used to create new LAGs, configure ports' aggregation type, and select member ports.




## 4.3.3 LAG Port Setting

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

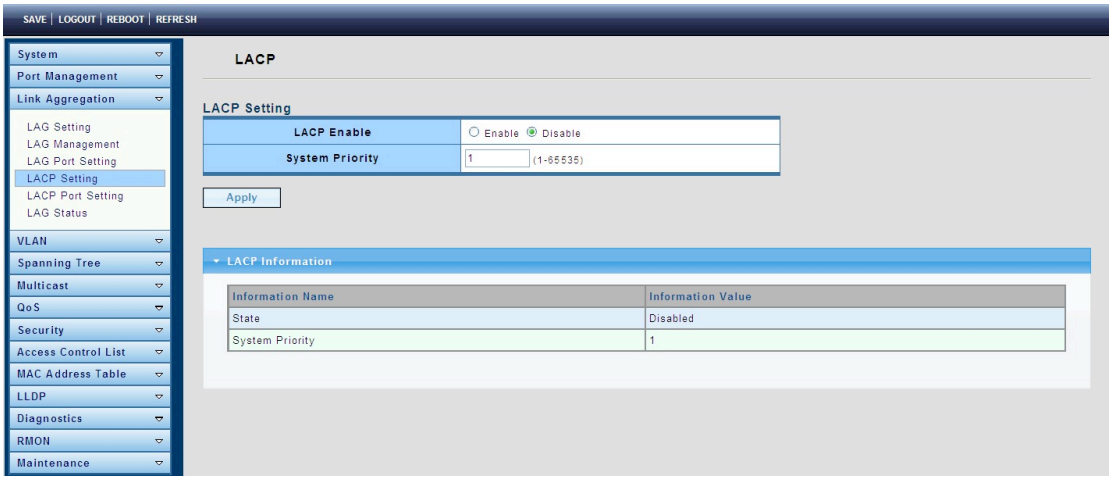
This page is used to set LAG status, speed and flow control functions.




## 4.3.4 LACP Setting

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

This page is used to configure the system priority of LACP.

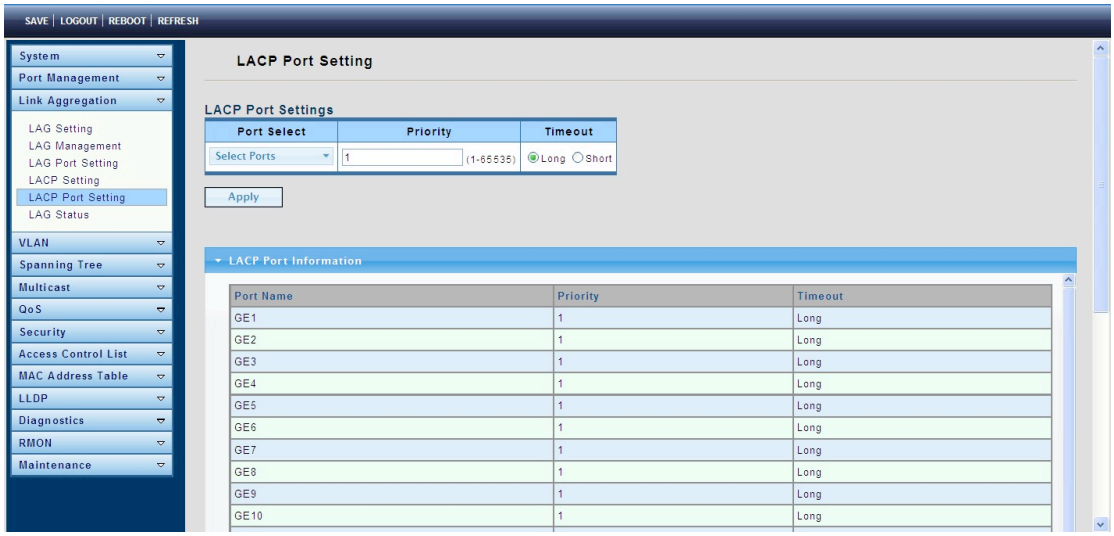



**System Priority:** Configure the system priority of LACP. This decides the system priority field in LACP PDU.

## 4.3.5 LACP Port Setting

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

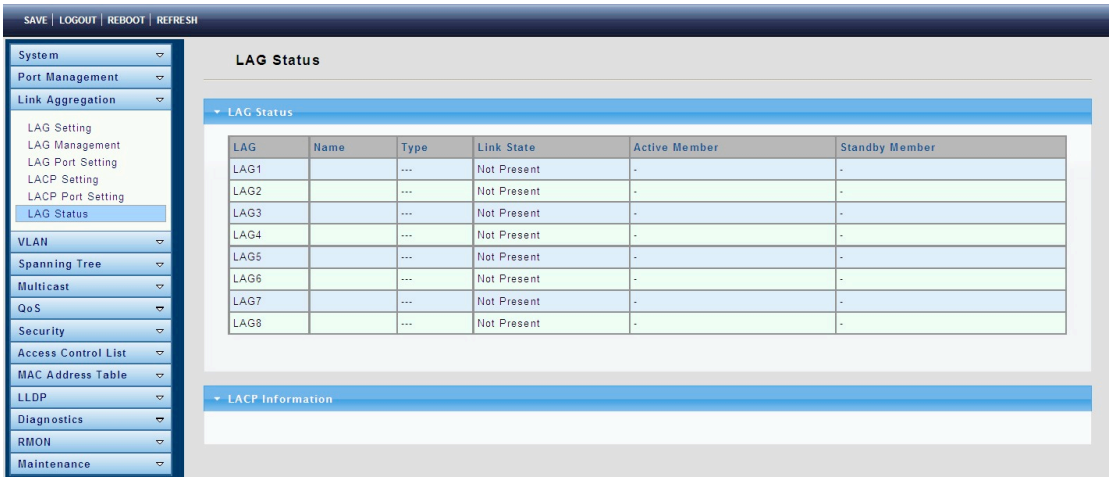
This page is used to determine LACP member ports.




## 4.3.6 LAG Status

To display the LAG Status page, click **Link Aggregation > LAG Status.**

This page displays trunk information such as trunk situation, functional ports and alternative ports.




**LAG:** LAG ID.

**Name:** LAG name.

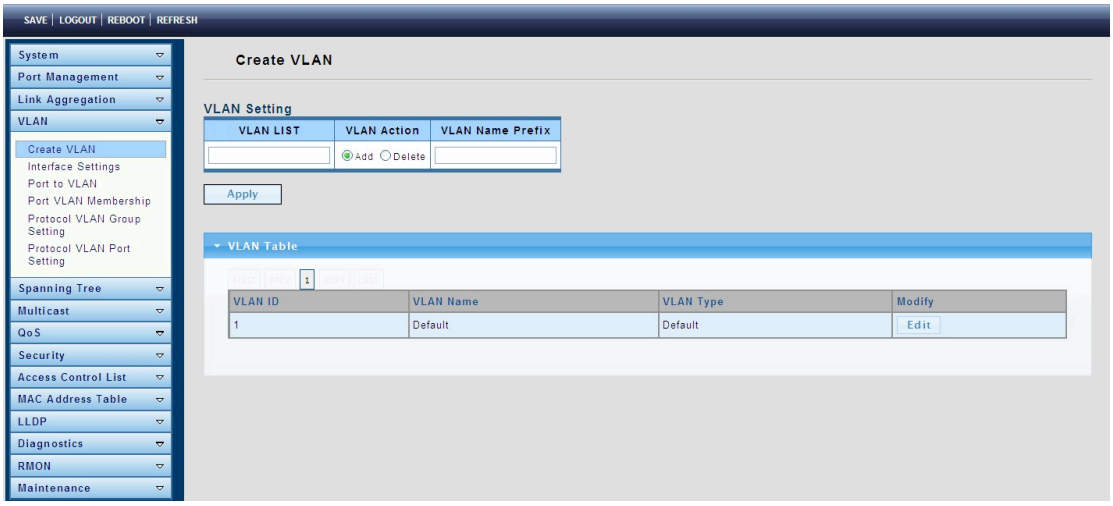
**Type:** The type of the LAG group: a static LAG or an LACP LAG.

# 4.4 VLAN

## 4.4.1 Create VLAN

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

This page allows you to add, delete or edit VLAN settings.




**VLAN LIST:** VLAN list for the new VLAN.

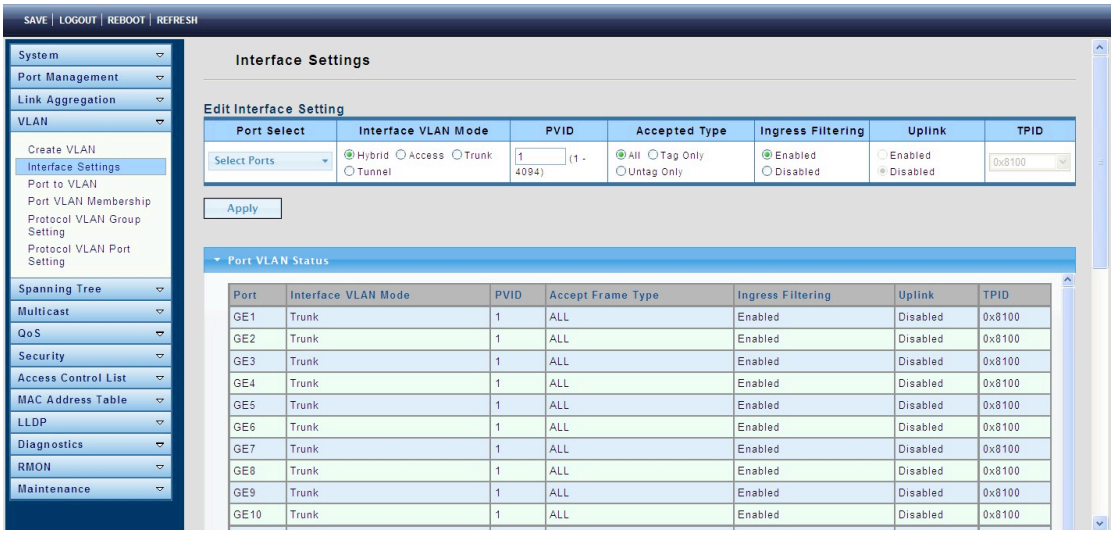
**VLAN Action:** Add or delete VLAN.

**VLAN Name Prefix:** VLAN name prefix for the new VLAN.

## 4.4.2 Interface Settings

To display the VLAN Interface Settings page, click **VLAN > Interface Settings.**

This page allows you to set the port type of a VLAN and manage various parameters.




**Port Select:** Select one or multiple ports to configure.

**Interface VLAN Mode:** VLAN port mode.

- Hybrid: Port hybrid model.
- Access: Port hybrid model.
- Trunk: Port hybrid model.
- Tunnel: Port hybrid model.

**PVID:** VLAN ID for the selected ports.

**Accepted Type:** Port accepted type.

- All: Accept tagged and untagged frames.
- Tag Only: Only accept tagged frame.
- Untag Only: Only accept untagged frame.

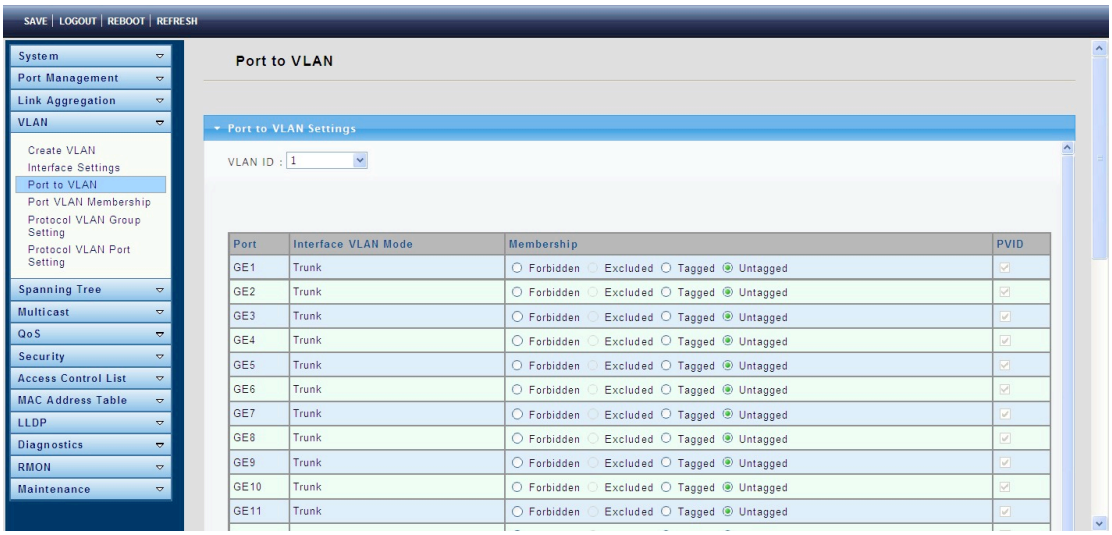
**Ingress Filtering:** Choose filter port open and close.

**Uplink:** Select port Uplink open or close.

## 4.4.3 Port to VLAN

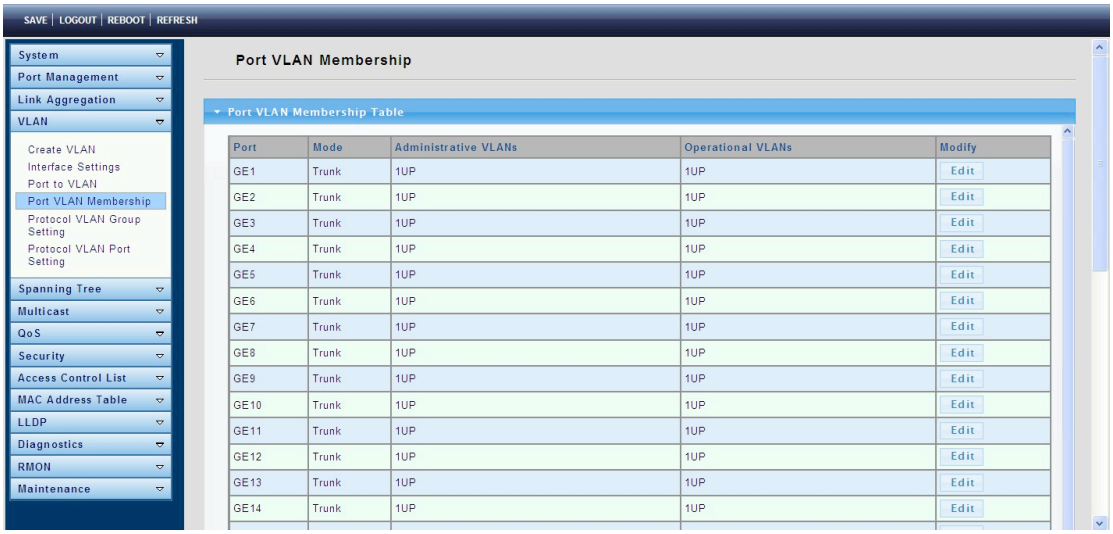
To display the Port to VLAN page, click **VLAN > Port to VLAN.**

Add ports to a VLAN and select their parameters.



### 4.4.4 Port VLAN Membership

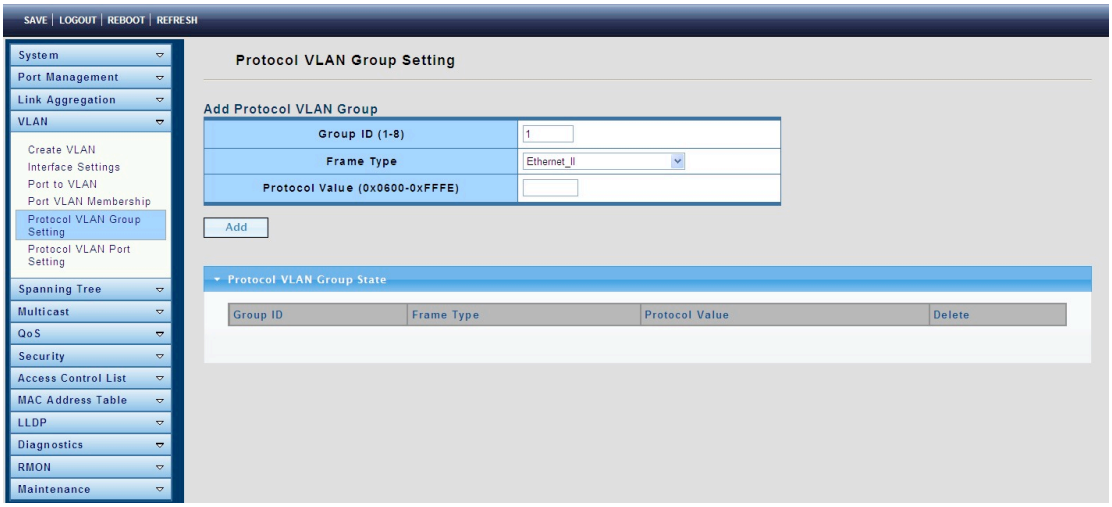
To display the Port VLAN Membership page, click **VLAN > Port VLAN Membership.**




### 4.4.5 Protocol VLAN Group Setting

To display the Protocol VLAN Group Setting page, click **VLAN > Protocol VLAN Group Setting.**

The VLAN group setting lets you send the same type of message to a group within a specific VLAN.




**Group ID (1-8) :** Enter an ID number of the group, between 1 and 8.

**Frame Type:** This function maps packets to protocol-defined VLANs by examining the type octet within the packet header to discover the type of protocol associated with it.

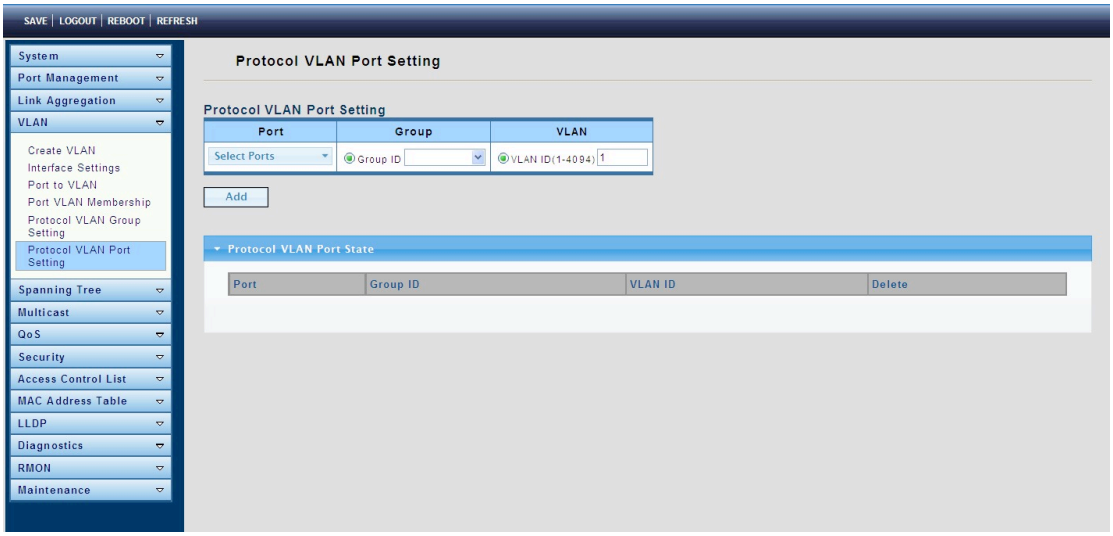
- Ethernet_II: packet type is Ethernet version 2.
- IEEE802.3_LLC_Other: packet type is 802.3 packet with LLC other header.
- RFC_1042: packet type is RFC 1042 packet.

**Protocol Value (0x0600-0xFFFE):** Enter the Ether type of the target protocol.

### 4.4.6 Protocol VLAN Port Setting

To display the Protocol VLAN Port Setting page, click **VLAN > Protocol VLAN Port Setting.**

This page is used to divide the ports into groups and map them to the VLAN.



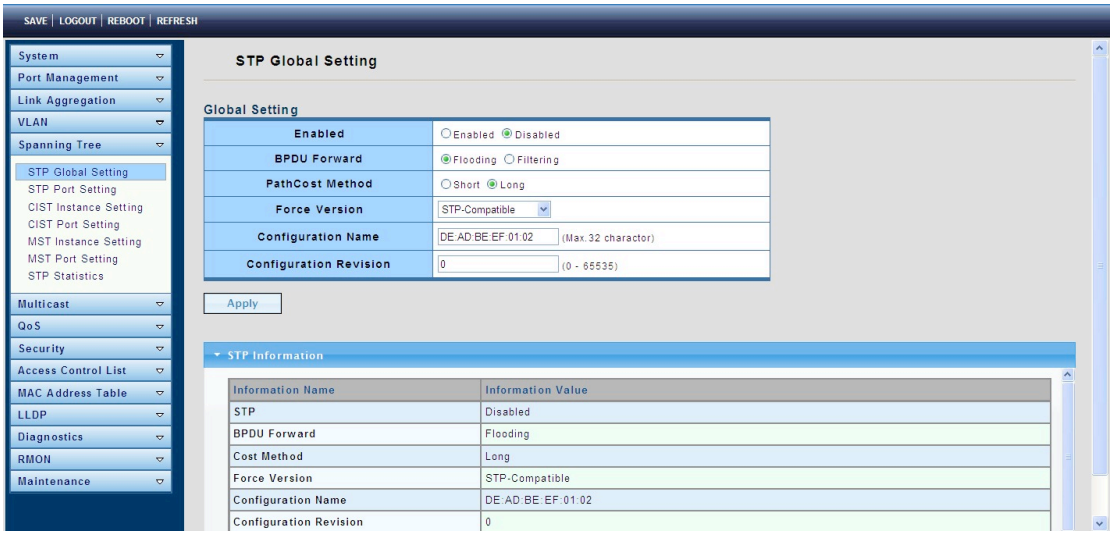

**Port:** Select the specified ports you wish to configure by selecting them in this list.
**Group:** Click the corresponding radio button to select a previously configured Group ID or Group Name.
**VLAN:** Click the corresponding radio button to select a previously configured VLAN ID or VLAN Name.

## 4.5 Spanning Tree

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

### 4.5.1 STP Global Setting

To display the STP Global Setting page, click **Spanning Tree > STP Global Setting.**



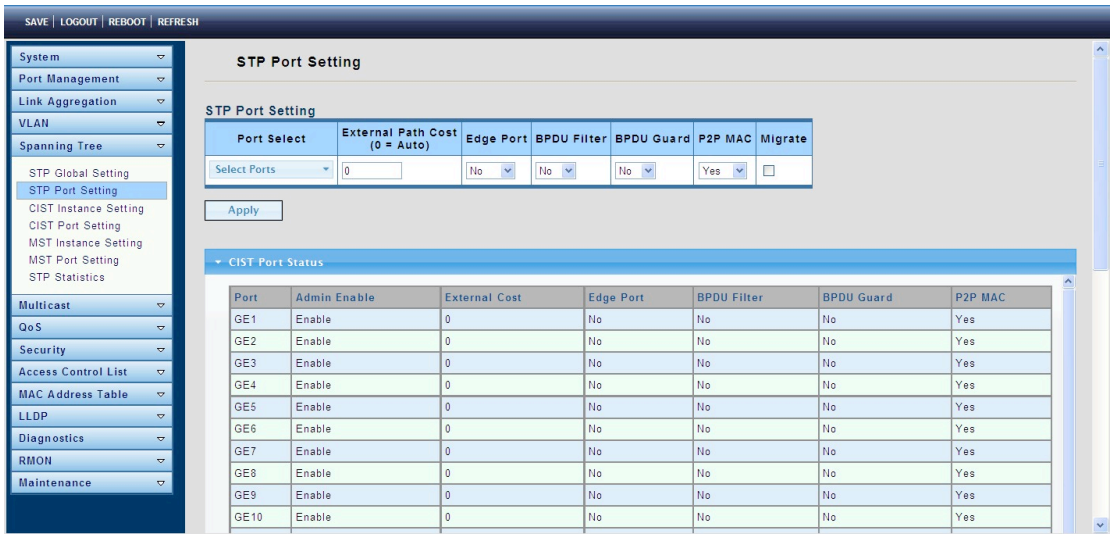

**Enabled:** Set the STP status to be enabled/disabled on the switch.
**BPDU Forward:** Choose BPDU packets is a flood or filtering.
**Path Cost Method:** Choose the path overhead is short or long.
**Force Version:** Select the operating mode of STP.

- STP-Compatible: 802.1D STP operation.
- RSTP-Operation: 802.1w operation.
- MSTP-Operation: 802.1s operation.

**Configuration Revision:** Set the Revision of the Configuration Identification (range: 0-65535).

## 4.5.2 STP Port Setting

To display the STP Port Setting page, click **Spanning Tree > STP Port Setting.**




**Port Select:** Select the port list to specify which ports should apply this setting.
**External Path Cost:** Set the port's contribution. When it is the root port, the root path cost for the bridge. (0 means Auto).
**Edge Port:** Set the edge port configuration.

- No: Force to false state (as link to a bridge).
- Yes: Force to true state (as link to a host).

**BPDU Filter:** Set the BPDU Filter configuration.

- No: Disable BPDU filter function.

- Yes: Enable BPDU filter function.

To avoid transmitting BPDU from the specified ports.
**BPDU Guard:** Set the BPDU Guard configuration.

- No: Disable BPDU guard function.
- Yes: Enable BPDU filter function.

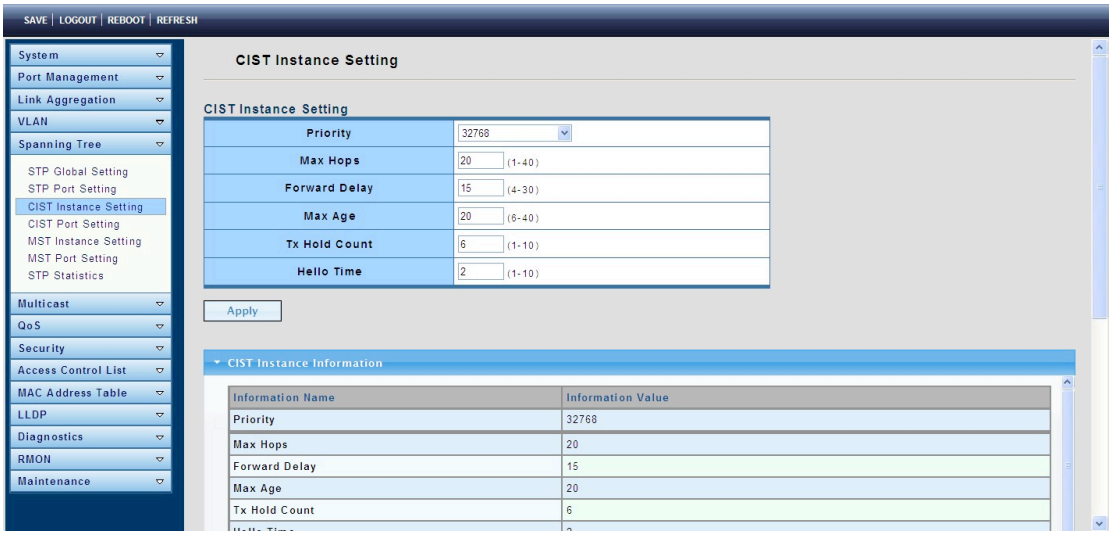
To drop directly the received BPDU from the specified ports.
**P2P MAC:** Set the Point-to-Point port configuration.

- No: Force to false state.
- Yes: Force to true state.

