54-Port L2+ Fully Managed PoE+ Switch with 48 Gigabit Ports and 6 SFP+ Uplinks

User Manual

Model 561969

INTELLINET®
NETWORK SOLUTIONS

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1 Product Introduction

Thank you for purchasing the Intellinet Network Solutions 54-Port L2+ Fully Managed PoE+ Switch with 48 Gigabit Ports and 6 SFP+ Uplinks. Before you install and use this product, please read this manual carefully to benefit from the full set of features that are available.

1.1 Product Overview

This switch is a high performance L3 managed PoE switch with 10G fiber ports. It provides forty-eight 10/100/1000 Mbps auto-sensing RJ45 ports, plus six 10 gigabit SFP+ optical port that can be used to link higher-bandwidth equipment upstream. Store-and-forward technology combined with dynamic memory allocation ensures effective bandwidth allocation at each port. This unit's perfect QOS strategy and plenty of VLAN functionality along with easy maintenance and management help meet the networking and access requirements of small and medium-sized enterprises, hotels, offices and campus networks. It's equipped with Powered Device Monitoring, a self-healing PoE function. Often called a PoE watchdog, the function performs a PD-alive check to all connected PDs and automatically resets unresponsive devices, such as PoE security surveillance cameras, by cutting off and then restoring power.

The switch's 48 ports can supply power via Power over Ethernet. Each RJ45 port supports IEEE 802.3at/af-compliant powered devices and automatically detects and supplies the correct amount of power to compatible equipment.

1.2 Features

- Supports IEEE 802.3i, IEEE 802.3af, IEEE 802.3at, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3ae, IEEE 802.3az.
- Power budget of 450 W.
- Supports PoE power up to 30 W for each PoE port.
- Supports MAC address auto-learning and auto-aging.
- Forty-eight 10/100/1000 Mbps self-adapting RJ45 ports
- Six gigabit 1000/10000 Mbps SFP+ ports to link to higher-bandwidth equipment upstream.
- Store and forward switching architecture.
- Web-based management support.
- LED indicators for monitoring power, link/activity and PoE.
- Full 19-inch metal housing and internal power adapter design, suitable for rack installation.

1.3 External Component Description

1.3.1 Front Panel