**Migrate:** Forces the port to try to use the new MST/RST BPDUs, and hence to test the hypothesis that all legacy systems that do not understand the new BPDU formats have been removed from the LAN segment on the port(s).

### 4.5.3 CIST Instance Setting

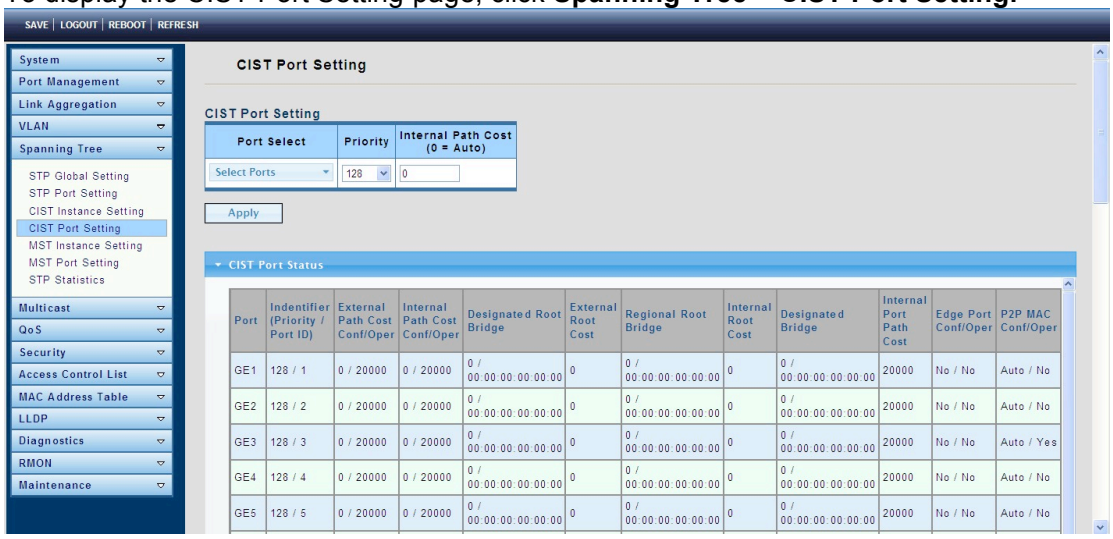
To display the CIST Instance Setting page, click **Spanning Tree > CIST Instance Setting.**




**Priority:** Set the Bridge Priority in the specified CIST instance.
**Max Hops:** Set the value of the maximum number of hops in the region.
**Forward Delay:** Set the delay time an interface takes to converge from blocking state to forwarding state.
**Max Age:** Set the time any switch should wait before trying to change the STP topology after unhearing Hello BPDU.
**Tx Hold Count:** Set the Transmit Hold Count used to limit BPDIU transmission rate.
**Hello Time:** Set the interval between periodic transmissions of BPDU by Designated Ports.

## 4.5.4 CIST Port Setting

To display the CIST Port Setting page, click **Spanning Tree > CIST Port Setting.**



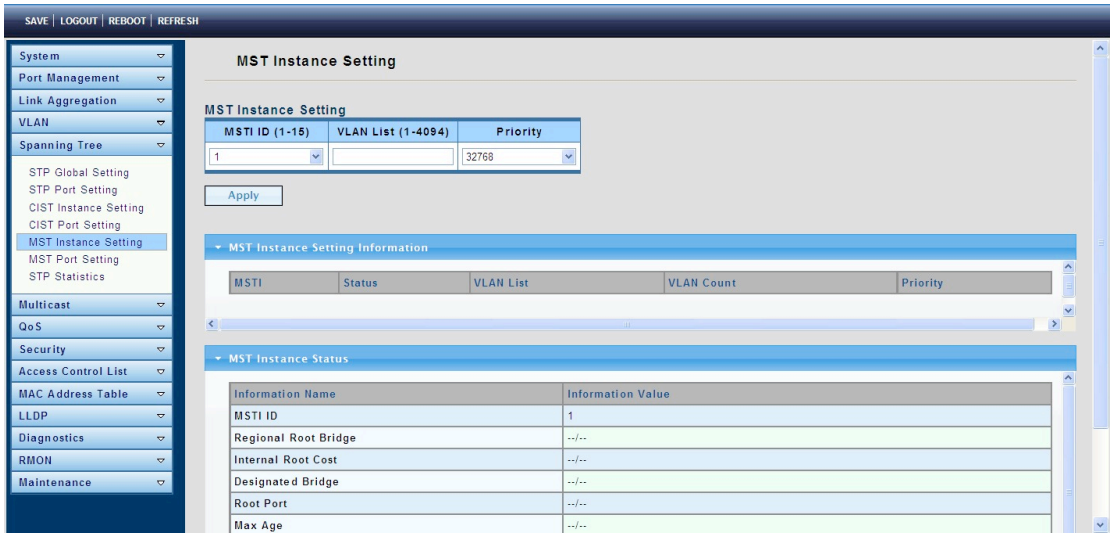

**Port Select :** Select the port list to specify which ports should apply this setting.

**Priority:** Set the Port Priority to the selected ports in the specified CIST instance.

**Internal Path Cost:** Set the Internal Path Cost to the selected ports in the specified CIST instance. (0 means Auto)

## 4.5.5 MST Instance Setting

To display the MST Instance Setting page, click **Spanning Tree > MST Instance Setting.**



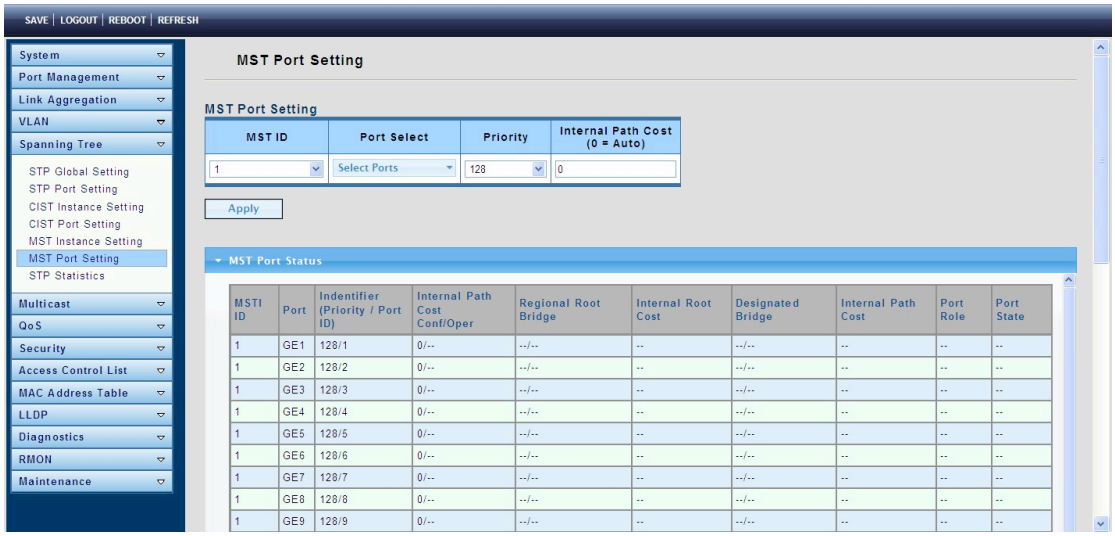

**MSTI ID:** Set the MSTI ID to specified the MST instance.

**VLAN List:** Set the VLAN List.

**Priority:** Set the Bridge Priority in the specified MST instance.

## 4.5.6 MST Port Setting

To display the MST Port Setting page, click **Spanning Tree > MST Port Setting.**




**MST ID:** Set the MSTI ID to specify MST instance.

**Port Select :** Select the port list to specify which ports should apply this setting.

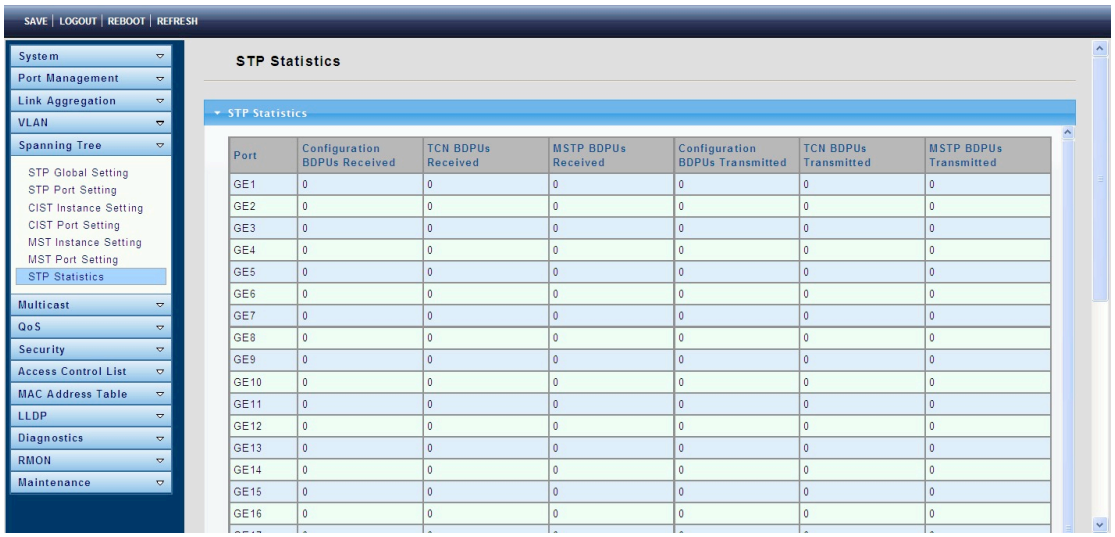
**Priority:** Set the Port Priority to the selected ports in the specified MST instance.

**Internal Path Cost:** Set the Internal Path Cost to the selected ports in the specified MST instance. (0 means Auto)

## 4.5.7 STP Statistics

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

This page displays each type of receiving and sending BPDUs.

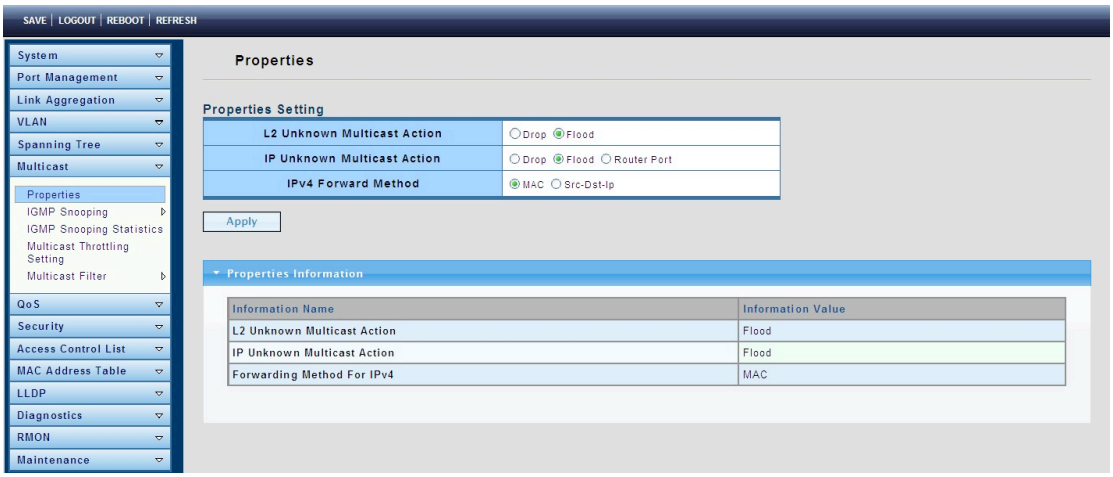


# 4.6 Multicast

## 4.6.1 Properties

To display the Properties page, click **Multicast > Properties.**

The Properties page enables you to configure the Bridge Multicast filtering status. It contains L2 or IP Unknown Multicast Action and ipv4 Forward Method.




## 4.6.2 IGMP Snooping

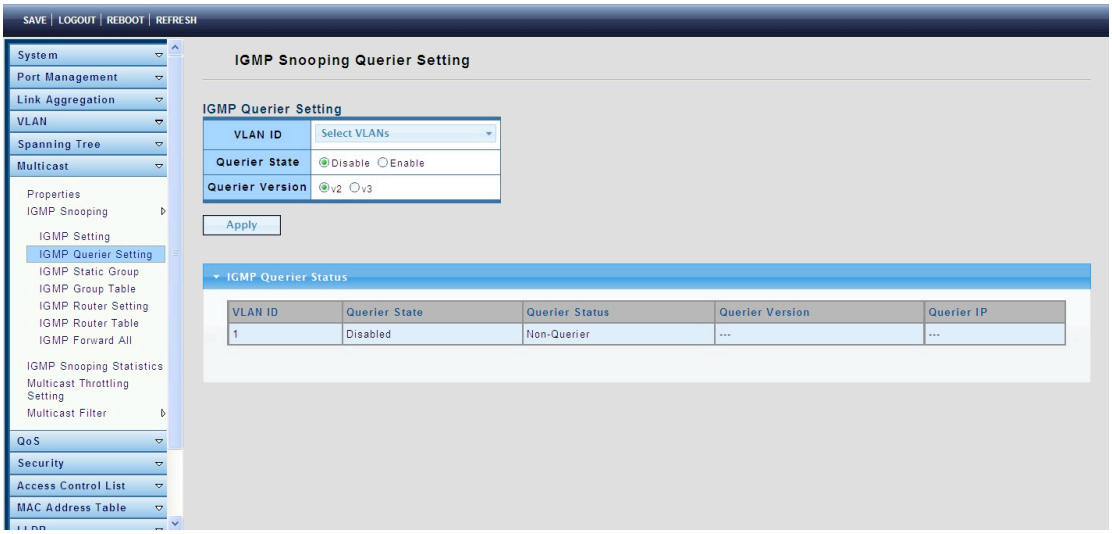
### 4.6.2.1 IGMP Setting

To display the Properties page, click **Multicast > IGMP Snooping > IGMP Setting.**


**IGMP Snooping Status:** Enable or disable.
**IGMP Snooping Version:** Select the IGMP Snooping Version, IGMPv2 or IGMPv3.
**IGMP Snooping Report Suppression:** Enable or disable.

### 4.6.2.2 IGMP Querier Setting

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




**VLAN ID:** Select the VLANs to configure.

**Querier State:** Set the enabling status of IGMP Querier Election on the chosen VLANs.

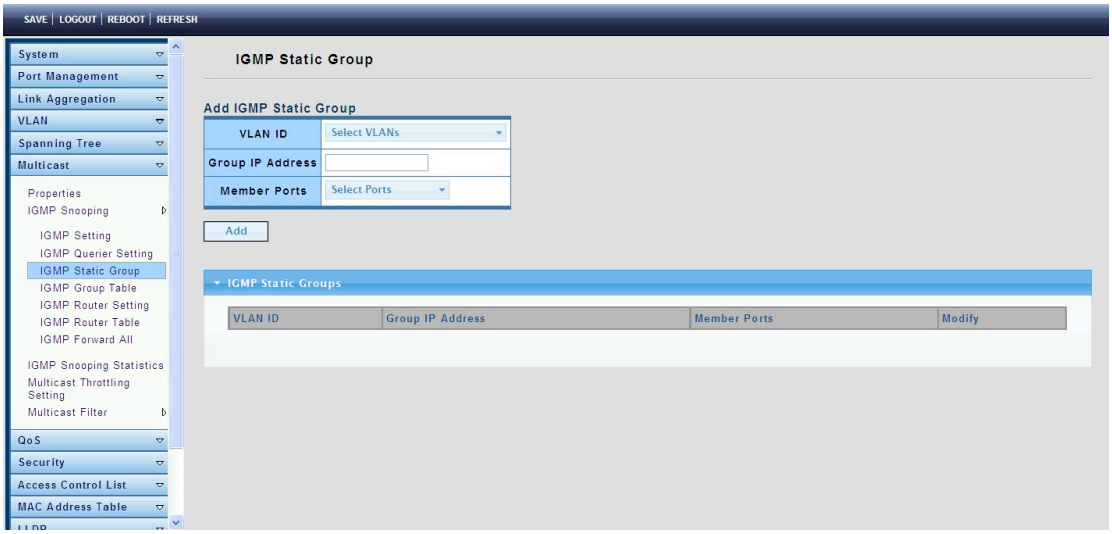
- Enable: Enable IGMP Querier Election.
- Disable: Disable IGMP Querier Election.

**Version:** Select the Querier Version, IGMPv2 or IGMPv3.

### 4.6.2.3 IGMP Static Group

To display the IGMP Static Setting page, click **Multicast > IGMP Snooping > IGMP Static Group.**

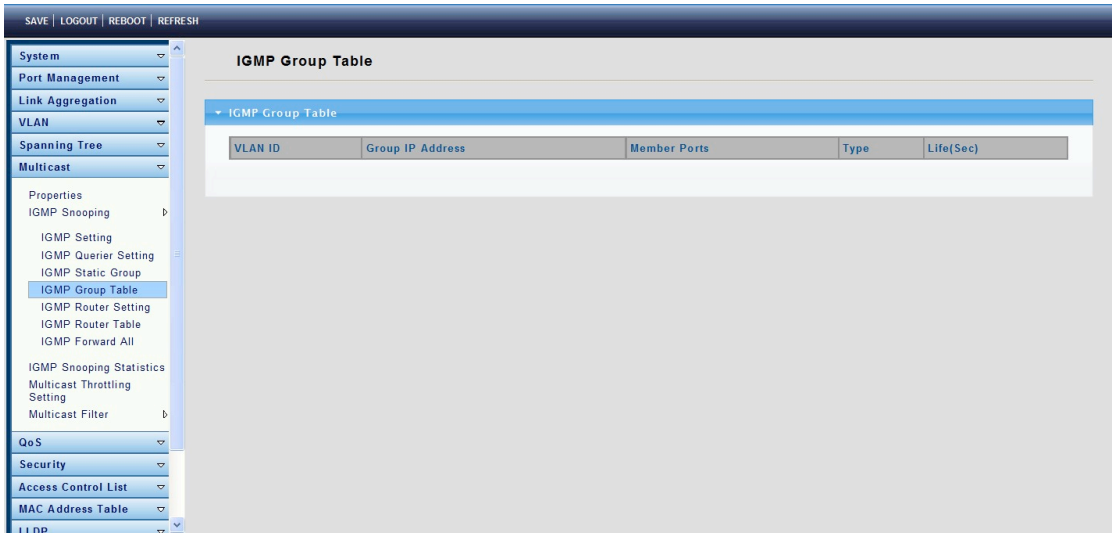
This page is used to configure specified ports as static member ports.



### 4.6.2.4 IGMP Group Table

To display the IGMP Group Table page, click **Multicast > IGMP Snooping > IGMP Group Table.**

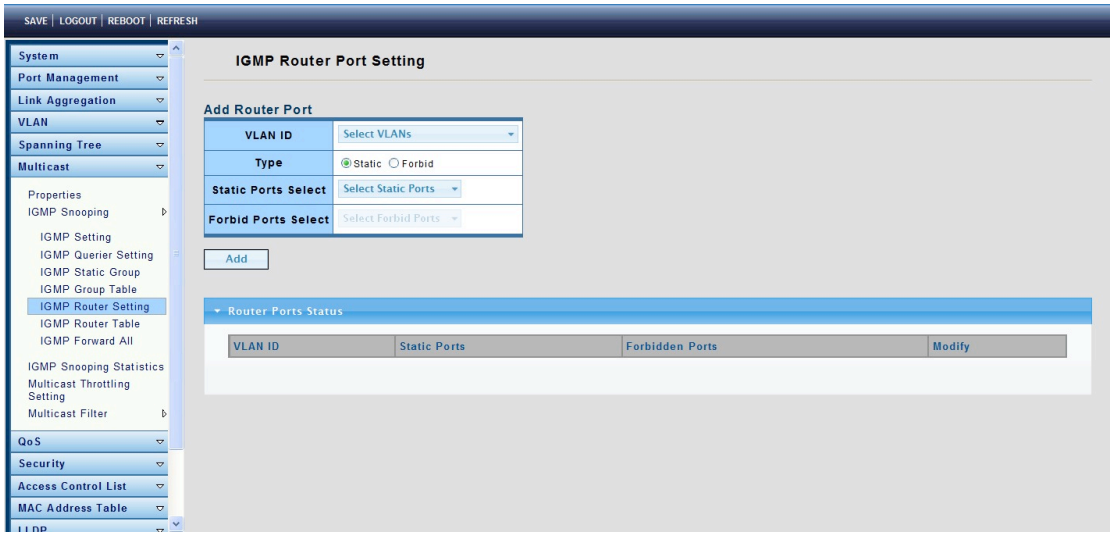
This page is used to display IGMP Group Table statistics information.




### 4.6.2.5 IGMP Router Setting

To display the IGMP Router Port Setting page, click **Multicast > IGMP Snooping > IGMP Router Setting.**

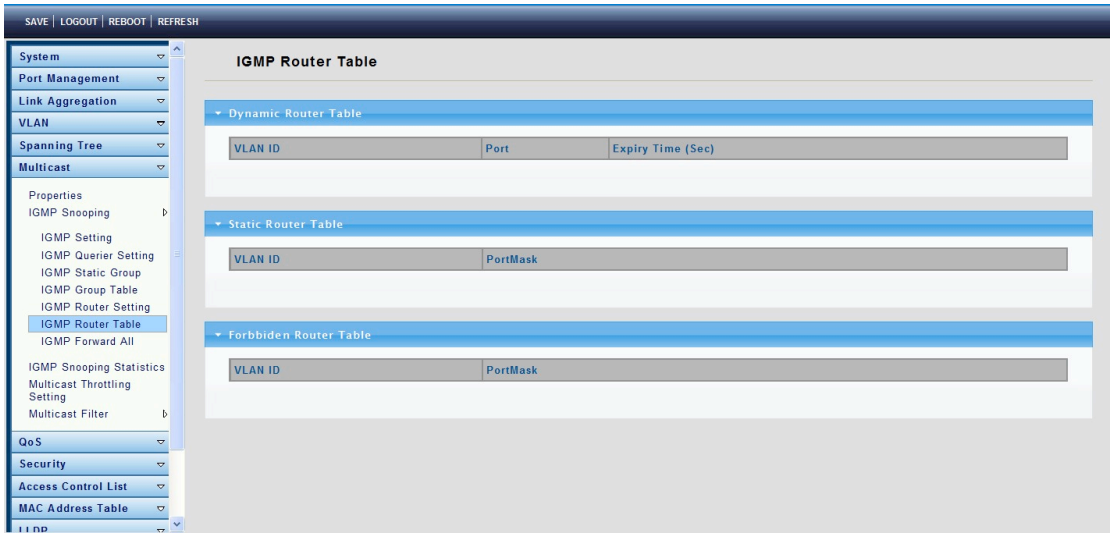
This page is used to configure specified ports as static route ports.



### 4.6.2.6 IGMP Router Table

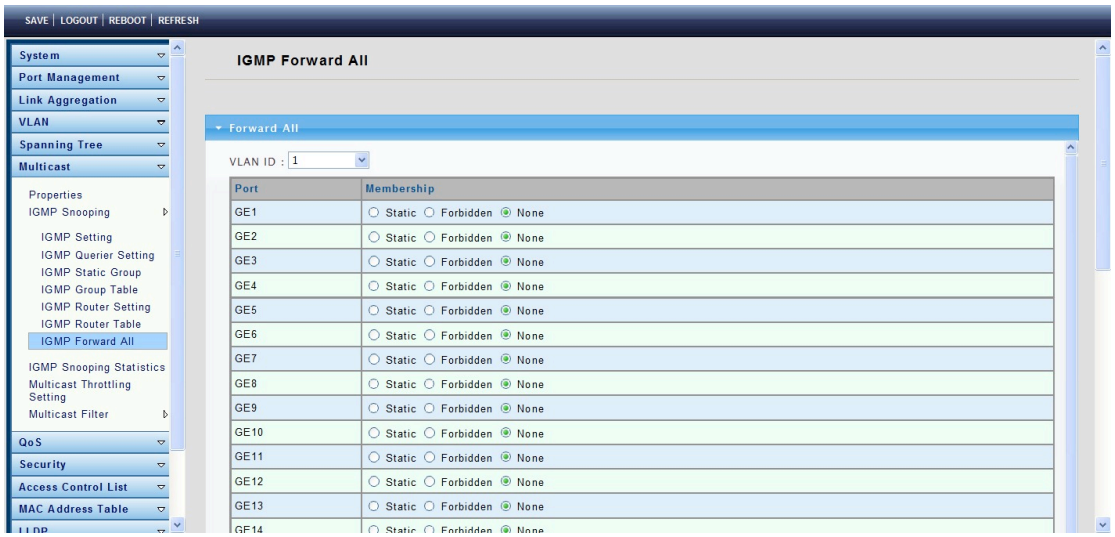
To display IGMP Router Table web page, click **Multicast > IGMP Snooping > IGMP Router Table**

This page is used to display IGMP Router Table statistics information.




### 4.6.2.7 IGMP Forward All

To display IGMP Forward All web page, click **Multicast > IGMP Snooping > IGMP Forward All**




## 4.6.3 IGMP Snooping Statistics

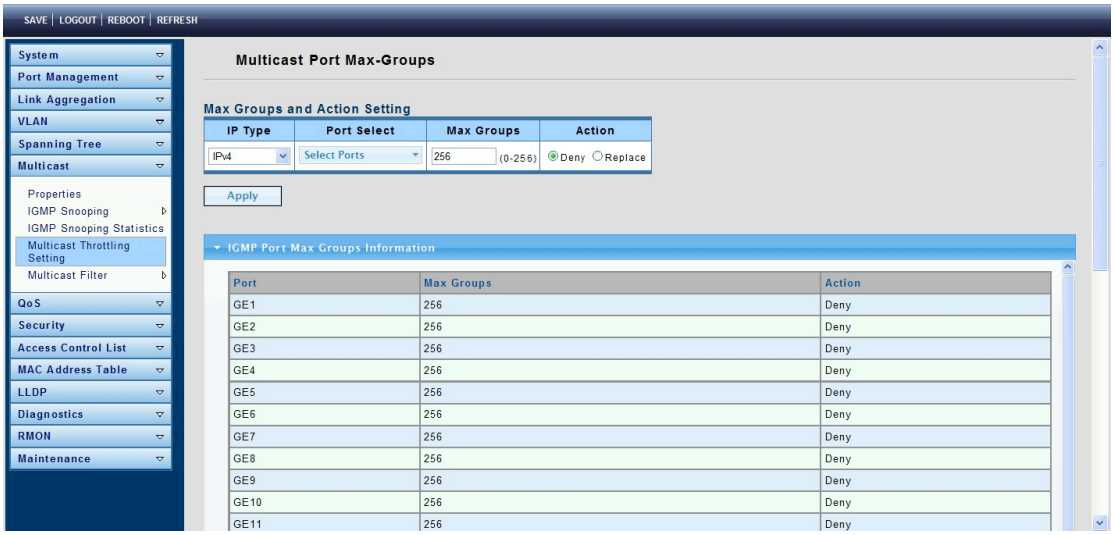
To display the IGMP Snooping Statistics page, click **Multicast > IGMP Snooping Statistics.**

This page is used to display IGMP Snooping statistics information.


## 4.6.4 Multicast Throttling Setting

To display the Multicast Throttling Setting page, click **Multicast > Multicast Throttling Setting.**

This page allows you to set Multicast Port Max-Groups to limit a port's bandwidth and to select Multicast Action.

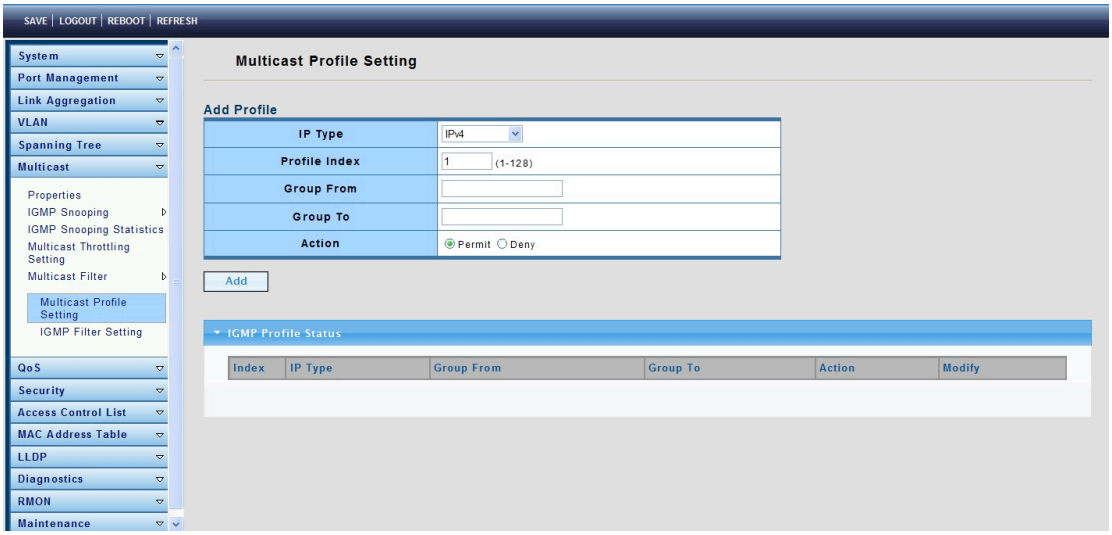



## 4.6.5 Multicast Filter

### 4.6.5.1 Multicast Profile Setting

The Multicast Filter Profile Settings page allows you to add a profile to which multicast address(es) reports are to be received on specified ports on the switch. This function will therefore limit the number of reports received and the number of multicast groups configured on the switch. You may set an IP Multicast address or a range of IP Multicast addresses to accept reports (Permit) that come into the specified switch ports.

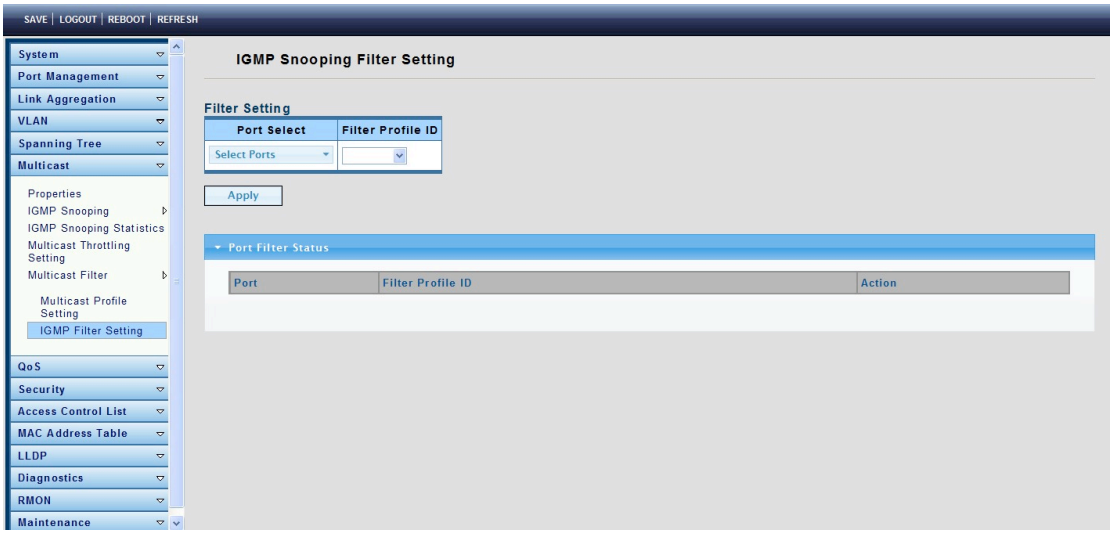
To display the Multicast Profile Setting page, click **Multicast > Multicast Filter > Multicast Profile Setting.**




### 4.6.5.2 IGMP Filter Setting

To display the IGMP Filter Setting page, click **Multicast > Multicast Filter > IGMP Filter Setting.**

This page is used to set filters on a port.



# 4.7 QoS

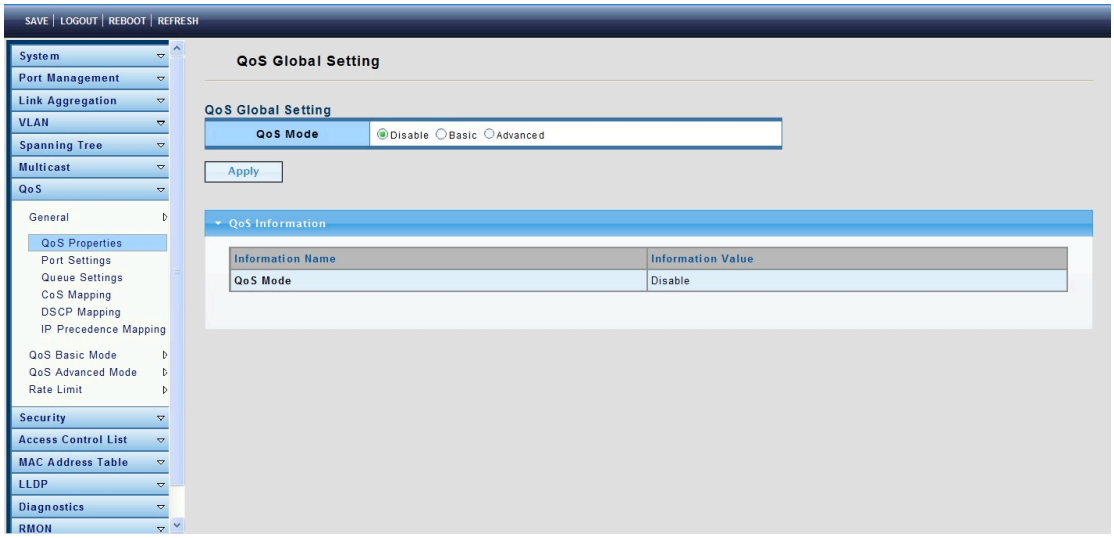
Use the QoS pages to configure settings for the switch QoS interface and how the switch connects to a remote server to get services.

## 4.7.1 General

### 4.7.1.1 QoS Properties

To display the QoS properties page, click **QoS > General > QoS properties.**

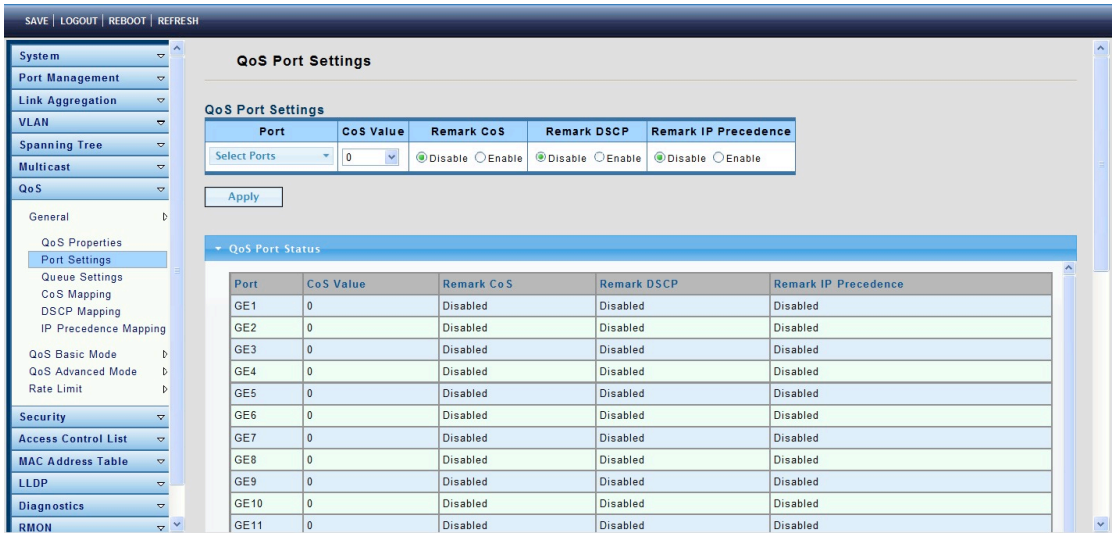
This page allows you to set the QoS mode: basic or advanced.




### 4.7.1.2 Port Settings

To display the Port Settings page, click **QoS > General > Port Settings.**

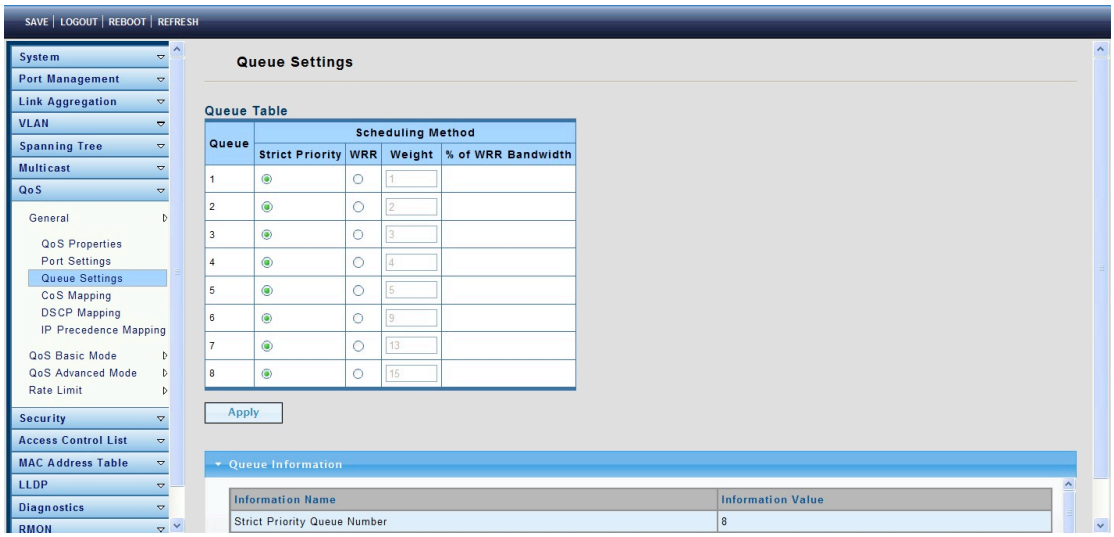
This page is used to configure various QoS parameters.



### 4.7.1.3 Queue Settings

To display the Queue Setting page, click **QoS > General > Queue Settings.**

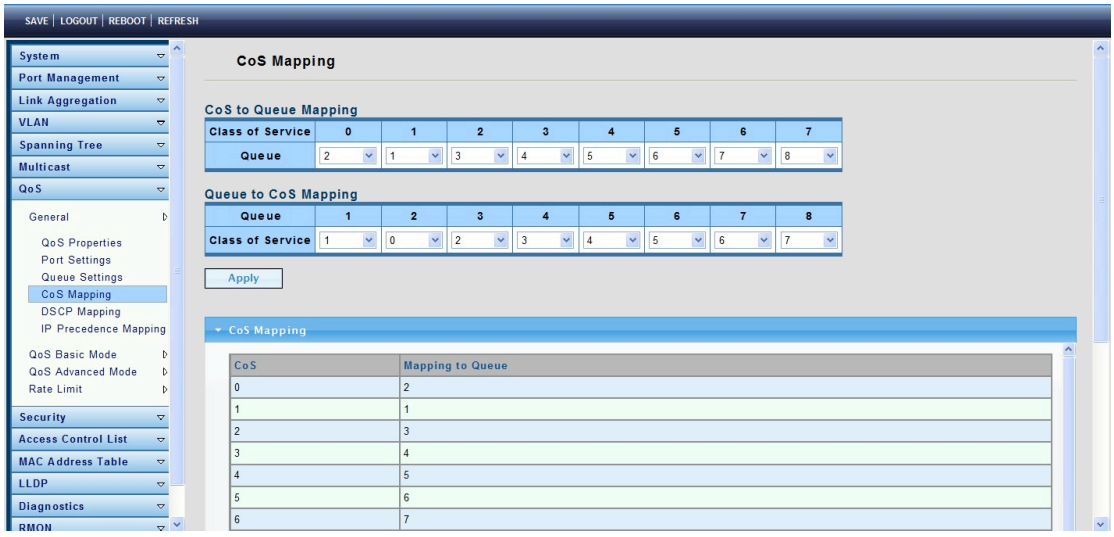
This page allows you to set the QoS queue scheduling methods.




### 4.7.1.4 COS Mapping

To display the COS Mapping page, click **QoS > General > COS Mapping.**

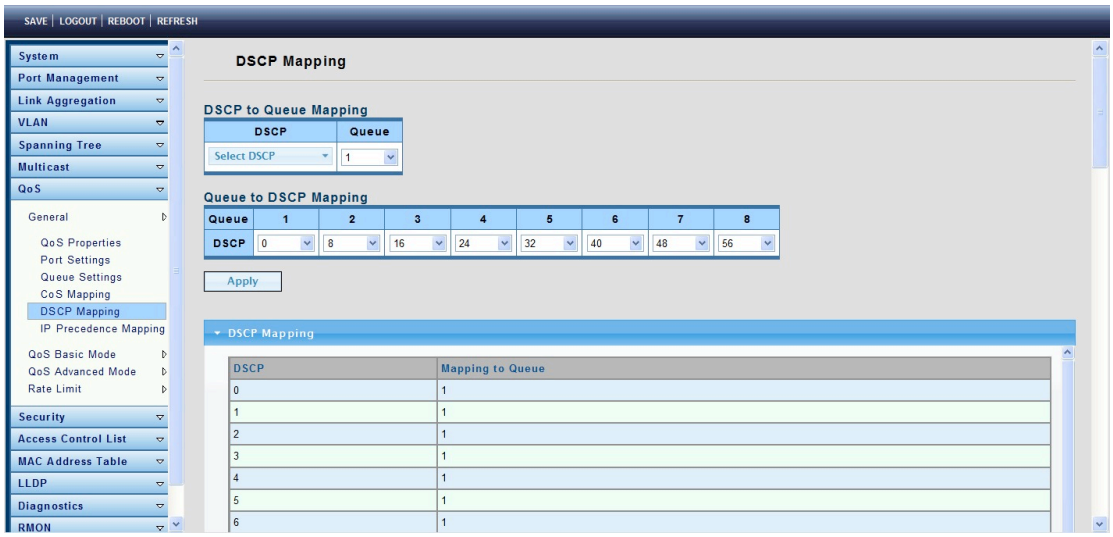
The page allows you to apply COS Mapping.




### 4.7.1.5 DSCP Mapping

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

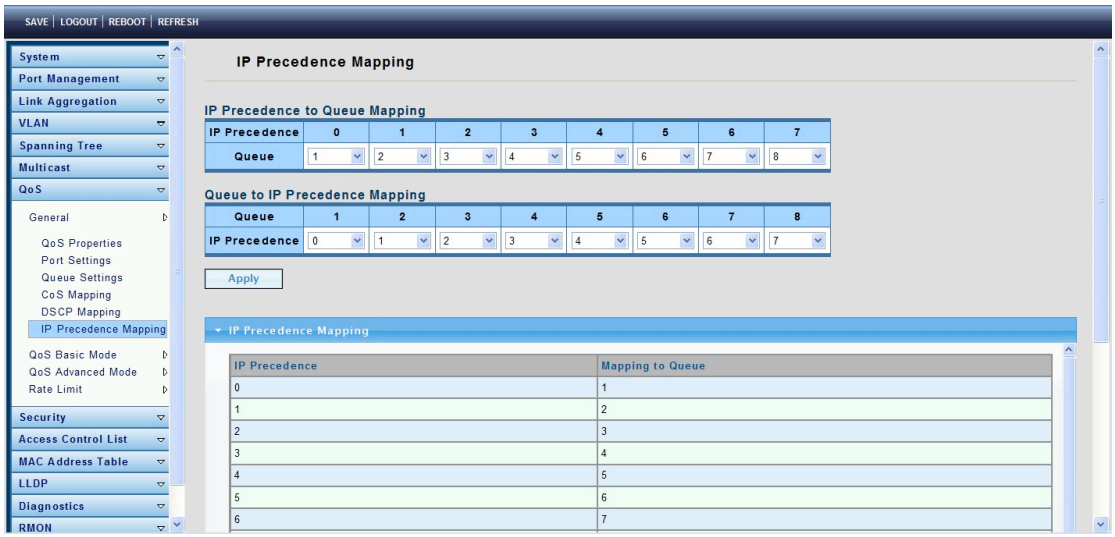
The page allows you to set DSCP Mapping.




#### 4.7.1.6 IP Precedence Mapping

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

The page allows you to set IP Precedence Mapping.

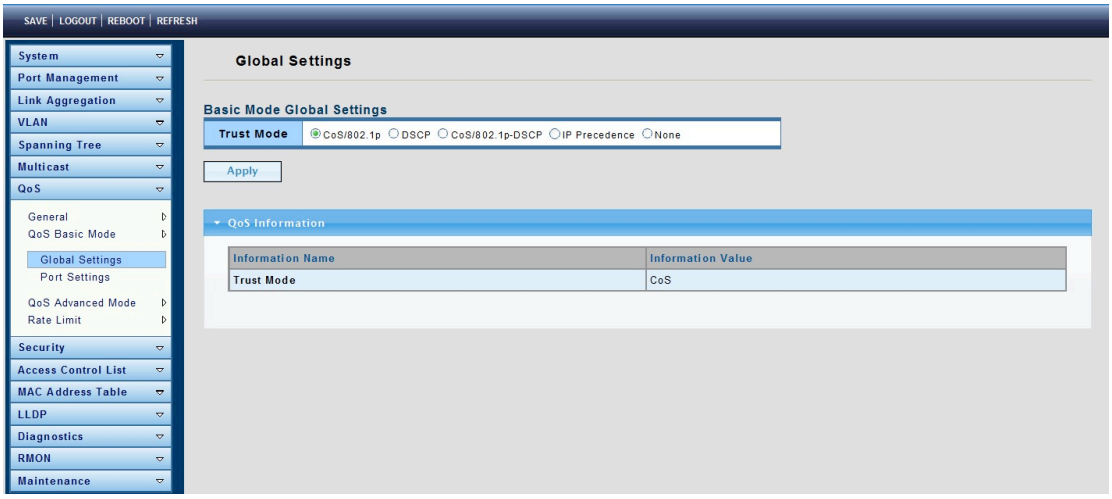



## 4.7.2 QoS Basic Mode

### 4.7.2.1 Global Settings

To display the Global Settings page, click **QoS > QoS Basic Mode > Global Settings.**

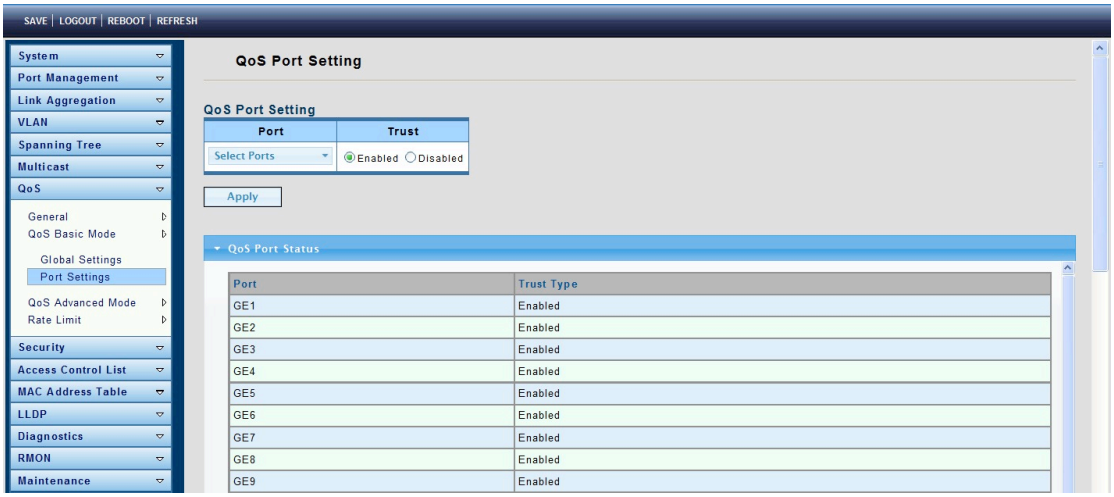
This page allows you to set the QoS for trust mode on basic mode global settings.




### 4.7.2.2 Port Settings

To display the Port Settings page, click **QoS > QoS Basic Mode > Port Settings.**

This page allows you to revise QoS Port Setting selections.

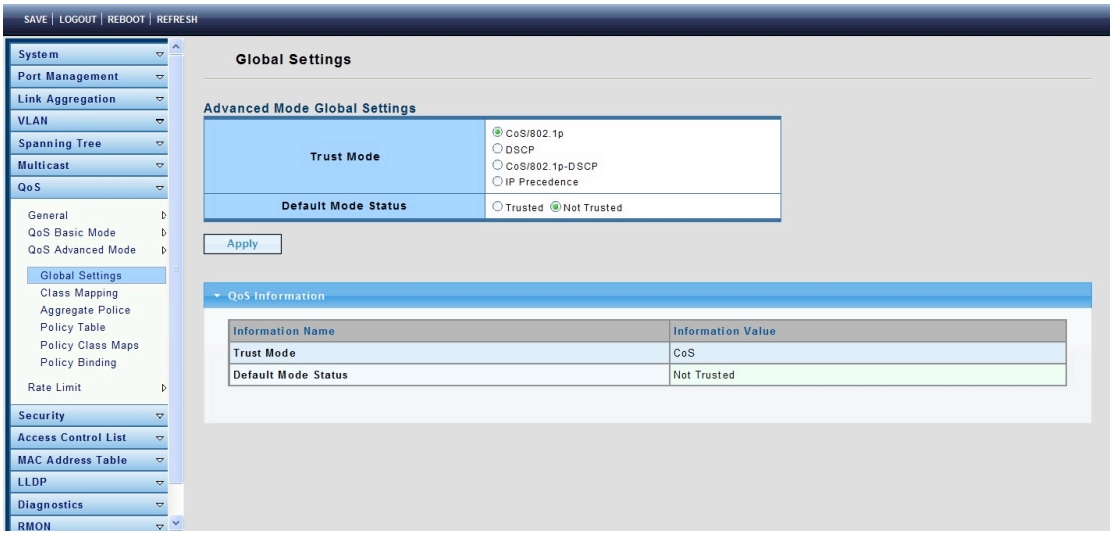



## 4.7.3 QoS Advanced Mode

### 4.7.3.1 Global Settings

To display the Global Settings page, click **QoS > QoS Advanced Mode > Global Settings.**

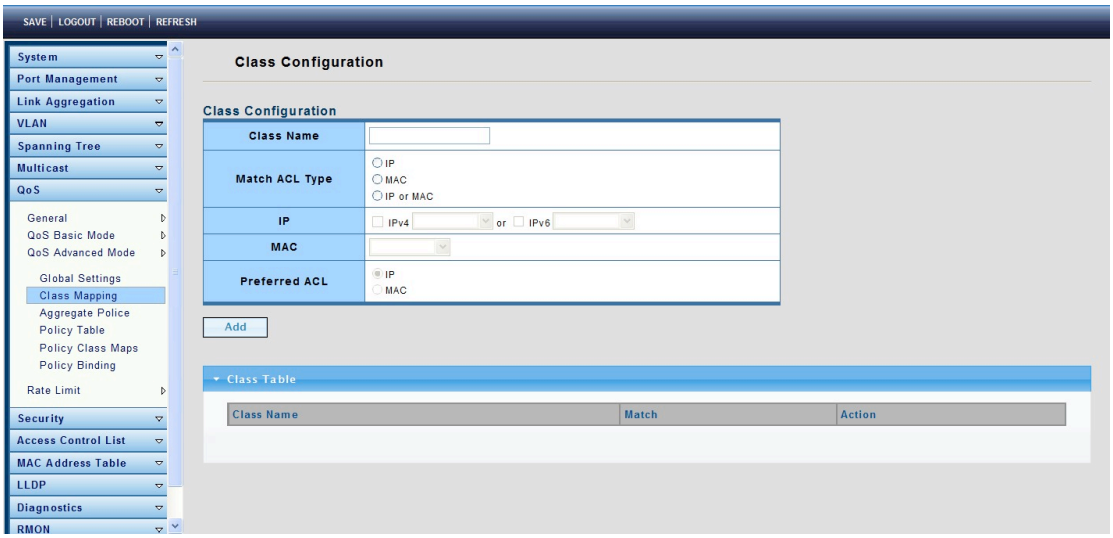
This page allows you to set the default QoS mode state under advanced mode global settings trust mode.




### 4.7.3.2 Class Mapping

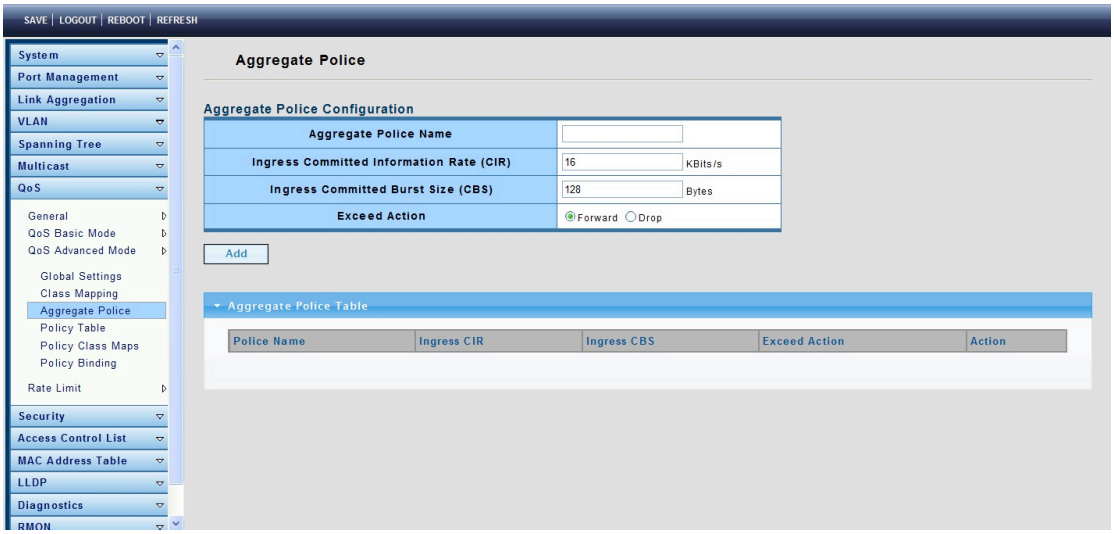
To display the Class Mapping page, click **QoS > QoS Advanced Mode > Class Mapping.**

This page allows you to create a QoS class, which is used to link the ACL.



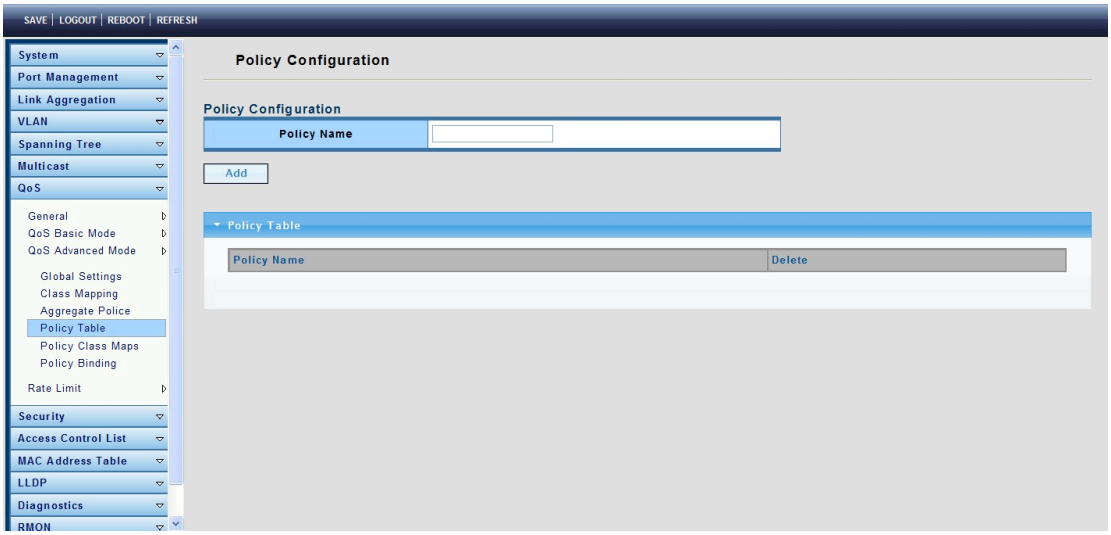

### 4.7.3.3 Aggregate Police

To display the Aggregate Police page, click **QoS > QoS Advanced Mode > Aggregate Police.**




### 4.7.3.4 Policy Table

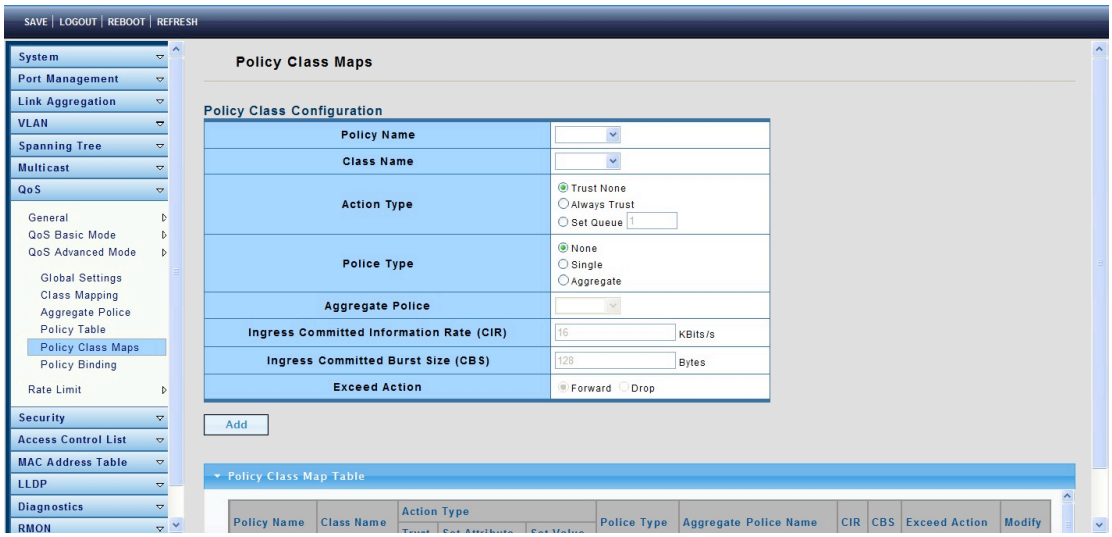
To display the Policy Table page, click **QoS > QoS Advanced Mode > Policy Table.** This page allows you to establish your Policy Configuration and edit the Policy Name.




### 4.7.3.5 Policy Class Maps

One or more class maps can be added to a policy. A class map defines the type of packets that are considered to belong to the same traffic flow.

To display the Policy Class Maps page, click **QoS > QoS Advanced Mode > Policy Class Maps.**




**Policy Name:** Displays the policy to which the class map is being added.
**Class Name:** Select an existing class map to be associated with the policy. Class maps are created on the Class Mapping page.
**Action Type:** Select the action regarding the ingress CoS/802.1p and/or DSCP value of all the matching packets.
**Police Type:** Available in Layer 2 system mode only. Select the policer type for the policy.
**Aggregate Policer:** Available in Layer 2 system mode only. If Police Type is Aggregate, select a previously defined (in the Aggregate Policer page) aggregate policer.
**Ingress Committed Information Rate (CIR):** Enter the CIR in kbps. See a description of this on the Bandwidth page.
**Ingress Committed Burst Size (CBS):** Enter the CBS in bytes. See a description of this on the Bandwidth page.
**Exceed Action:** Select the action assigned to incoming packets exceeding the CIR.

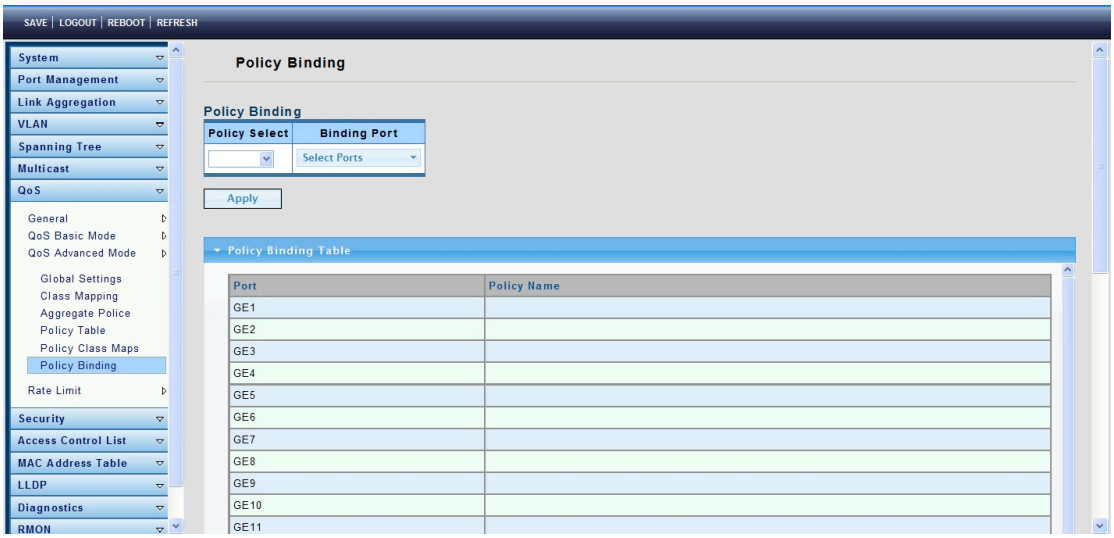
### 4.7.3.6 Policy Binding

The Policy Binding page shows which policy profile is bound and to which port. When a policy profile is bound to a specific port, it is active on that port. Only one policy profile can be configured on a single port, but a single policy can be bound to more than one port.

When a policy is bound to a port, it filters and applies QoS to ingress traffic that belongs to the flows defined in the policy. The policy does not apply to traffic egress to the same port.

To edit a policy, it must first be removed (unbound) from all those ports to which it is bound.

To display the Policy Binding page, click **QoS > QoS Advanced Mode > Policy Binding.**

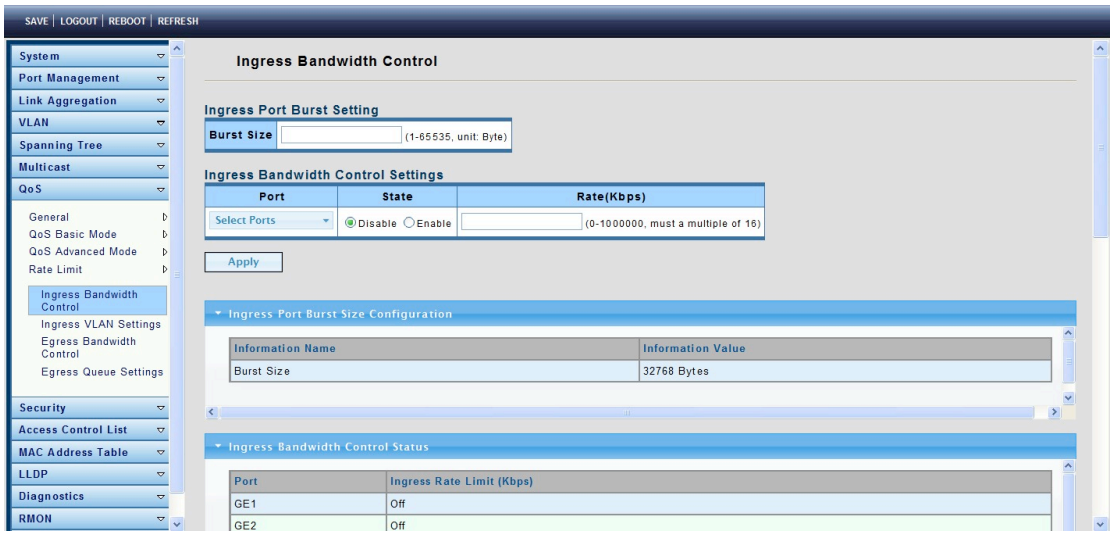



## 4.7.4 Rate Limit

### 4.7.4.1 Ingress Bandwidth Control

To display the Ingress Bandwidth Control page, click **QoS > Rate Limit > Ingress Bandwidth Control.**

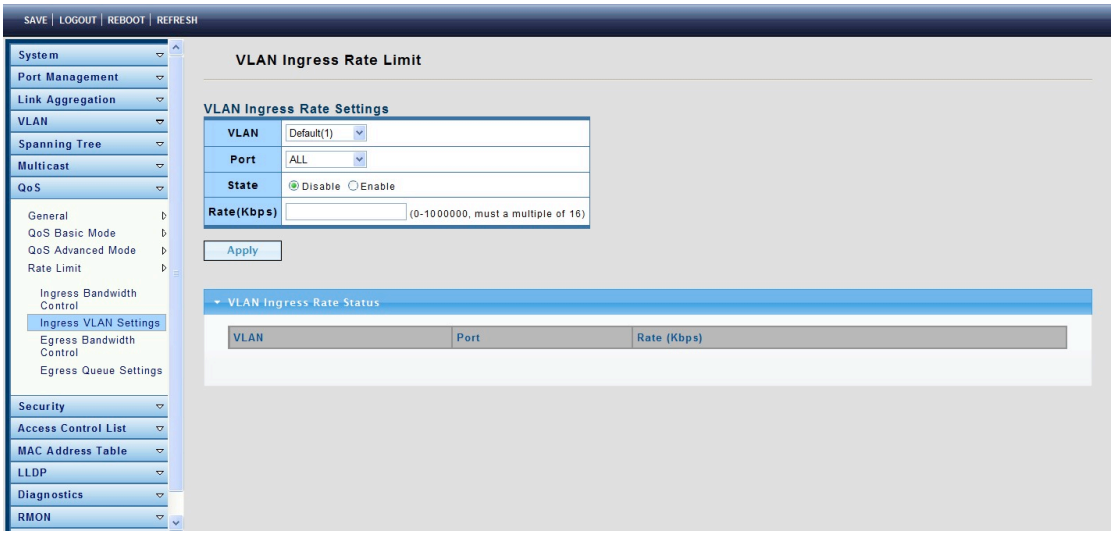
This page allows you to set the ingress bandwidth control.




### 4.7.4.2 Ingress VLAN Settings

To display the Ingress VLAN Settings page, click **QoS > Rate Limit > Ingress VLAN Settings.**

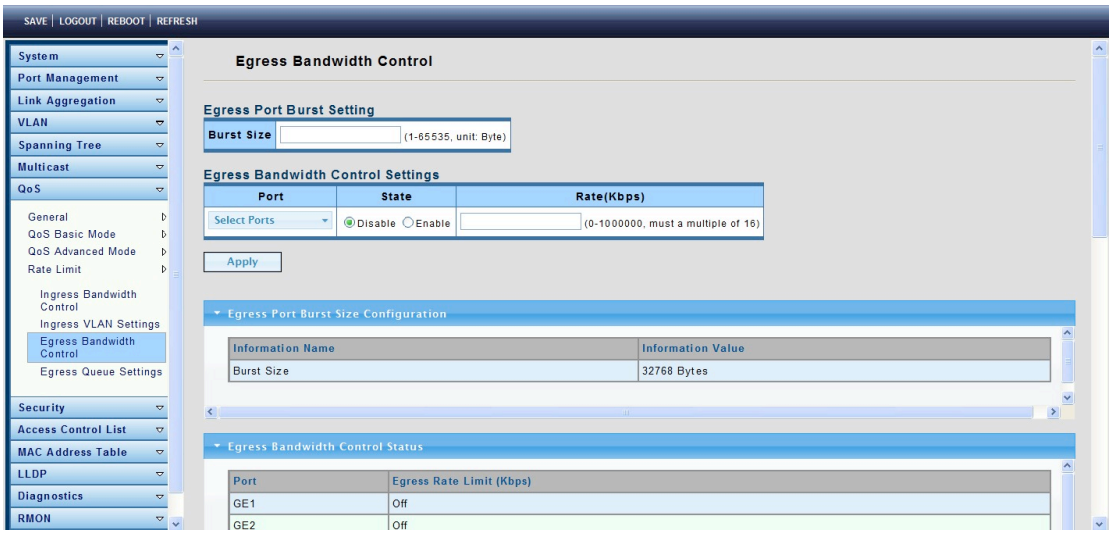
This page is used to set the bandwidth of the VLAN entry control.




### 4.7.4.3 Egress Bandwidth Control

To display the Egress Port Settings page, click **QoS > Rate Limit > Egress Bandwidth Control.**

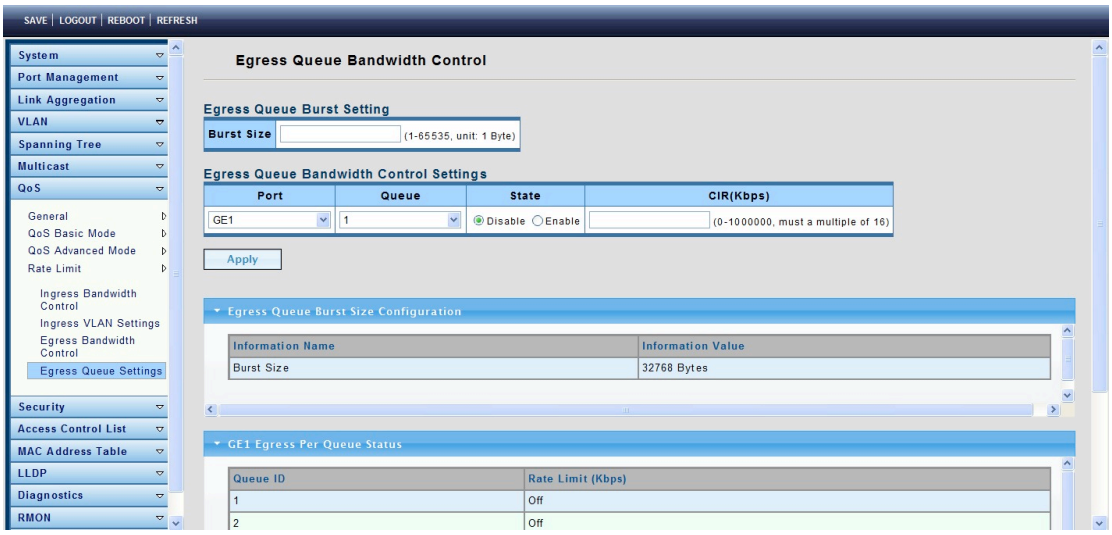
This page is used to set the egress bandwidth control.




### 4.7.4.4 Egress Queue Settings

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

The page is used to set the egress bandwidth parameters.



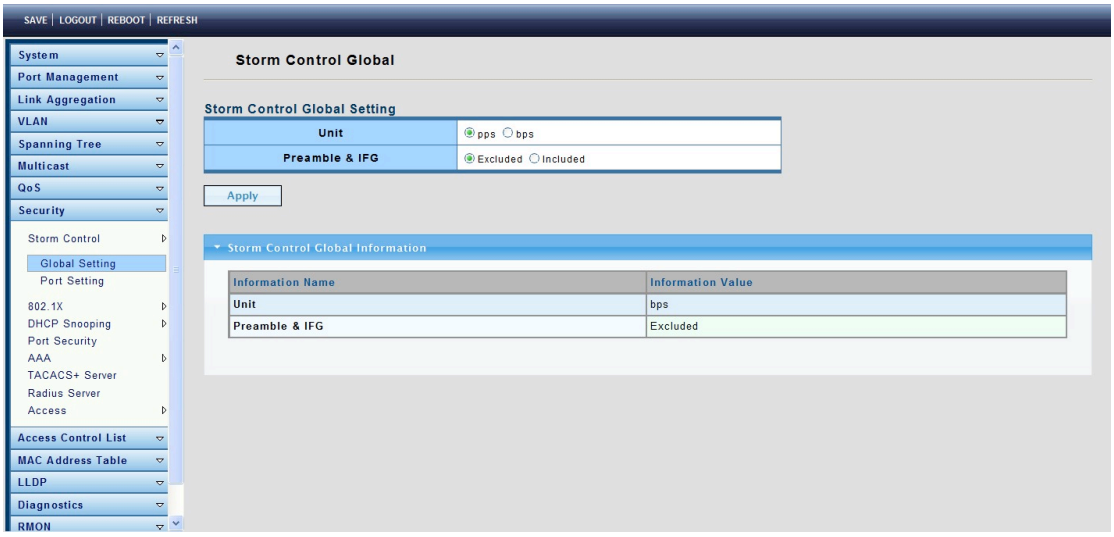

# 4.8 Security

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

## 4.8.1 Storm Control

### 4.8.1.1 Global Setting

To display the Global Setting page, click **Security > Storm Control > Global Setting.**



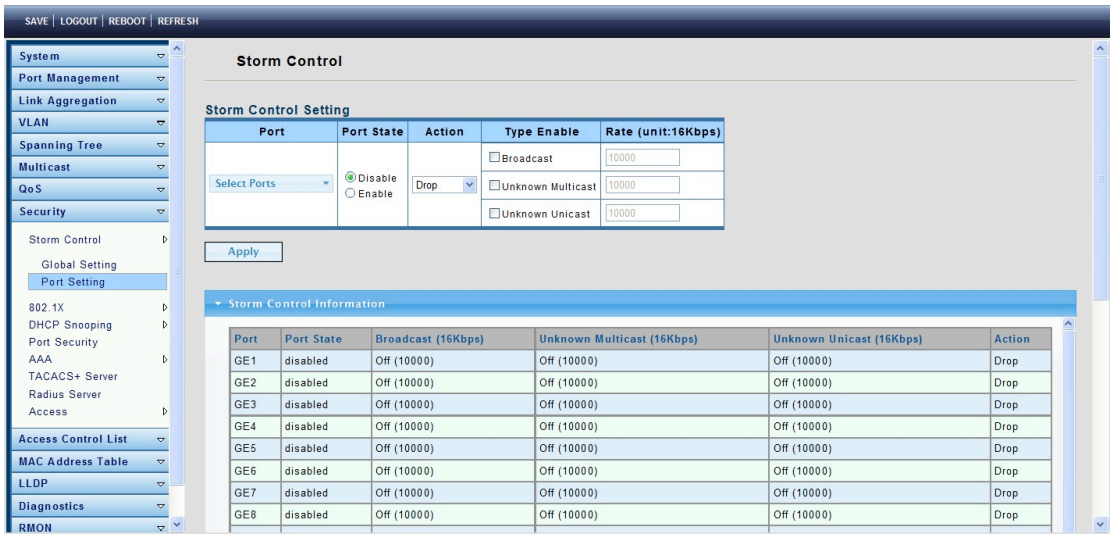

**Unit:** Choose a storm control unit: pps or bps.

**Preamble & IFG:** Choose to include or exclude 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.

### 4.8.1.2 Port Setting

To display the Port Setting page, click **Security > Storm Control > Port Setting.**




**Port:** Select the setting ports.

**Type Enable:** Select the type of storm control.

- Broadcast: Broadcast packet.
- Unknown Multicast: Unknown multicast packet State.
- Unknown Unicast: Unknown unicast packet.

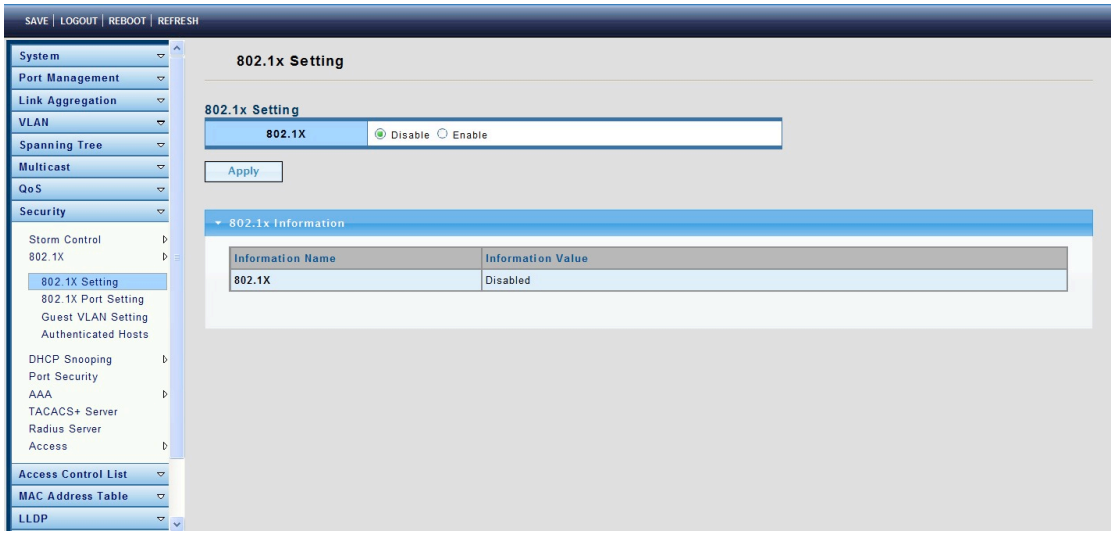
**Rate:** Value of the storm control rate. Unit: pps (packet per-second) or Kbps (Kbits per-second) depends on global mode setting. The range is from 0 to 1000000.

## 4.8.2 802.1X

802.1x is based on the Client/Server access control and authentication protocol. It can restrict any unauthorized users or devices trying to connect to the access port of the LAN/WLAN. Before getting the mission from the switch or LAN, the 802.1x will check the users or devices that connect with the switch ports. Before the devices or users pass the “test,” it only accepts the EAPoL data connected with the switch; but after it passes, the ordinary data all can be transmitted through Ethernet ports.

### 4.8.2.1 802.1X Setting

To display the 802.1X Setting page, click **Security > 802.1X > 802.1X Setting.**

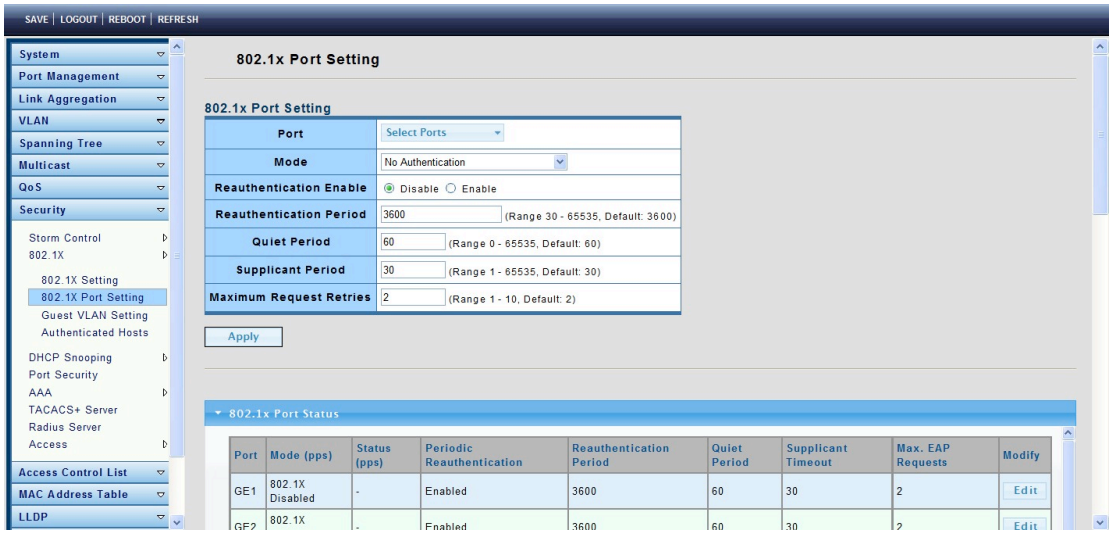


**802.1X:** Set the enabling status of 802.1X functionality.

- Enable: Enable 802.1X.
- Disable: Disable 802.1X.

### 4.8.2.2 802.1X Port Setting

To display the 802.1X Port Setting page, click **Security > 802.1X > 802.1X Port Setting.**




**Port:** Select the ports to configure their authentication mode.

**Mode:** The authentication mode.

- Force Unauthorized: Force this port to be unconditional unauthorized.
- Force Authorized: Force this port to be unconditional authorized.
- Authentication: 802.1X authentication.
- No Authentication: 802.1X disabled.

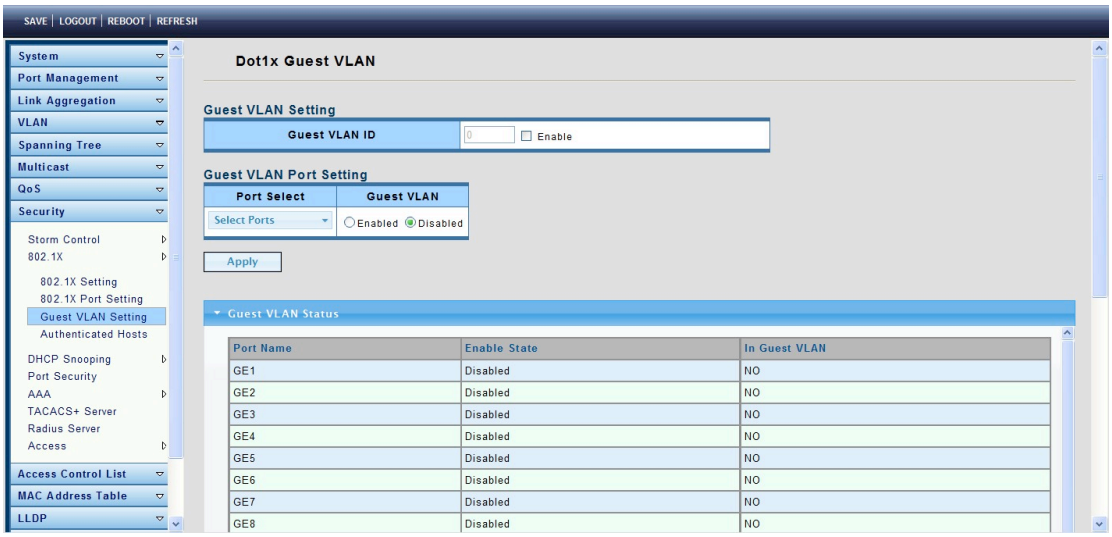
**Reauthentication Enable:** Set the enabling status of 802.1X reauthentication.
**Reauthentication Period:** Set the reauthentication period of 802.1X if reauthentication is enabled.

### 4.8.2.3 Guest VLAN Setting

Guest VLAN provides access to services that do not require the subscribing devices or ports to be 802.1x or MAC-based authenticated and authorized.

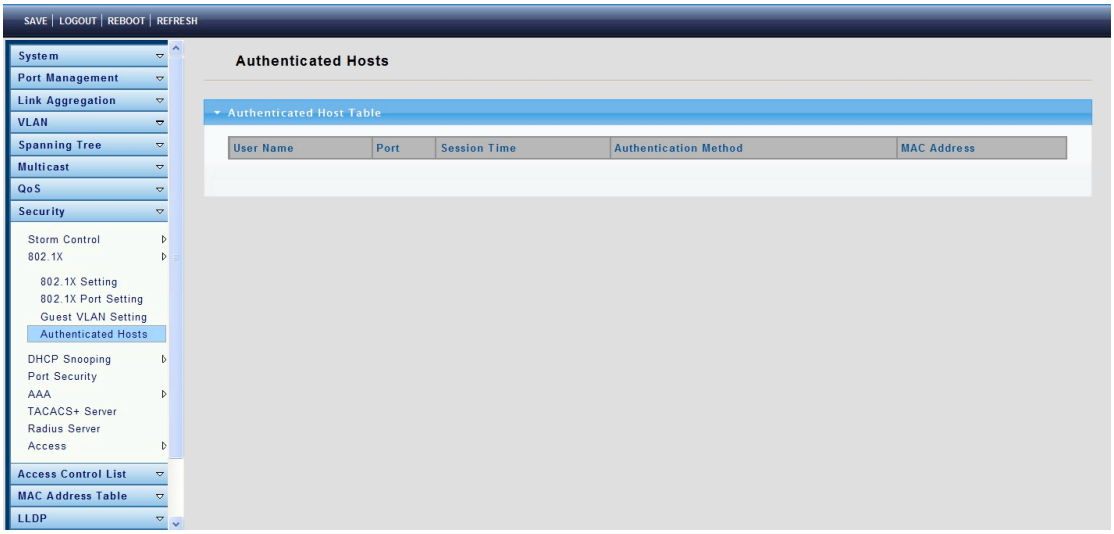
An unauthenticated VLAN is a VLAN that allows access by both authorized and unauthorized devices or ports. You can configure one or more VLANs to be unauthenticated in Creating VLANs.

To display the Guest VLAN Setting page, click **Security > 802.1X > Guest VLAN Setting.**




### 4.8.2.4 Authenticated Hosts

To display the Authenticated Hosts page, click **Security > 802.1X > Authenticated Hosts.**




**User Name:** Supplicant names that were authenticated on each port.
**Port:** Number of the port.
**Session Time (DD:HH:MM:SS):** Amount of time that the supplicant was logged on the port.
**Authentication Method:** Method by which the last session was authenticated.
The options are:

- None: No authentication is applied; it is automatically authorized.
- RADIUS: Supplicant was authenticated by a RADIUS server.

**MAC Address:** Displays the supplicant MAC address.

## 4.8.3 DHCP Snooping

When the switch opens DHCP Snooping, it will snoop DHCP messages and receive DHCP requests, and abstract and record the IP address and MAC address from the DHCP ACK message. DHCP Snooping admits one physical port setting as a creditable

port or discreditable port. Creditable ports can receive and forward the DHCP offer message; whereas, the discreditable port will lose the DHCP offer message. In so doing, the switch can pick out the fake DHCP server and make sure that the client gets legal IP addresses from the DHCP server.

### 4.8.3.1 Global Setting

To display the Global Setting page, click **Security > DHCP Snooping > Global Setting.**

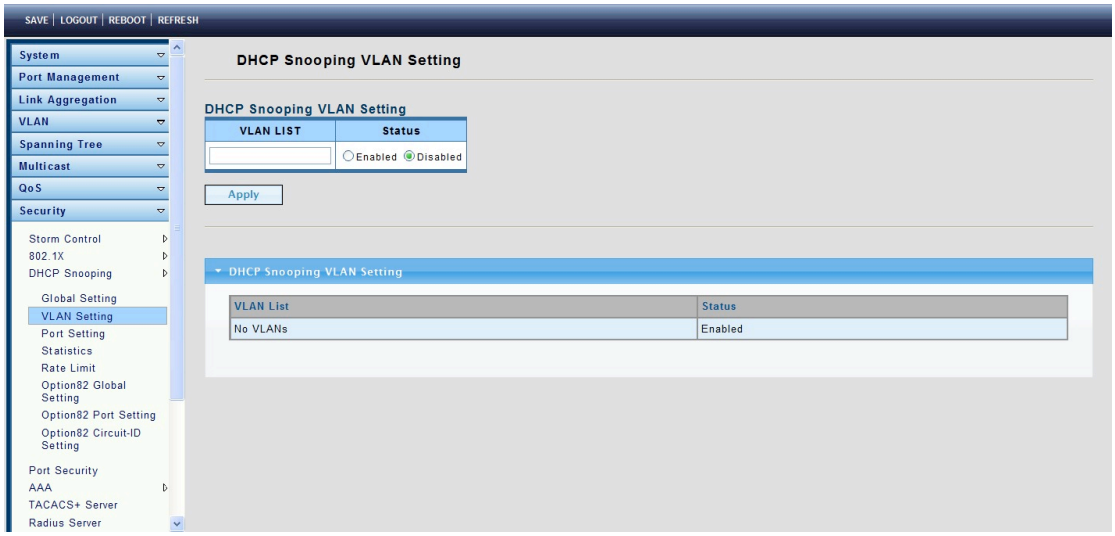
This page is used to open the DHCP Snooping function.


**DHCP Snooping:** Enable or disable the DHCP Snooping function.

### 4.8.3.2 VLAN Setting

To display the VLAN Setting page, click **Security > DHCP Snooping > VLAN Setting.**

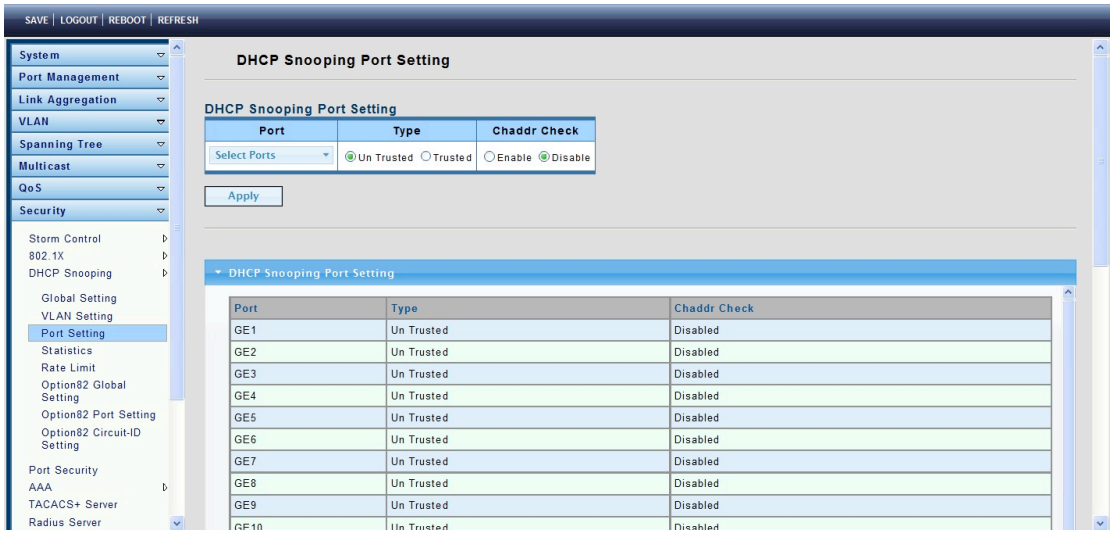
This page allows you to configure the DHCP Snooping VLAN, enable status on a VLAN, and move the VLAN from the Available VLANs list to the Enabled VLANs list.



### 4.8.3.3 Port Setting

To display the Port Setting page, click **Security > DHCP Snooping > Port Setting.**

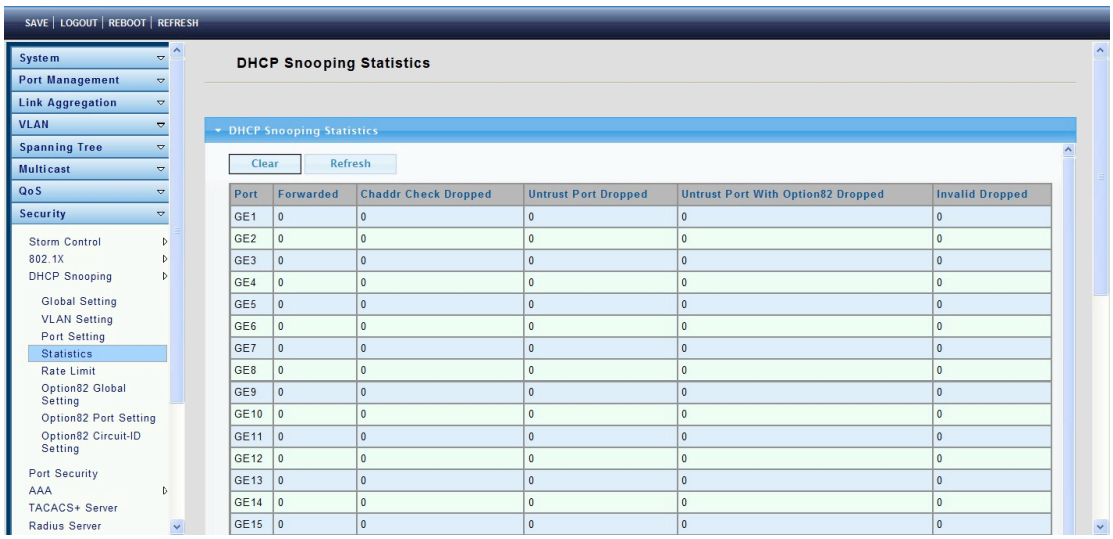
This page allows you to configure a specific port as a DHCP Snooping trust port.




### 4.8.3.4 Statistics

To display the Statistics page, click **Security > DHCP Snooping > Statistics.**

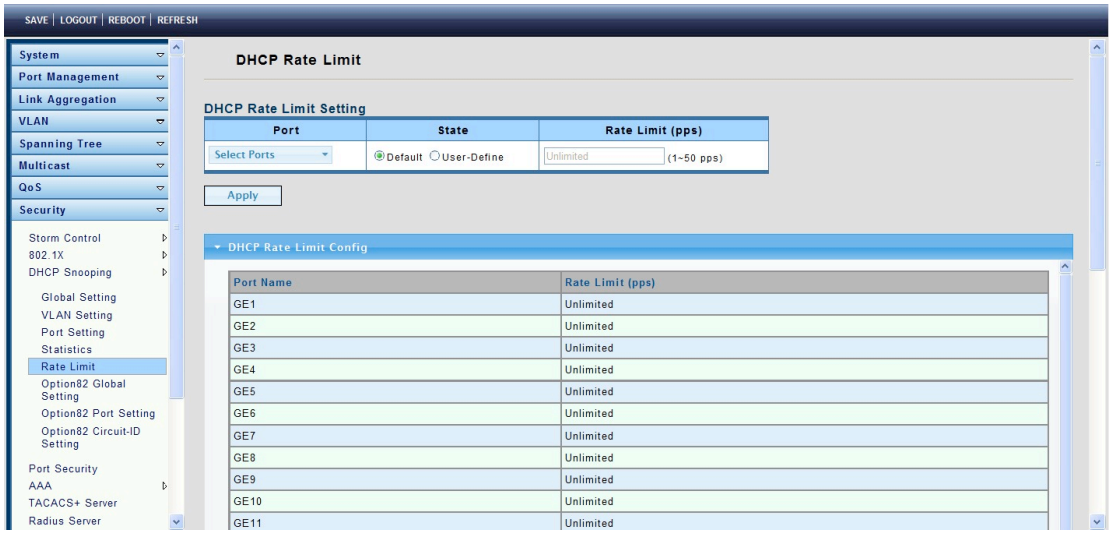
This page presents statistics of each port and DHCP Snooping state information.



### 4.8.3.5 Rate Limit

To display the Rate Limit page, click **Security > DHCP Snooping > Rate Limit.**

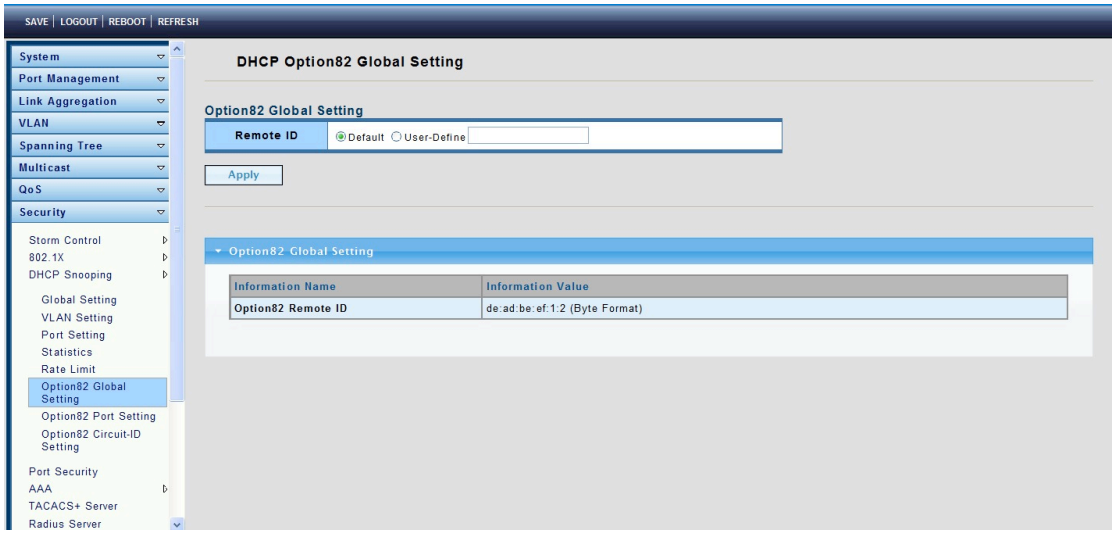
This page allows you to set DHCP Rate Limit for each port and restrict the Internet speed.




### 4.8.3.6 Option82 Global Setting

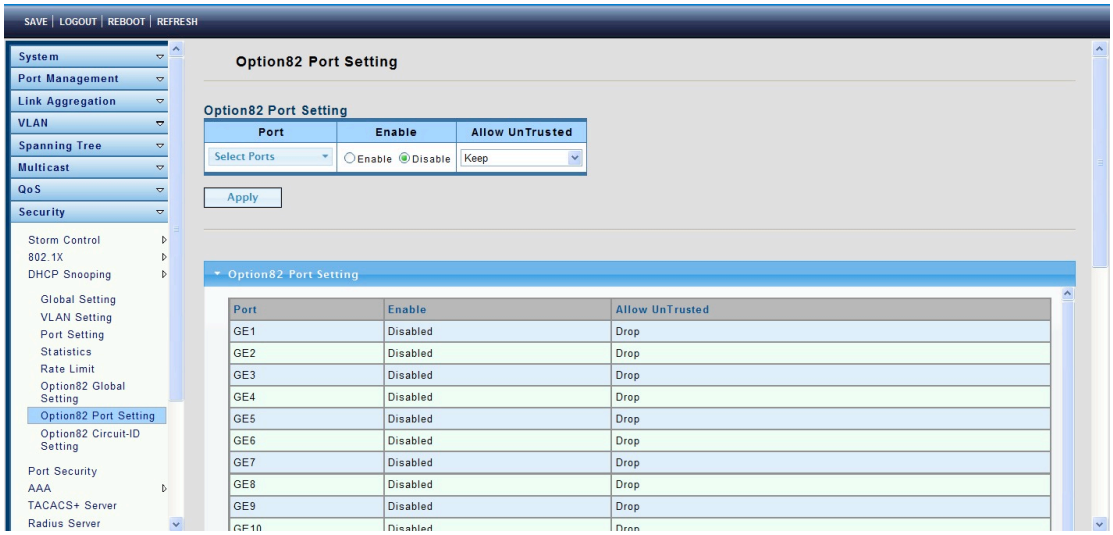
To display the Option82 Global Setting page, click **Security > DHCP Snooping > Option82 Global Setting.**

This page is used to configure DHCP Snooping support Option82 strategy.




### 4.8.3.7 Option82 Port Setting

To display the Option82 Port Setting page, click **Security > DHCP Snooping > Option82 Port Setting.**




### 4.8.3.8 Option82 Circuit-ID Setting

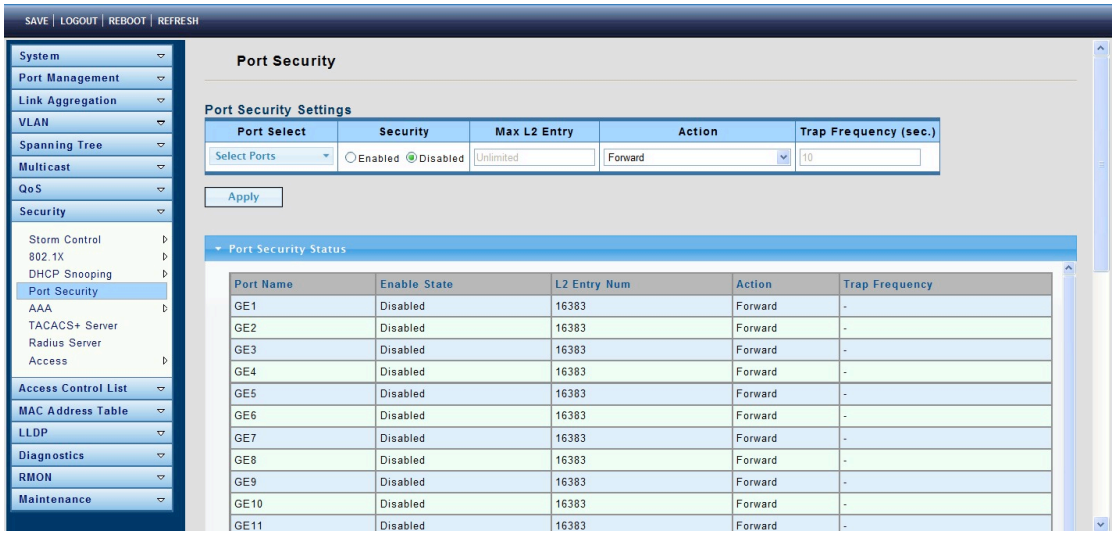
To display the Option82 Circuit-ID Setting page, click **Security > DHCP Snooping > Option82 Circuit-ID Setting.**

This page allows you to edit the circuit ID content in the Option82 settings.


## 4.8.4 Port Security

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

Port Security allows the determination of port isolation and specific behavior.




**Port Select:** Select one or multiple ports to configure.

**Security:** Port security function. It limits how many MAC addresses can be recognized by a port and blocks new ones once the limit is reached.

- Enable: Enable port security function.
- Disable: Disable port security function.

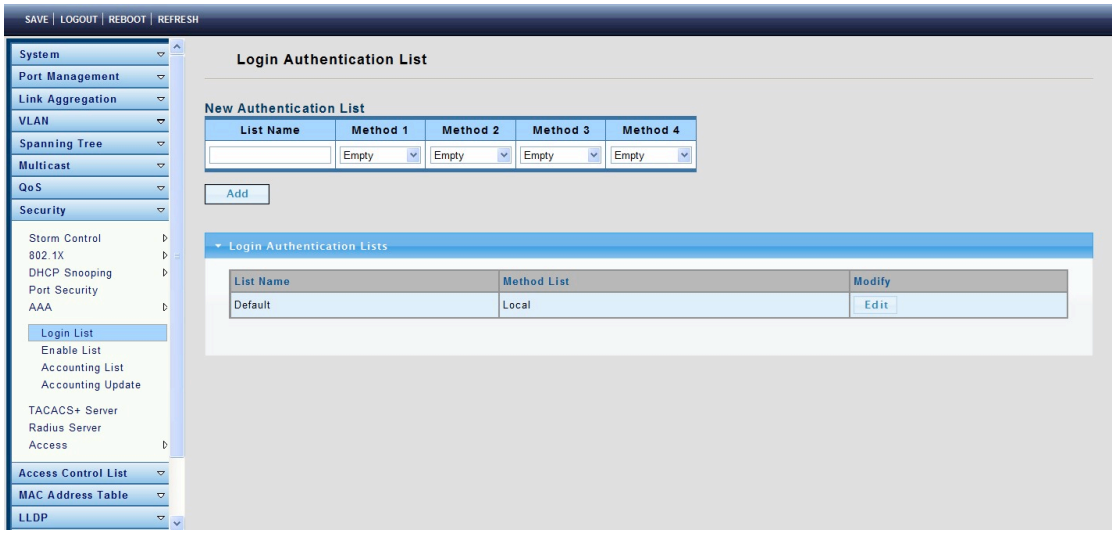
**Max L2 Entry:** The total number of MAC addresses that can be recognized by a port.

## 4.8.5 AAA

### 4.8.5.1 Login List

To display the Login List page, click **Security > AAA > Login List.**

This page allows you to add, edit and delete Login Authentication List settings (the “default” list cannot be deleted). The items in this list will authenticate login users by the incorporated methods. If the first method fails, it will try to use the next priority method to authenticate.




**List Name:** New Login Authentication List name. This name should be different from other existing lists.

**Method 1:** Select the first priority method for login authentication.

- Local: Use local accounts database to authenticate.
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.
- Enable: Use local enable password to authenticate.

**Method 2:** Select the second priority method for login authentication.

- Local: Use local accounts database to authenticate.
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will be supported in the future.
- Enable: Use local enable password to authenticate.

**Method 3:** Select the third priority method for login authentication.

- Local: Use local accounts database to authenticate.
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.
- Enable: Use local enable password to authenticate.

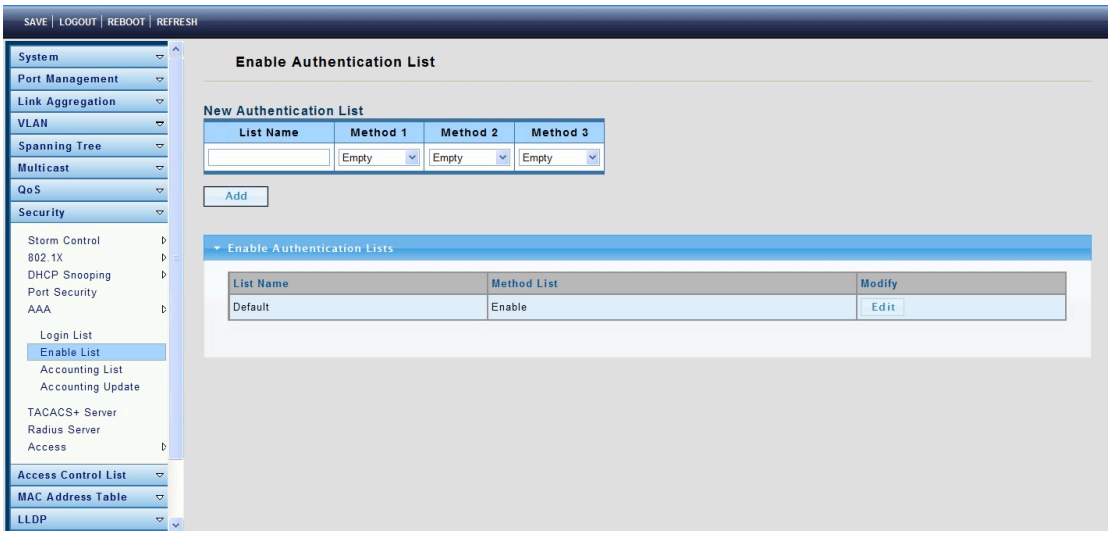
**Method 4:** Select the fourth priority method for login authentication.

- Local: Use local accounts database to authenticate
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.
- Enable: Use local enable password to authenticate.

### 4.8.5.2 Enable List

To display the Login List page, click **Security > AAA > Enable List.**

This page allows you to add, edit or delete Enable Authentication List settings (the “default” list cannot be deleted). The line attached to this list will authenticate a user issuing the “enable” command by methods in this list. If the first method fails, it will try to use the next priority method to authenticate.




**List Name:** New Enable Authentication List name. This name should be. different from

other existing lists.

**Method 1:** Select the first priority method for enable authentication.

- Enable: Use local enable password to authenticate
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.

**Method 2:** Select the second priority method for enable authentication.

- Enable: Use local enable password to authenticate
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.

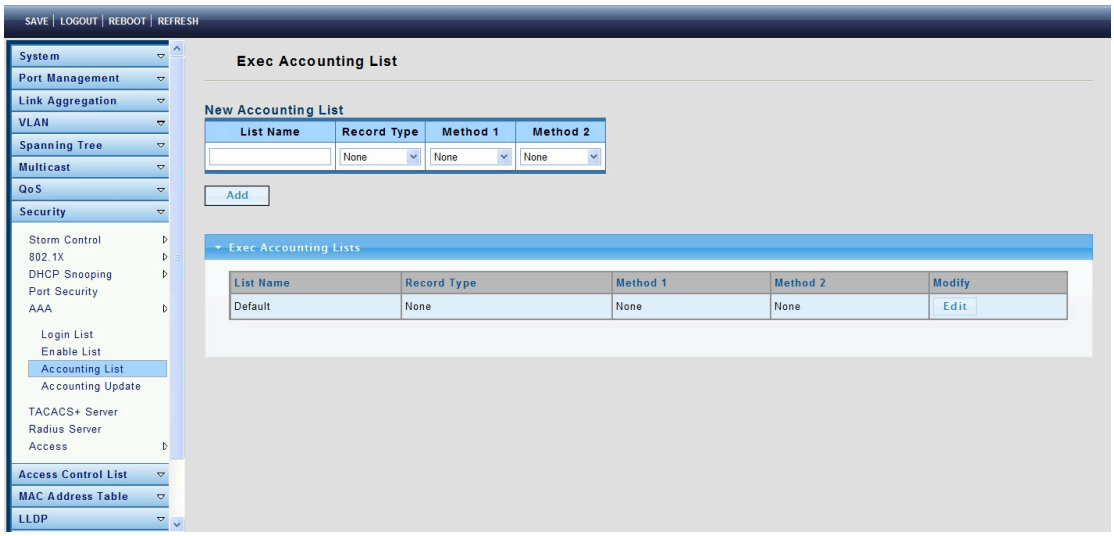
**Method 3:** Select the third priority method for enable authentication.

- Enable: Use local enable password to authenticate.
- Tacacs+: Use remote TACACS+ server to authenticate.
- Radius: Use remote Radius server to authenticate. Not supported now, it will besupported in the future.

### 4.8.5.3 Accounting List

To display the Accounting List page, click **Security > AAA > Accounting List.**

This page allows you to add, edit or delete accounting list settings (the “default” list cannot be deleted). The line attached to this list will account for users entering the CLI shell by methods in this list. If the first method fails, it will try to use the next priority method for accounting.




**List Name:** New Accounting List name. This name should be different from other existing lists.

**Record Type:** Select the accounting record type.

- none: No accounting.
- start-stop: Record start and stop without waiting.
- stop-only: Record stop when service terminates.

**Method 1:** Select the first priority method for exec accounting.

- Tacacs+: Use remote TACACS+ server to accounting.

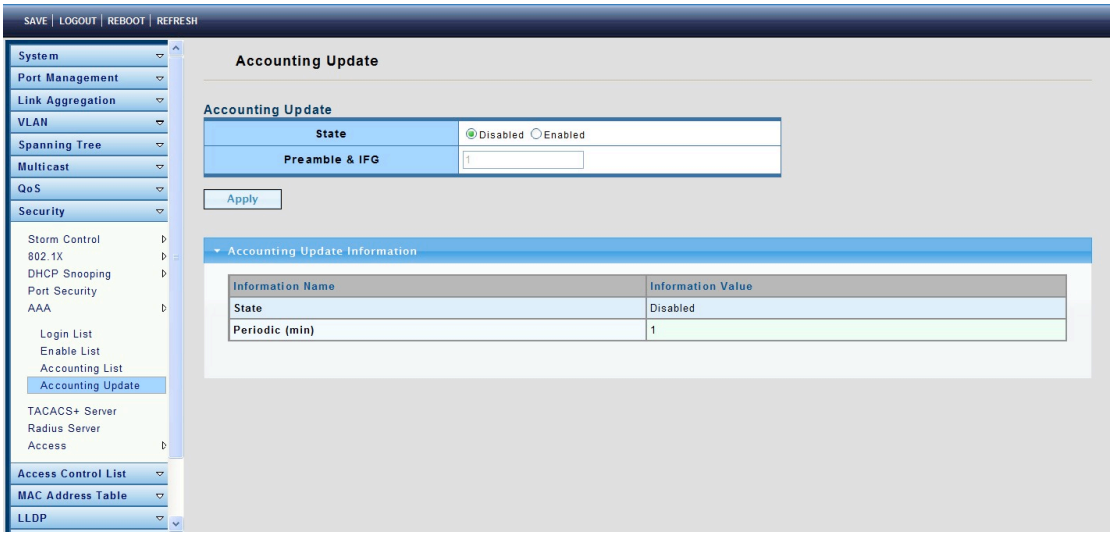
- Radius: Use remote Radius server to accounting. Not supported now, it will besupported in the future.

**Method 2:** Select the second priority method for exec accounting.

- Tacacs+: Use remote TACACS+ server to accounting.
- Radius: Use remote Radius server to accounting. Not supported now, it will besupported in the future.

### 4.8.5.4 Accounting Update

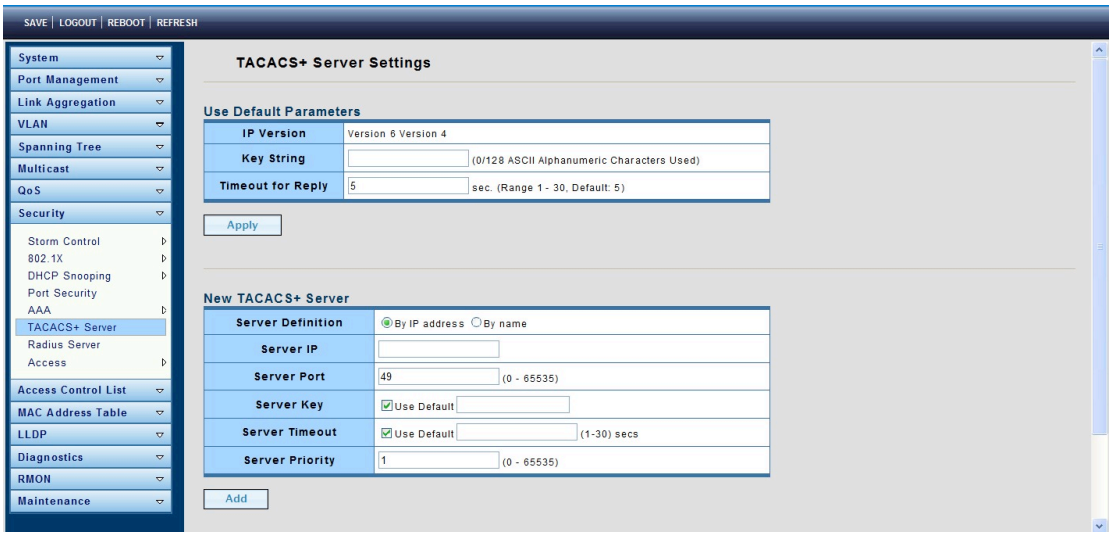
To display the Accounting Update page, click **Security > AAA > Accounting Update.**




## 4.8.6 Tacacs+ Server

To display the Tacacs+ server page, click **Security > AAA >Tacacs+ Server.**

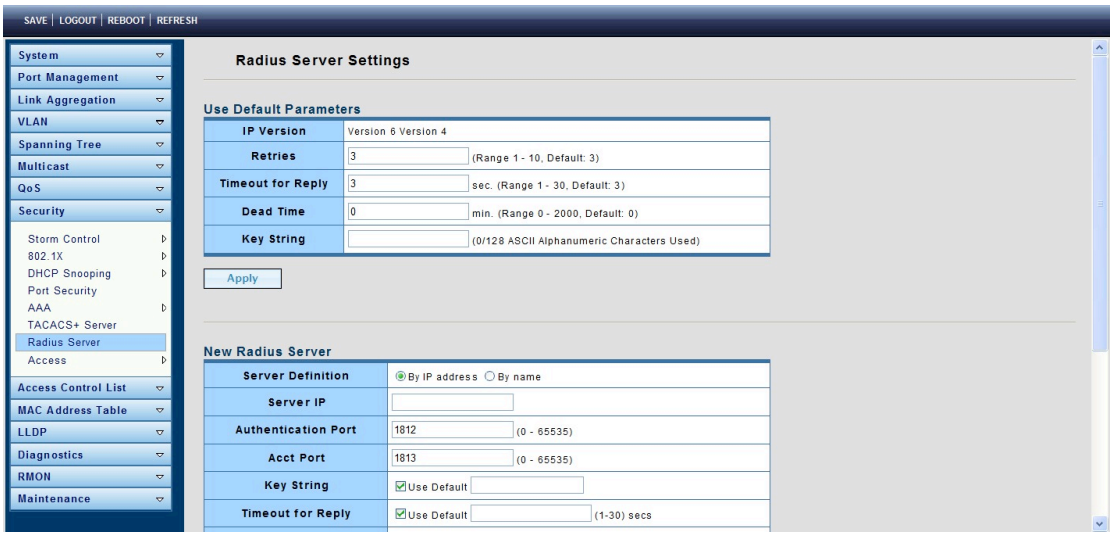
This page allows you to add, edit or delete TACACS+ Server settings.



## 4.8.7 Radius Server

To display the Radius Server page, click **Security > AAA > Radius Server.**

This page is used for radius server settings.

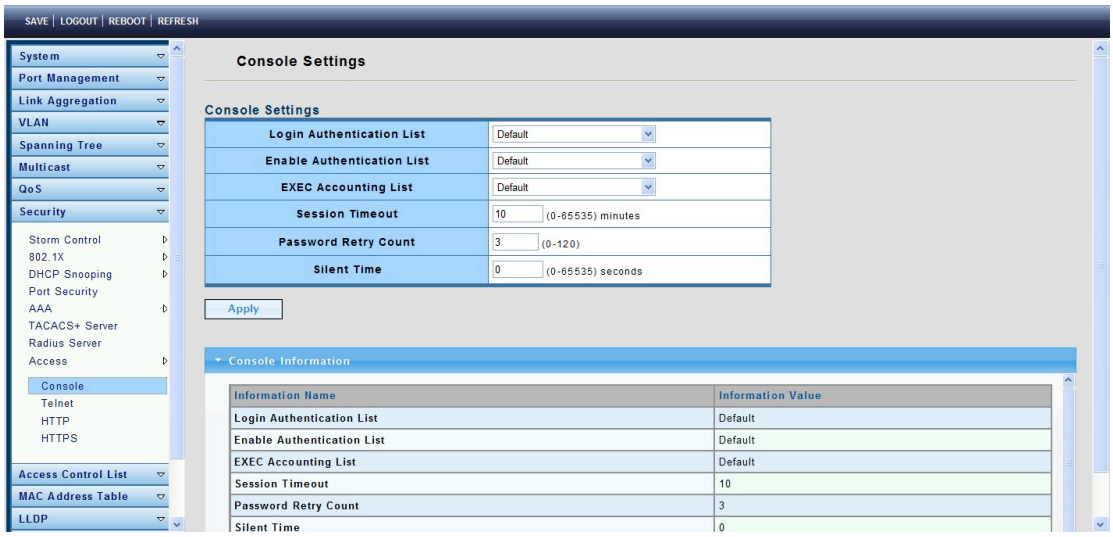



## 4.8.8 Access

### 4.8.8.1 Console

To display the Console page, click **Security > Access > Console.**

This page allows you to combine all kinds of AAA lists on the console line. Attempts to access the switch from a console will be authenticated, authorized and accounted for by AAA lists combined here.




**Login Authentication List:** Select one of the Login Authentication Lists configured on the
Login List page.

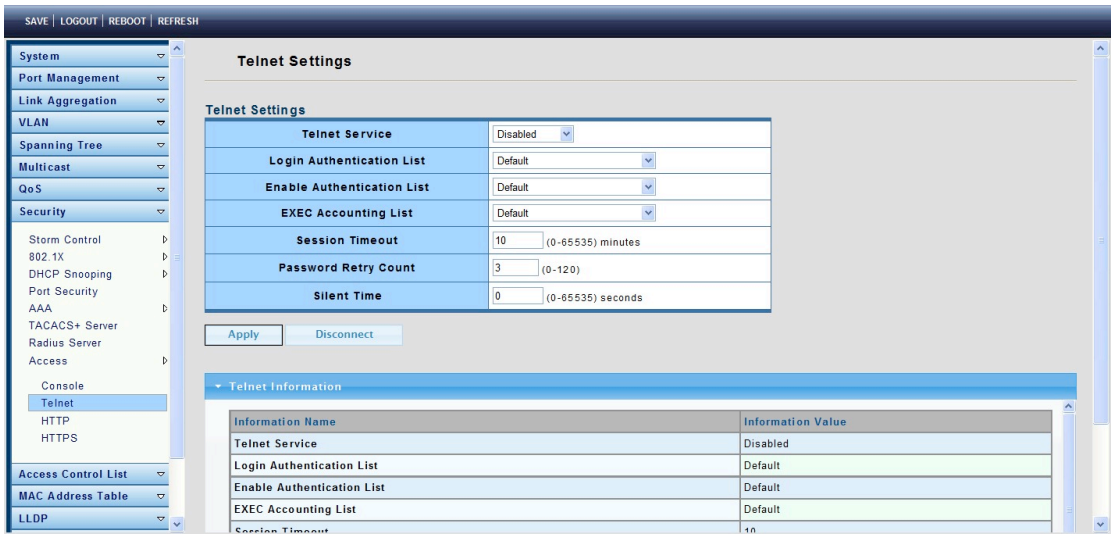
**Enable Authentication List:** Select one of the Enable Authentication Lists configured on

the Enable List page.
**EXEC Authorization List:** Select one of the EXEC authorization lists configured on the EXEC List page.
**Commands Authorization List:** Select one of the commands authorization lists configured on the Commands List page.
**EXEC Accounting List:** Select one of the EXEC accounting lists configured on the Accounting List page.
**Session Timeout:** Set the session timeout minutes for user access CLI from console line. If a user does not respond before the session times out, CLI will log out automatically. 0 minutes means “Never timeout.”

#### 4.8.8.2 Telnet

To display the Telnet page, click **Security > Access > Telnet.**

This page allows you to combine all kinds of AAA lists with the Telnet line. Attempts to access the switch from Telnet will be authenticated, authorized and accounted for by AAA lists combined here.

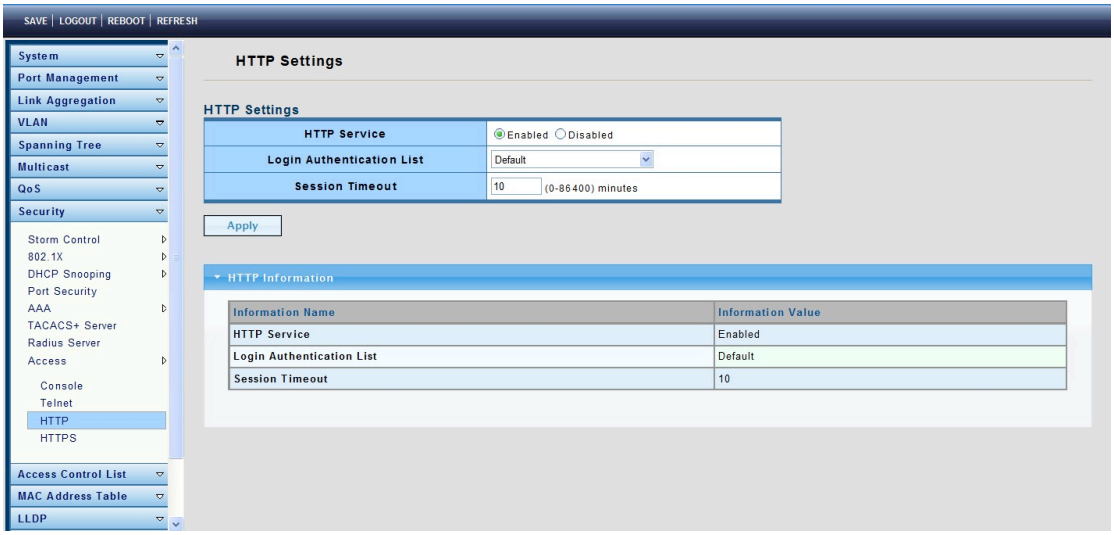



**Telnet Service:** Set to disable or enable.
**Login Authentication List:** Select one of the Login Authentication Lists configured on the Login List page.
**Enable Authentication List:** Select one of the Enable Authentication Lists configured on the Enable List page.
**EXEC Authorization List:** Select one of the EXEC Authorization Lists configured on the EXEC List page.
**Commands Authorization List:** Select one of the Commands Authorization Lists configured on the Commands List page.
**EXEC Accounting List:** Select one of the EXEC Accounting Lists configured on the Accounting List page.
**Session Timeout:** Set the session timeout minutes for user access to CLI from the Telnet line. If a user does not respond before the session times out, CLI will log out automatically.

### 4.8.8.3 HTTP

To display the HTTP page, click **Security > Access > http.**

This page allows you to combine all kinds of AAA lists to the HTTP line. Attempts to access the switch's Web UI from HTTP will be authenticated by AAA lists combined here.

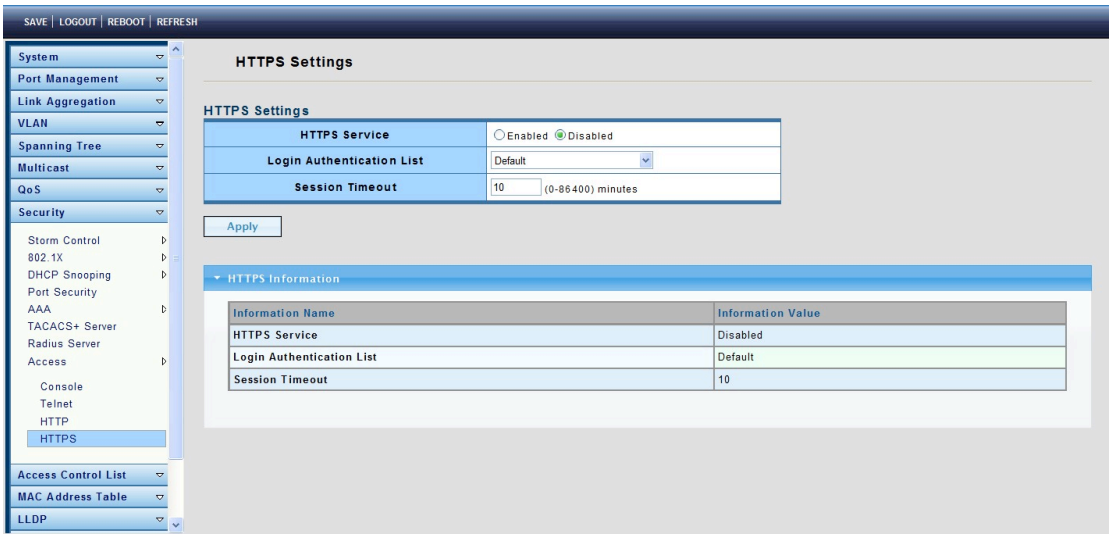



**HTTP Server:** Set to disable or enable.
**Login Authentication List:** Select one of the login authentication lists we configured in "Login List" page.
**Session Timeout:** Set session timeout minutes for user access WEB from HTTP protocol. If user does not response after session timeout minute, WEBUI will logout automatically. 0 minutes means "Never timeout."

### 4.8.8.4 HTTPS

To display the HTTPS page, click **Security > Access > HTTPS.**

This page allows you to combine all kinds of AAA lists on the HTTPS line. Attempts to access the switch's Web UI from HTTPS will be authenticated by AAA lists combined here.




**HTTPS Server:** Set to disable or enable.

**Login Authentication List:** Select one of the Login Authentication Lists configured on the Login List page.

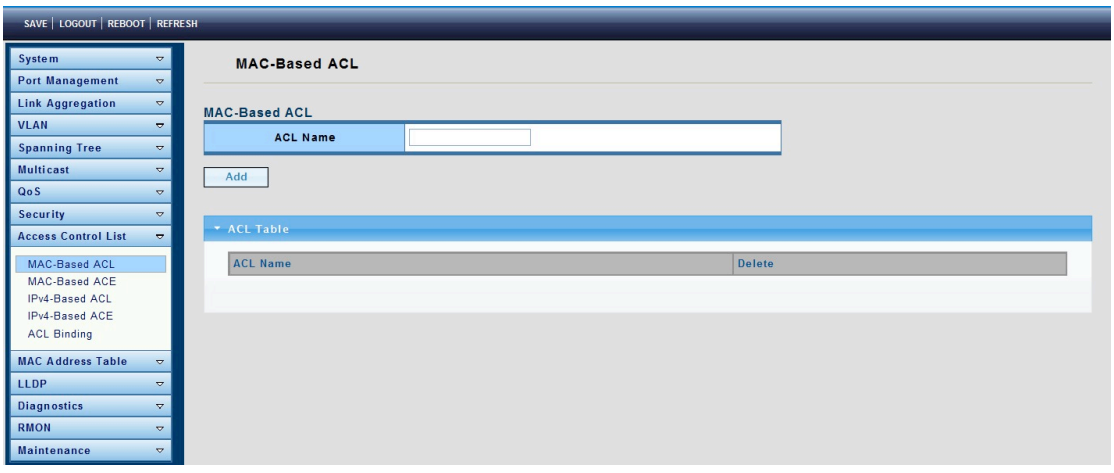
**Session Timeout:** Set the session timeout minutes for user access via the HTTPS protocol. If a user does not respond before the session times out, Web UI will log out automatically. 0 minutes means “Never timeout.”

## 4.9 Access Control List

### 4.9.1 MAC-Based ACL

To display the MAC-Based ACL page, click **Access Control List > MAC-Based ACL.**

This page allows you to set a name for MAC-Based ACL.




**ACL Name:** Enter an ACL name in this field.

### 4.9.2 MAC-Based ACE

To display the MAC-Based ACE page, click **Access Control List > MAC-Based ACE.**

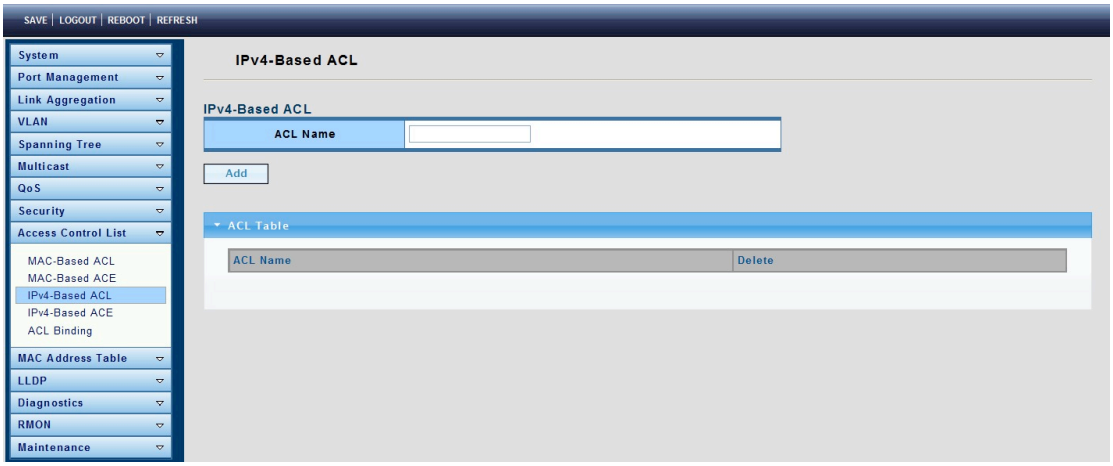
This page allows you to set the Based-on-MAC-address Expanding ACL List, matching

corresponding MACs and setting the ports as drop or forward.


## 4.9.3 IPv4-Based ACL

To display the IPv4-Based ACL page, click **Access Control List > IPv4-Based ACL.**

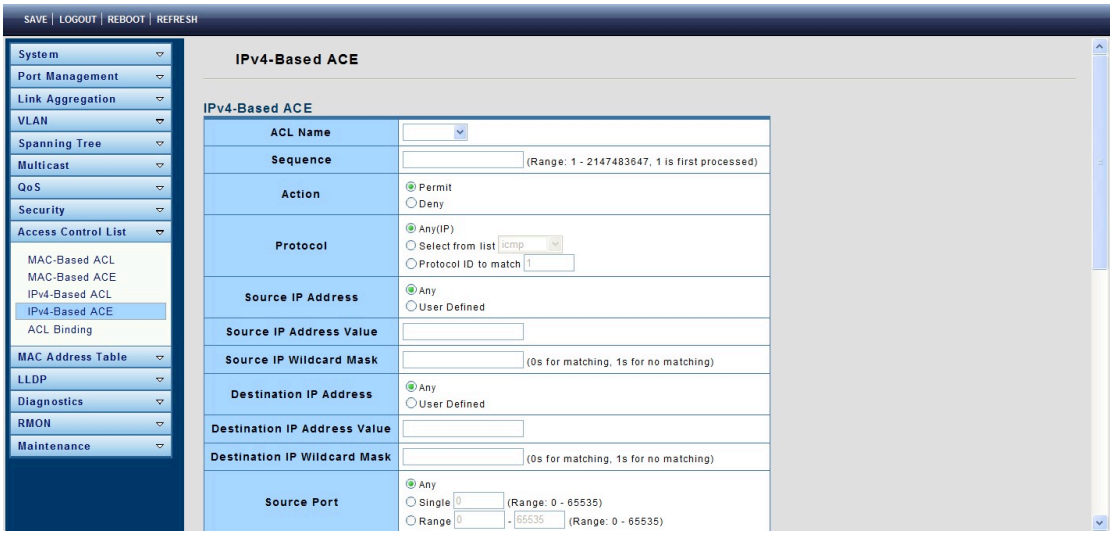
This page allows you to set a name for IPv4-Based ACL.




## 4.9.4 IPv4-Based ACE

To display the IPv4-Based ACE page, click **Access Control List > IPv4-Based ACE.**

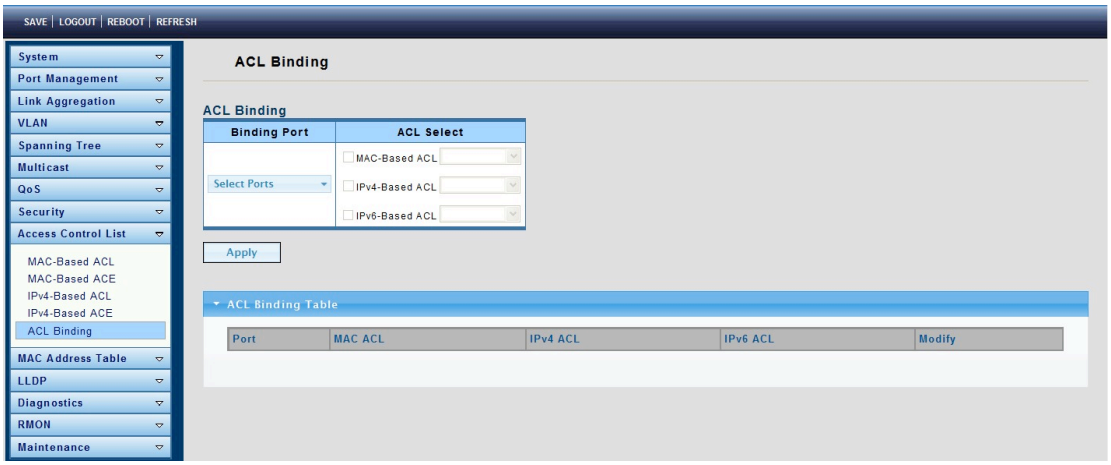
This page allows you to set Based-on-IPv4 expanding ACL Peer Guardian and matching corresponding IP and setting the port as drop or forward.




## 4.9.5 ACL Binding

To display the ACL Binding page, click **Access Control List > ACL Binding.**

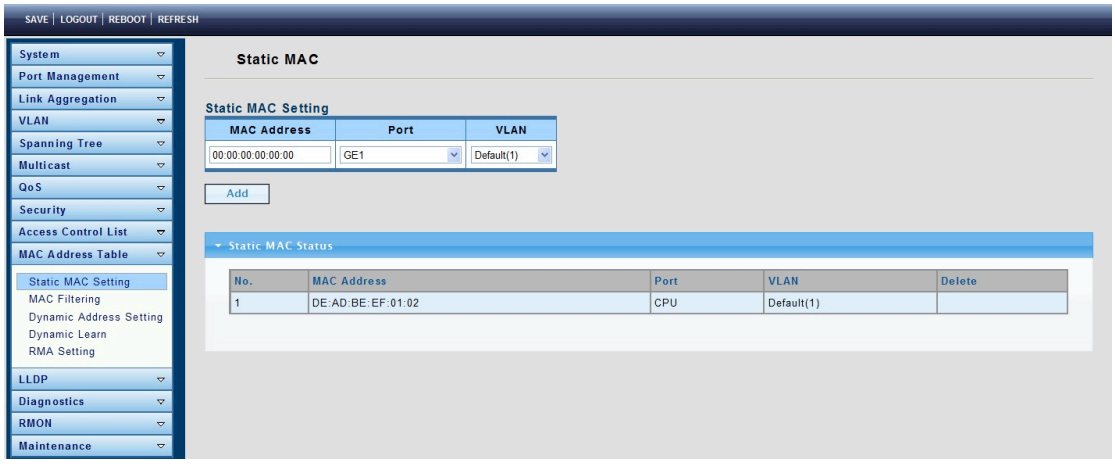
This page allows you to establish Binding in accordance with ACL rules.



# 4.10 MAC Address Table

## 4.10.1 Static MAC Setting

To display the Static Mac Setting page, click **Mac Address Table > Static Mac Setting.**



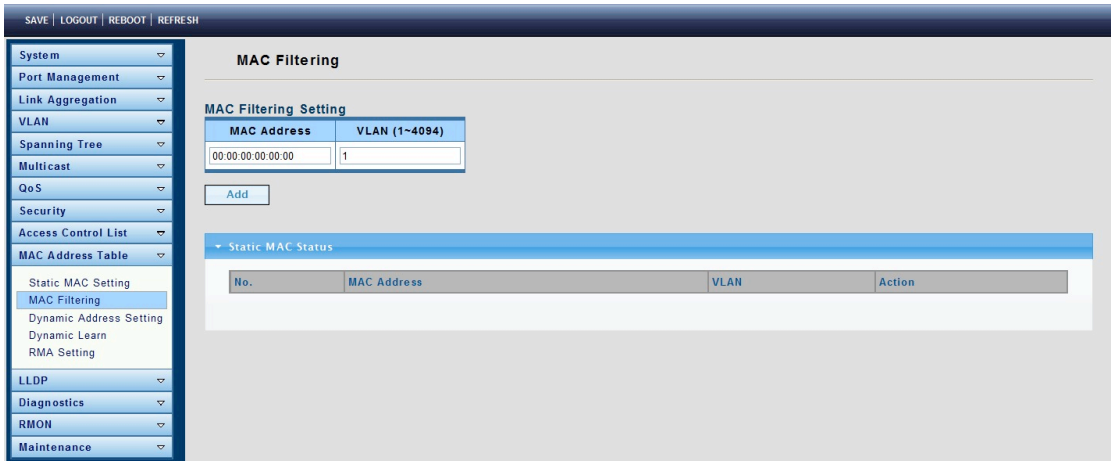

**MAC Address:** The MAC address to which packets will be statically forwarded. If Type is unicast, enter unicast MAC address in this field; If Type is multicast, enter multicast MAC address in this field.

**Port:** If Type is unicast, select the port number of the MAC entry; If Type is multicast, select the port list of the MAC entry.

**VLAN:** The VLAN ID number of the VLAN on which the above MAC address resides.

## 4.10.2 MAC Filtering

To display the MAC Filtering page, click **Mac Address Table > MAC Filtering.**



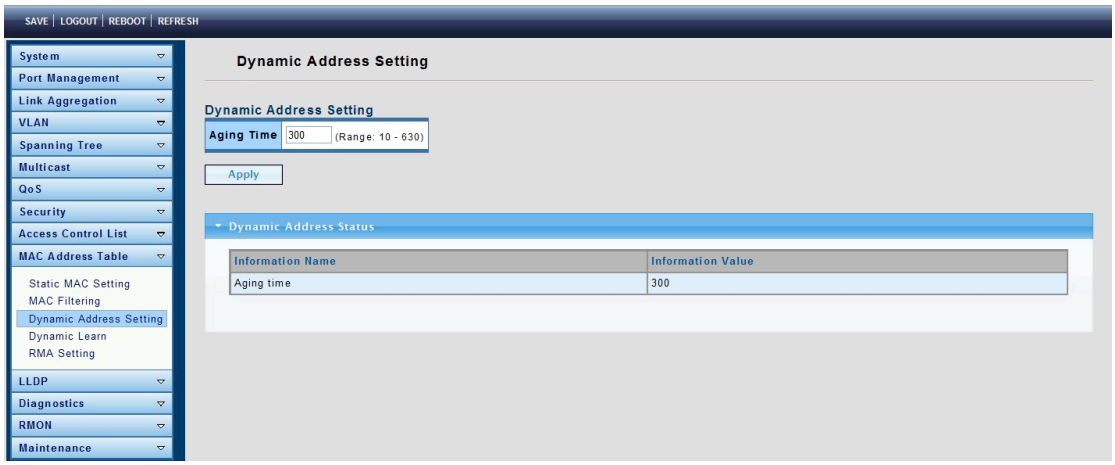

**MAC Address:** The MAC address to which packets will be filtered. This must be a unicast MAC address.

**VLAN:** The VLAN ID number of the VLAN on which the above MAC address resides.

### 4.10.3 Dynamic Address Setting

To display the Dynamic Address Setting page, click **Mac Address Table > Dynamic Address Setting.**

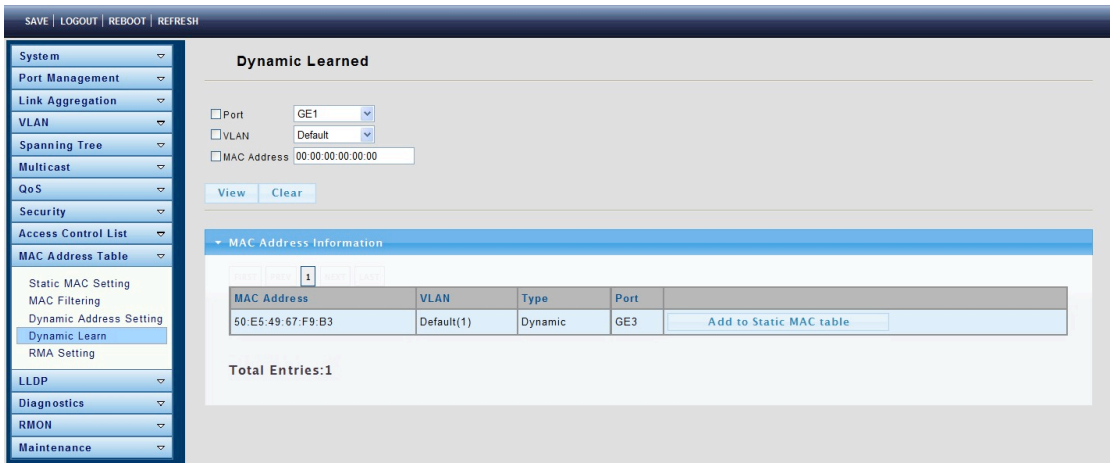
This page is used to set the MAC address of the aging time to study.




**Aging Time:** Set the time needed for aging.

### 4.10.4 Dynamic Learn

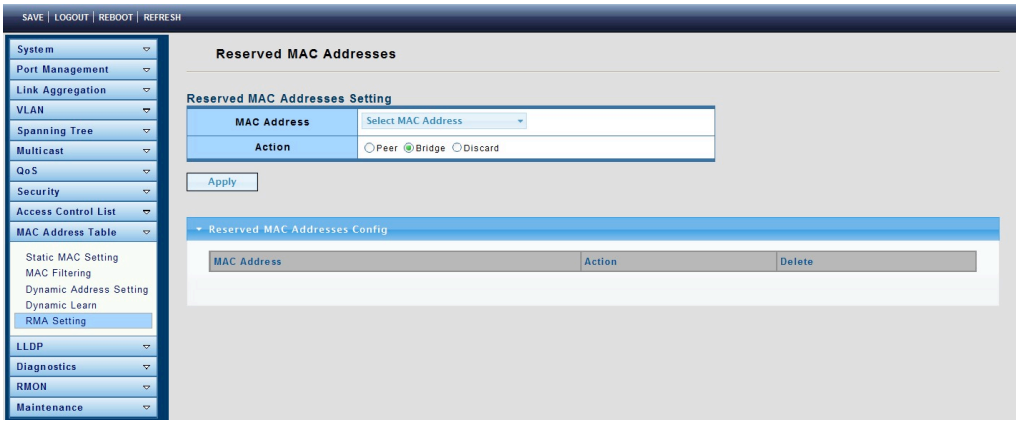
To display the Dynamic Learn page, click **Mac Address Table > Dynamic Learn.**




**Port:** Select the port number to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.
**VLAN:** Select the VLAN to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.
**MAC Address:** Select the MAC address to show or clear dynamic MAC entries. If not selecting any port, VLAN or MAC address, the whole dynamic MAC table will be displayed or cleared.

### 4.10.5 RMA Setting

To display the RMA Setting page, click **Mac Address Table > RMA Setting.**

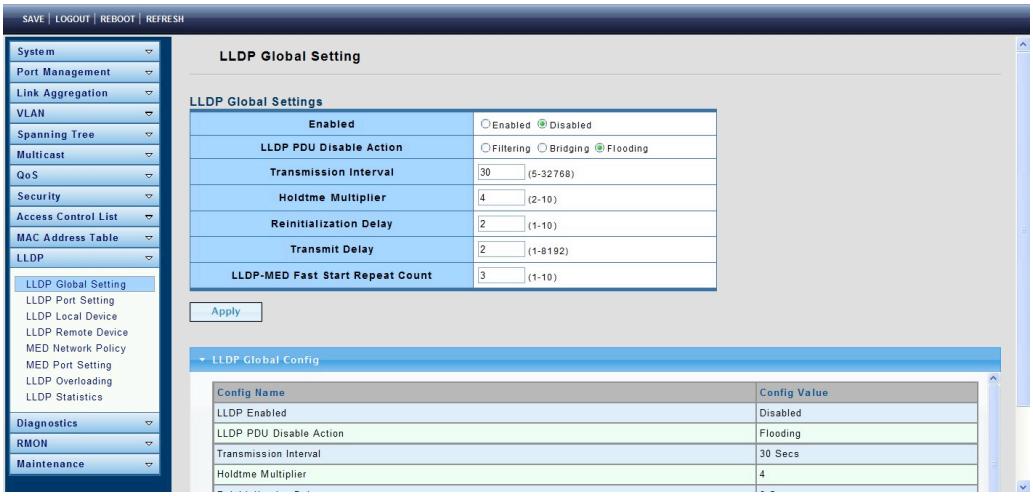



## 4.11 LLDP

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.

### 4.11.1 LLDP Global Setting

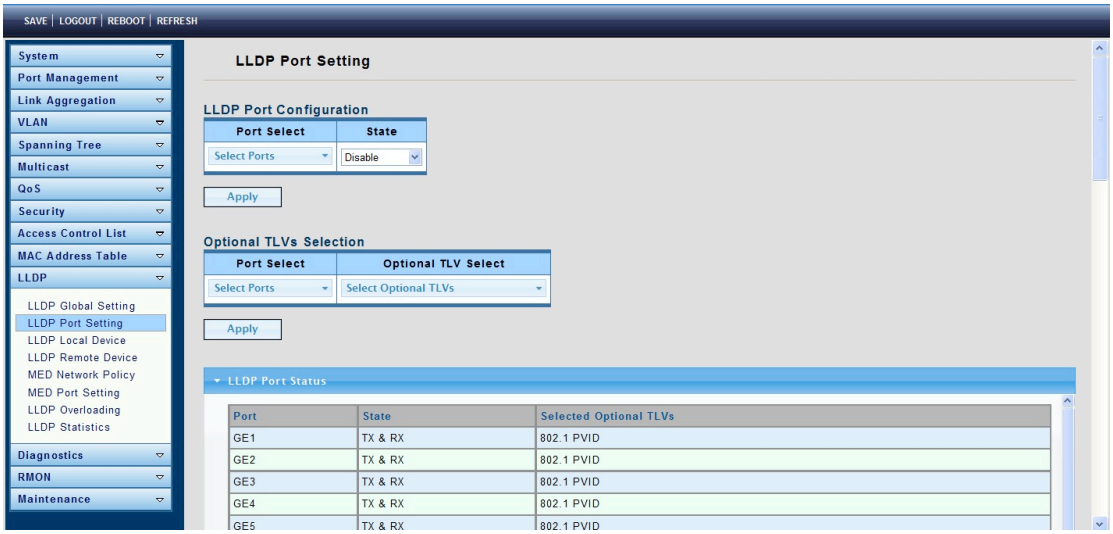
To display the LLDP Global Settings page, click **LLDP > LLDP Global Setting.**




**Enabled:** Enable/Disable the LLDP protocol on this switch.
**Transmission Interval:** Select the interval at which frames are transmitted. The default is 30 seconds, and the valid range is 5-32768 seconds.
**Holdtime Multiplier:** Select the multiplier onthe 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).

## 4.11.2 LLDP Port Setting

To display the LLDP Port Settings page, click **LLDP > LLDP Port Setting.**




**Port Select:** Select a specific port or all ports to configure transmission state.

**State:** Select the transmission state of the 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 Select specified port or all port configure transmission state.

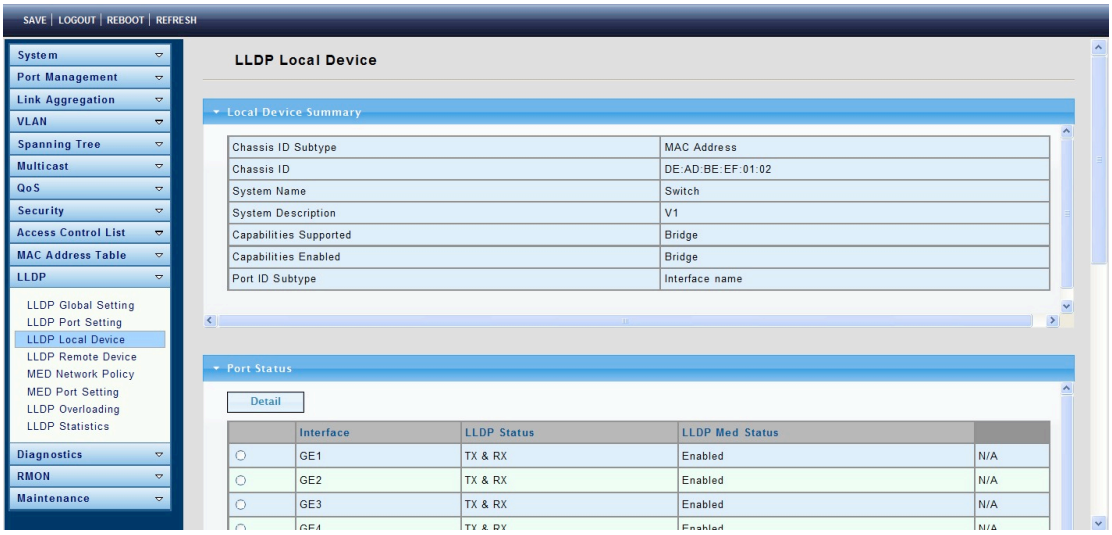
**Port Select:** Select specific ports.

**Optional TLV Select:** Select Optional TLVs.

## 4.11.3 LLDP Local Device

To display the LLDP Local Device page, click **LLDP > LLDP Local Device.**

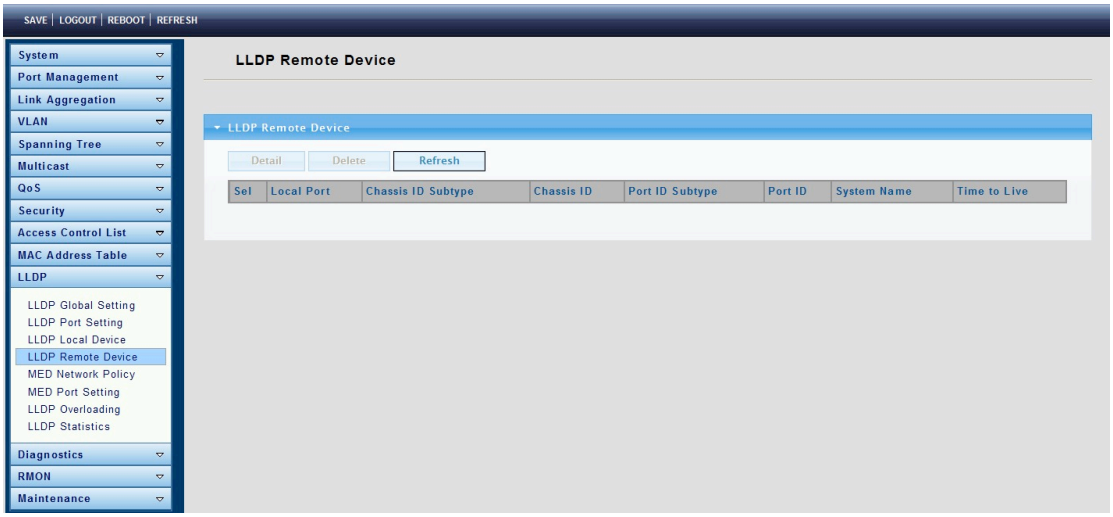
Use the LLDP Local Device page to view information about devices on the network for which the switch has received LLDP information.



### 4.11.4 LLDP Remote Device

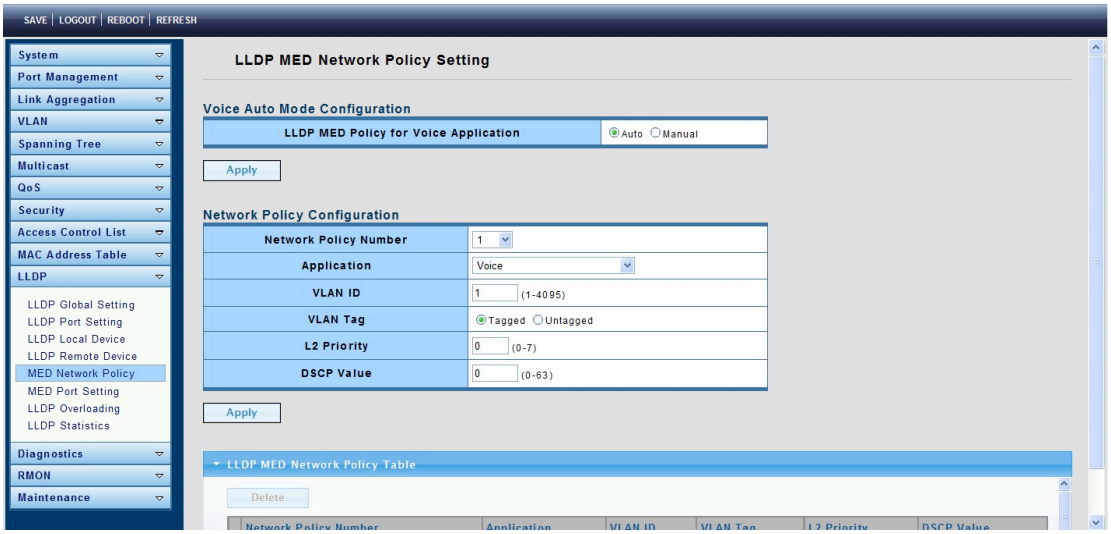
To display the LLDP Remote Device page, click **LLDP > LLDP Remote Device.**

Use the LLDP Remote Device page to view information about remote devices for which the switch has received LLDP information.



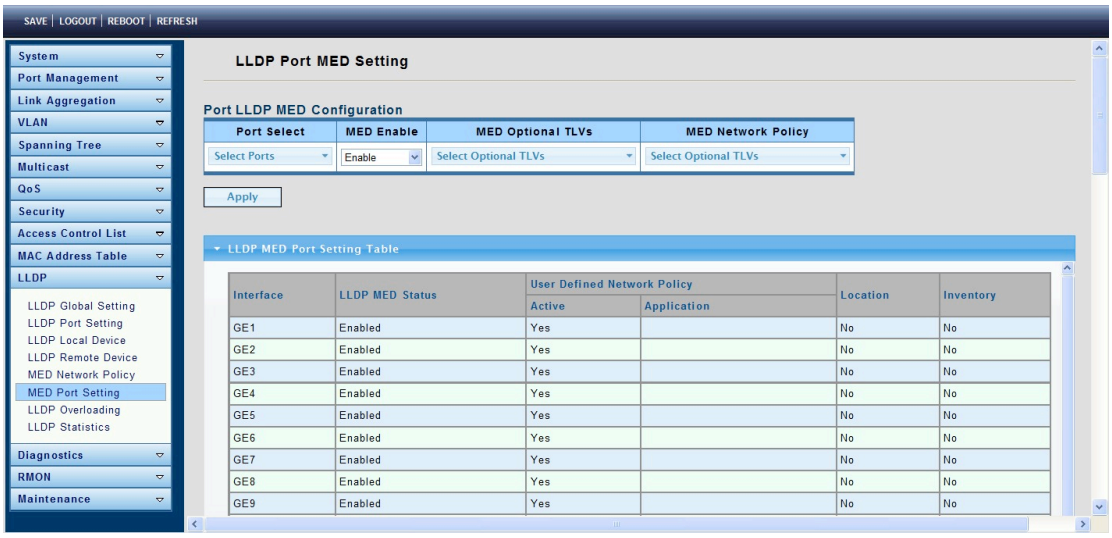

### 4.11.5 MED Network Policy

To display the MED Network Policy page, click **LLDP > MED Network Policy.**



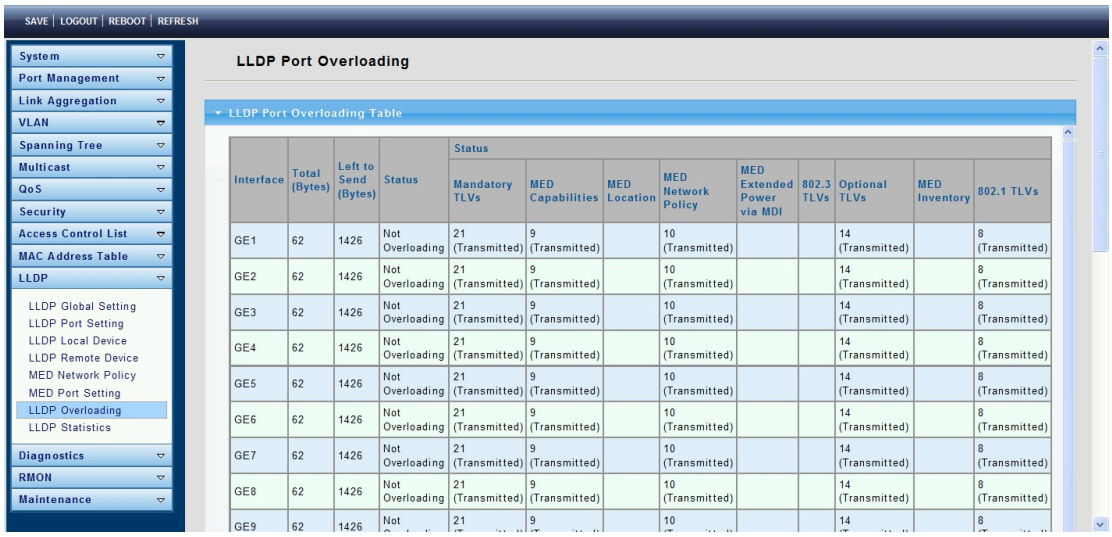
## 4.11.6 MED Port Setting

To display the MED Port Setting page, click **LLDP > MED Port Setting.**




## 4.11.7 LLDP Overloading

To display the LLDP Overloading page, click **LLDP > LLDP Overloading.**



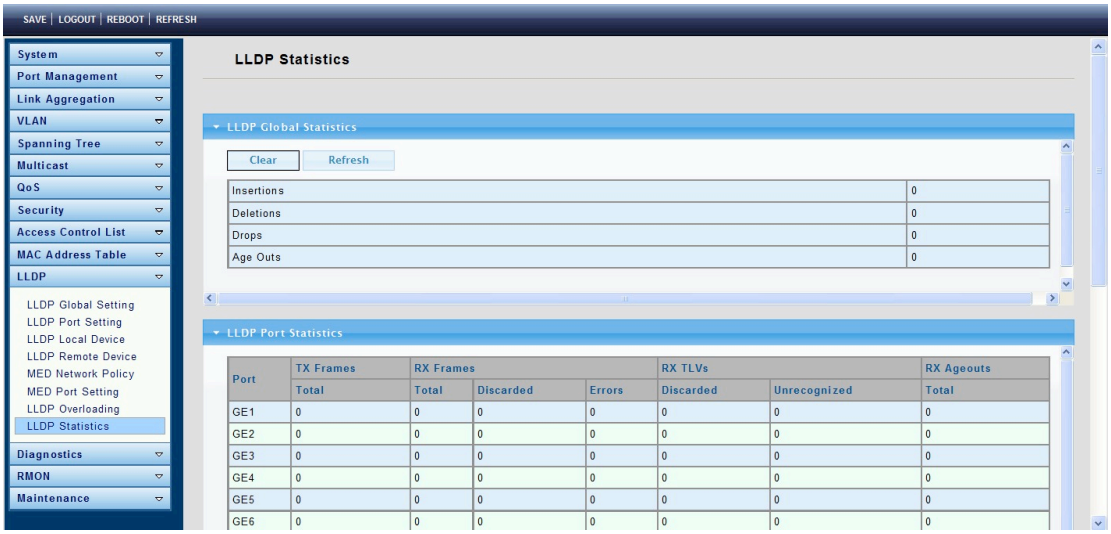

**Total (Bytes):** Total number of bytes of LLDP information in each packet.

**Left to Send (Bytes):** Total number of available bytes left for additional LLDP information in each packet.

**Status:** Whether TLVs are being transmitted or if they are overloaded.

## 4.11.8 LLDP Statistics

To display the LLDP Statistics page, click **LLDP > LLDP Statistics.**




Tx Frames

Total: Number of transmitted frames.

Rx Frames

Total: Number of received frames.

Discarded: Total number of received frames that were discarded.

Errors: Total number of received frames with errors.

Rx TLVs

Discarded: Total number of received TLVs that were discarded.

Unrecognized: Neighbor's Information Deletion Count.

Rx Ageouts

Total: Number of neighbor ageouts on the interface.

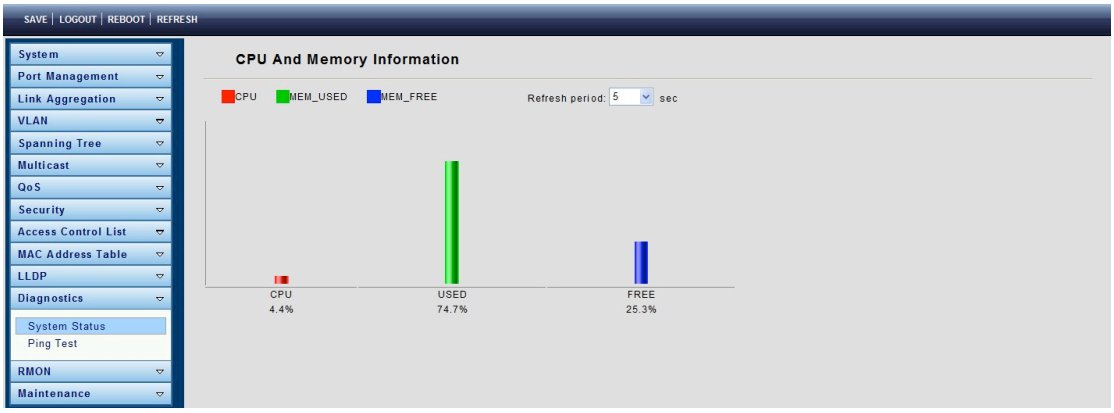
# 4.12 Diagnostics

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

## 4.12.1 System Status

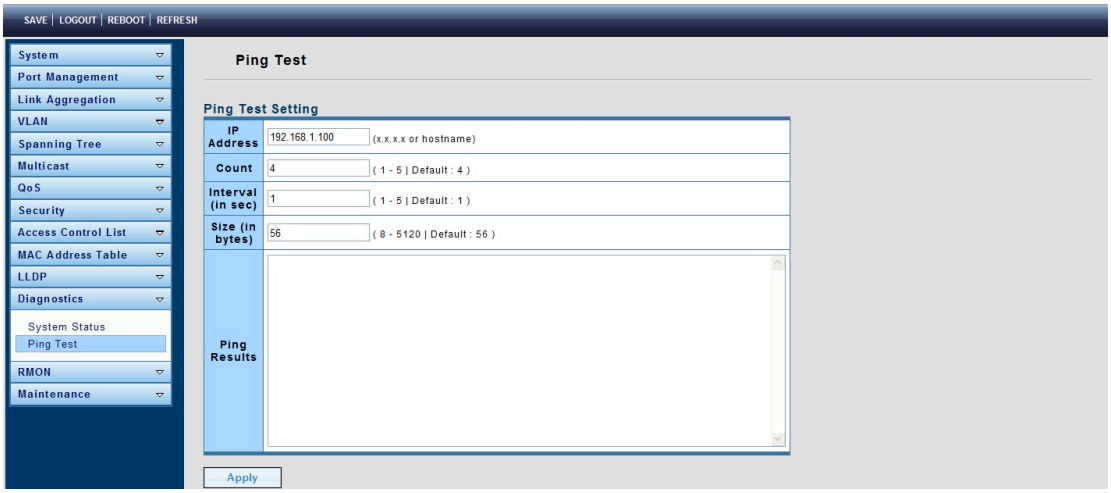
To display the System Status Log page, click **Diagnostics > System Status.**

This page is used to display the state of the system operation, CPU resource utilization, used memory and free memory rate, and set the refresh time.




## 4.12.2 Ping Test

To display the Ping Test Log page, click **Diagnostics > Ping Test.**



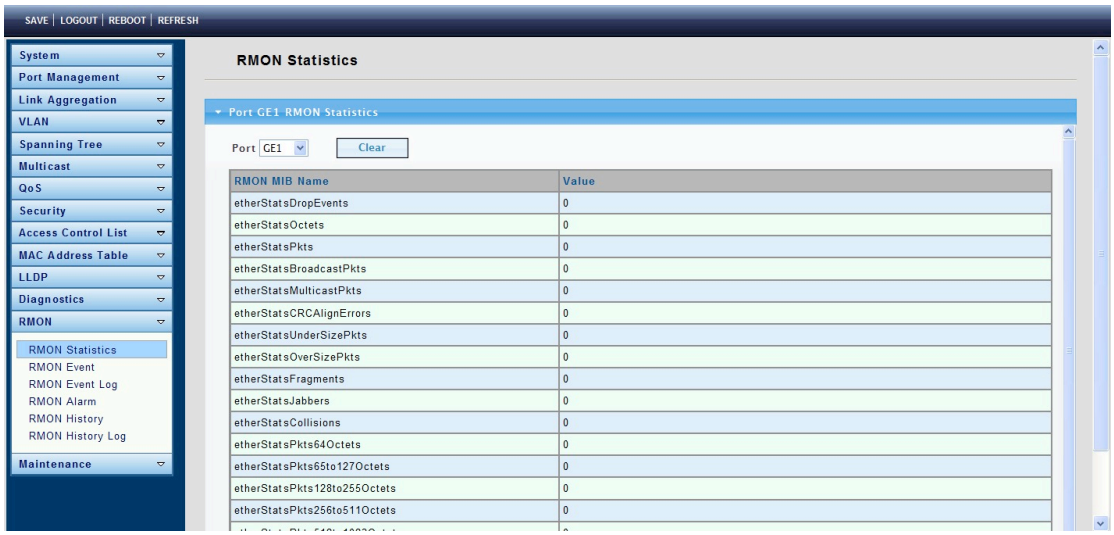

**IP Address:** The IP address of a ping target.
**Count:** How many times to send a ping request packet.
**Interval:** Time interval between each ping request packet.
**Size:** The size of a ping packet.
**Ping Results:** After a ping is finished, results will show in this field.

# 4.13 RMON

## 4.13.1 RMON Statistics

To display the RMON Statistics page, click **RMON > RMON Statistics.**

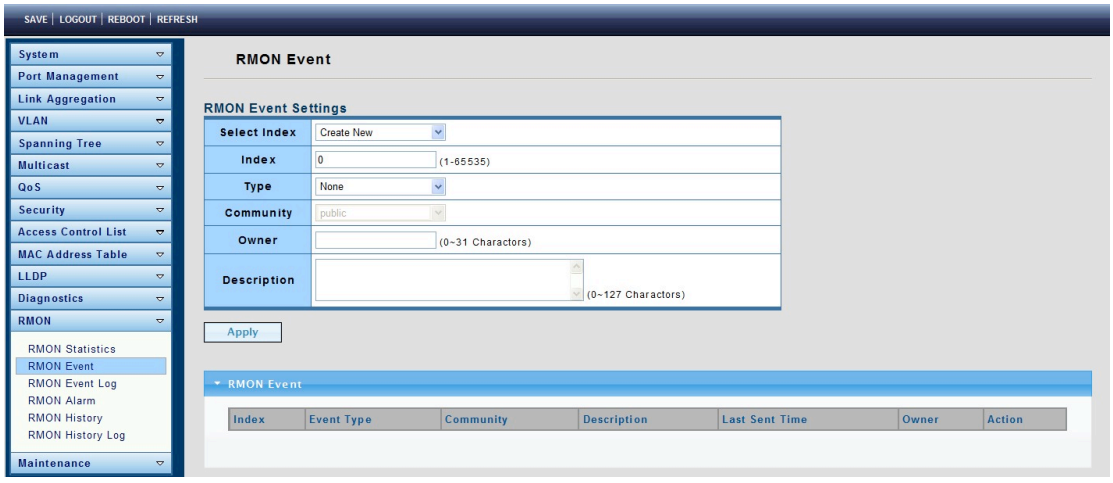
The Statistics page displays detailed information regarding packet sizes and information regarding physical layer errors. The information displayed is according to the RMON standard.




## 4.13.2 RMON Event

To display the RMON Event page, click **RMON > RMON Event.**

This page is used to configure RMON event groups.

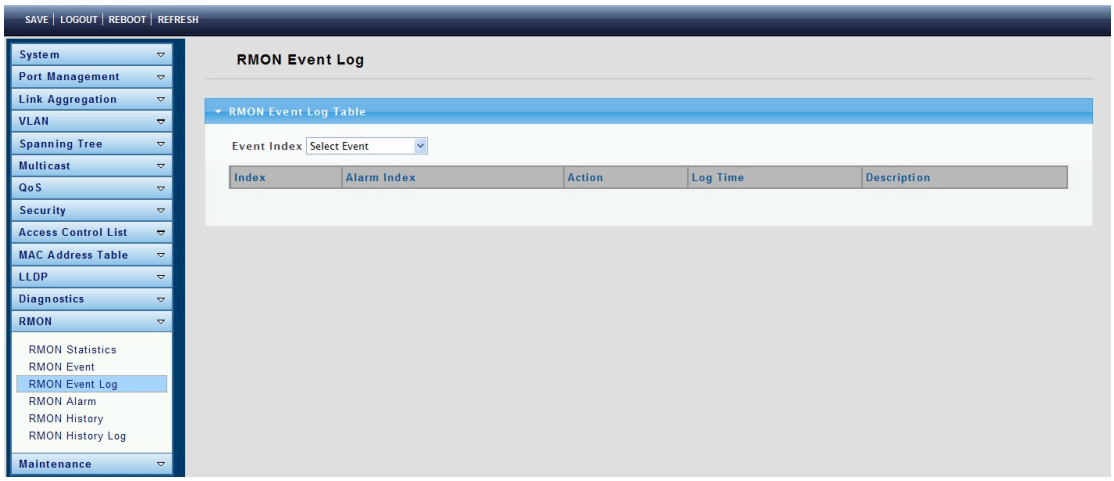



## 4.13.3 RMON Event Log

To display the RMON Event Log page, click **RMON > RMON Event Log.**

The Event Log Table page displays the log of events (actions) that occurred. Two types of events can be logged: Log or Log and Trap. The action in the event is performed when the event is bound to an alarm (see the Alarms page) and the conditions of the alarm have

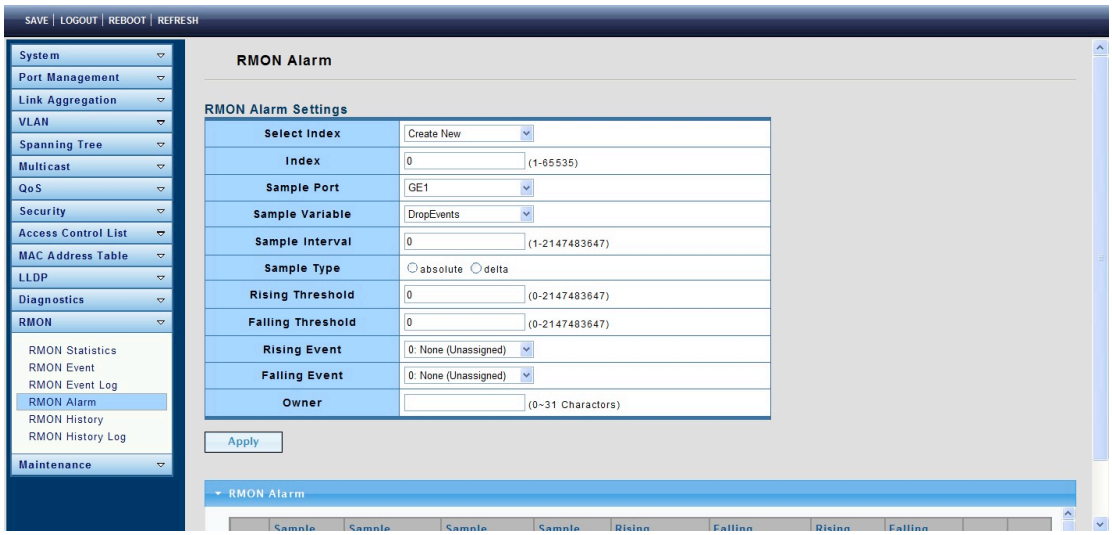
occurred.




## 4.13.4 RMON Alarm

To display the RMON Alarm page, click **RMON > RMON Alarm.**

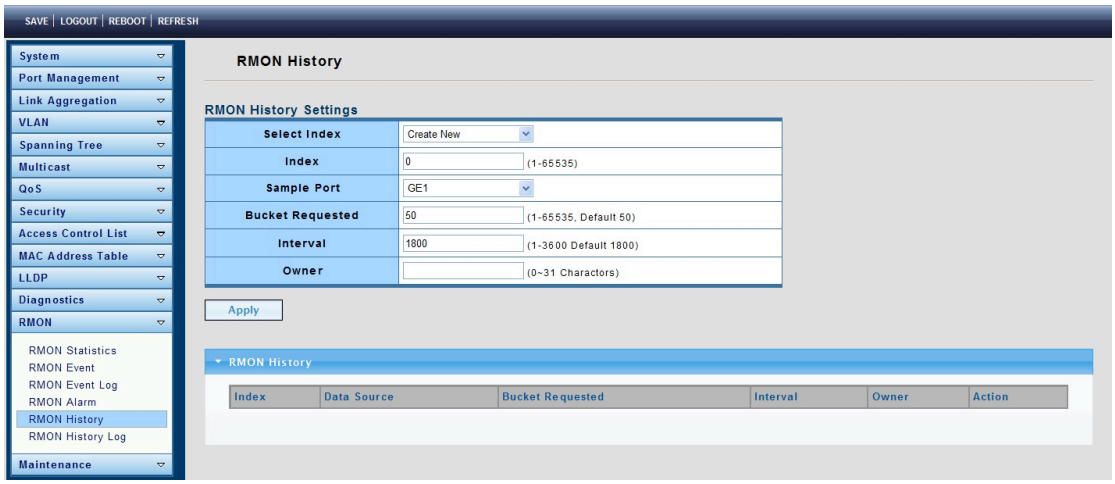
This page is used to configure RMON statistics group and alarm groups.




## 4.13.5 RMON History

To display the RMON History page, click **RMON > RMON History.**

This page is used to configure the RMON history group.

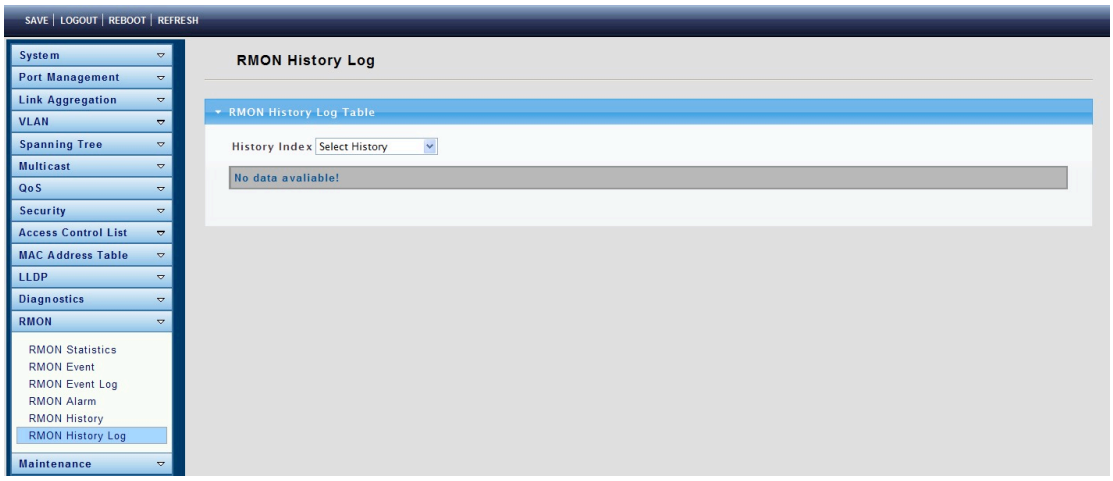



**Index:** Displays the number of the new History Table entry.
**Sample Port:** Select the port of switch.
**Bucket Requested:** Enter the number of samples to store.
**Interval:** Enter the time in seconds that samples are collected from the ports. The field range is 1-3600.
**Owner:** Enter the RMON station or user that requested the RMON information.

### 4.13.6 RMON History Log

To display the RMON History Log page, click **RMON > RMON History Log.**

The RMON History Log Table page displays interface-specific statistical network samplings. The samples were configured in the History Control table described above.



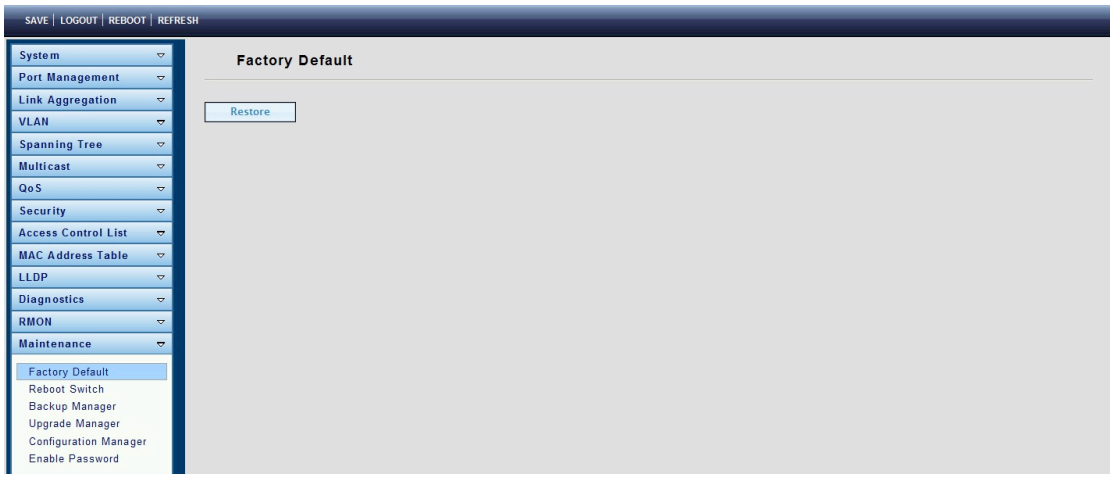

## 4.14 Maintenance

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

### 4.14.1 Factory Default

To display the Factory Default page, click **Maintenance > Factory Default.**

This page allows you to restore factory defaults by clicking the Restore button.




## 4.14.2 Reboot Switch

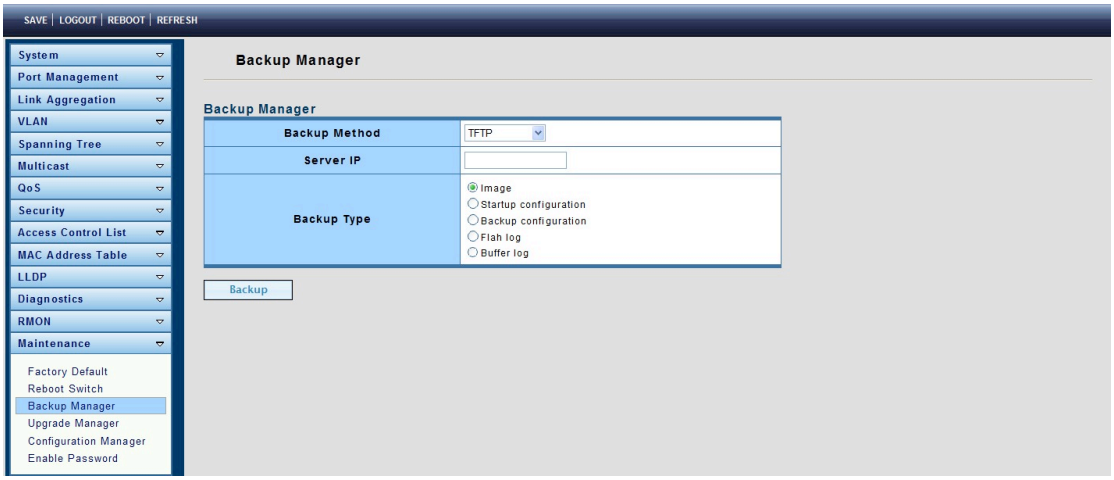
To display the Reboot Switch page, click **Maintenance > Reboot Switch.**

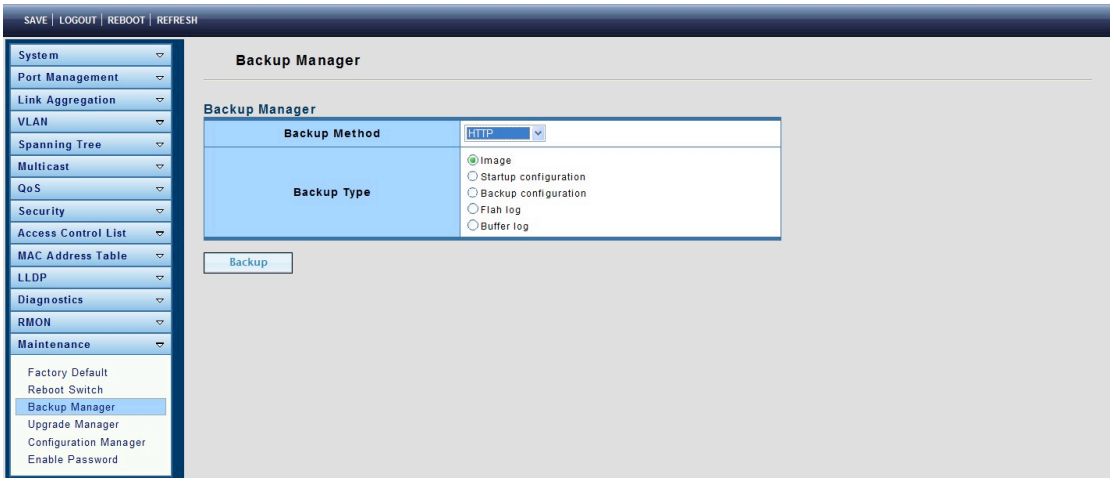
This page allows you to reboot the switch by clicking the Reboot button.


## 4.14.3 Backup Manager

To display the Backup Manager page, click **Maintenance > Backup Manager.**

This page allows you to back up the firmware image or configuration file on the switch to a remote TFTP server or host file system via the HTTP protocol.




**Backup Method:** Select a backup method.

- TFTP: Use TFTP to backup.
- HTTP: Use HTTP to backup.

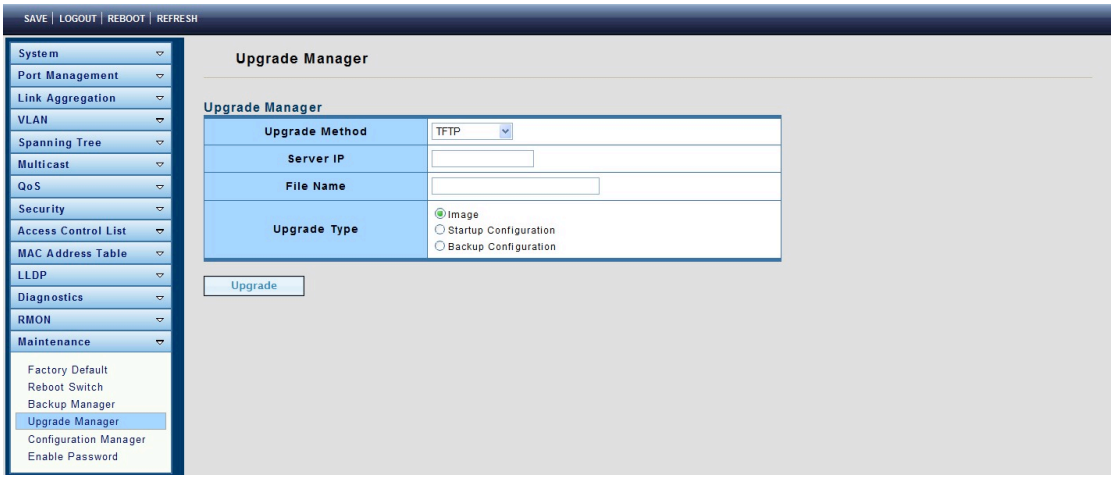
**Server IP:** IP address of the TFTP server. If the TFTP backup method is selected, the IP address of the TFTP server must be assigned.

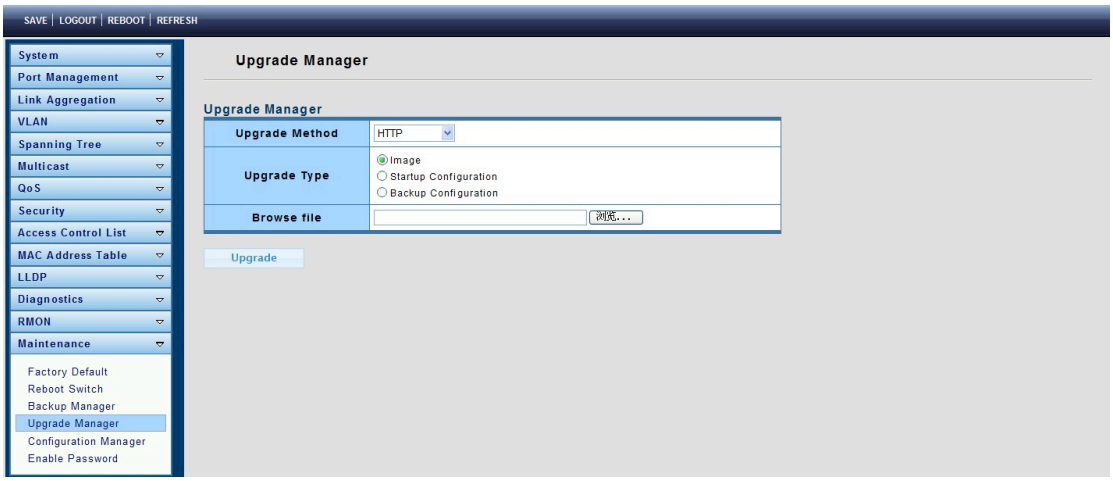
**Backup Type:** Select Backup Type.

## 4.14.4 Upgrade Manager

To display the Upgrade Manager page, click **Maintenance > Upgrade Manager.**

This page allows you to upgrade new firmware images or configuration files to the switch from a remote TFTP server or to select files using a Web browser.




**Upgrade Method:** Select the upgrade method.

- TFTP: Use TFTP to upgrade.
- HTTP: Use HTTP to upgrade.

**Server IP:** IP address of the TFTP server. If the TFTP upgrade method is selected, the IP address of the TFTP server must be assigned.

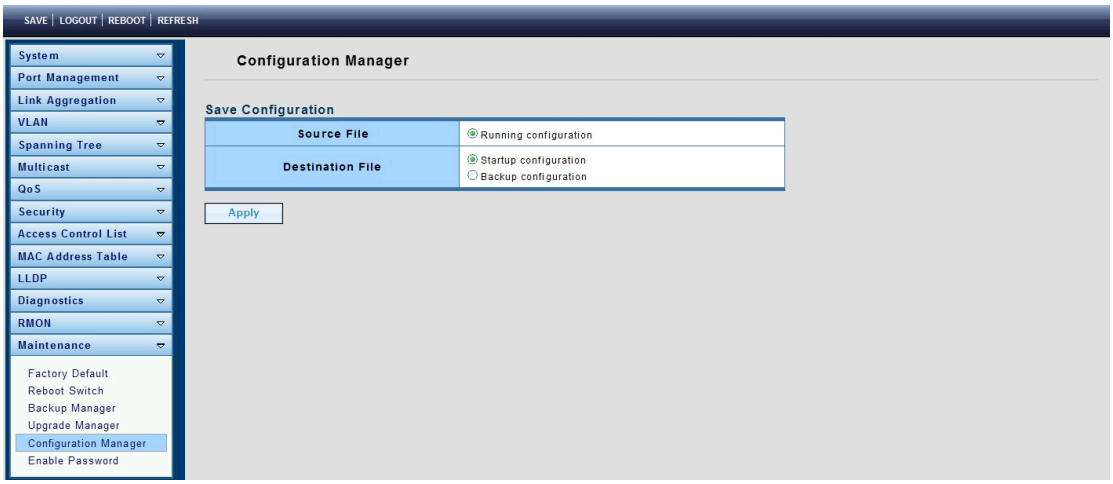
**File Name:** Firmware image or configuration file name on remote TFTP server. If the TFTP upgrade method is selected, the file name must be specified.

**Browse file:** If the HTTP upgrade method is selected, the browse file field allows you to select any file on the host operating system.

**Upgrade Type:** Select Backup Type.

## 4.14.5 Configuration Manager

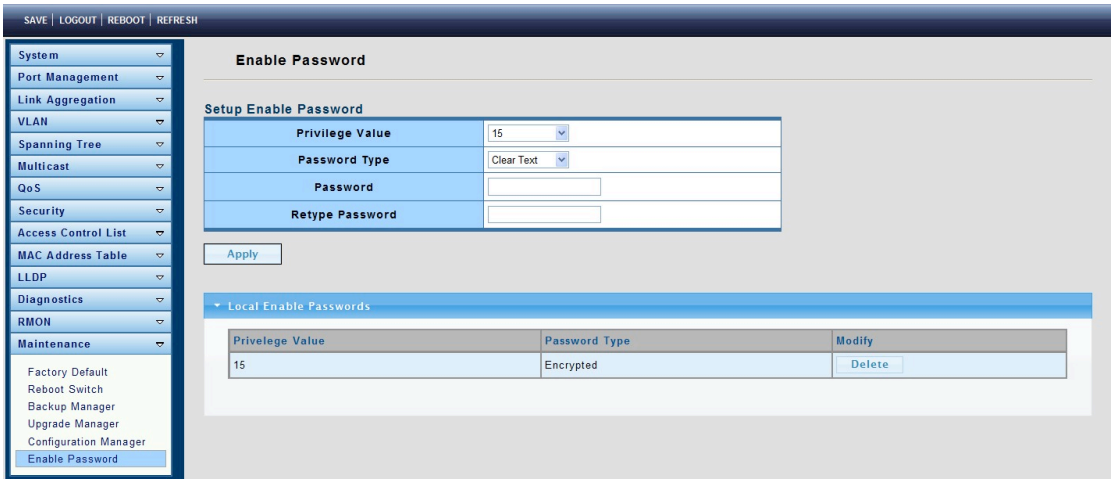
To display the Configuration Manager page, click **Maintenance > Configuration Manager.**




## 4.14.6 Enable Password

To display the Enable Password page, click **Maintenance > Enable Password.**

This page allows you to modify the enable password. In the command line interface, you can use “enable” to change the privilege level to “Admin.” After the “enable” command is issued, you need to enter the enable password to change the privilege level.




**Password Type:** Select the password type for Enable Password.

- Clear Text: Password without encryption.
- Encrypted: Password with encryption.

**Password:** Password string.

**Retype Password:** Re-enter the password to make sure the password is exactly what was entered in the “Password” field.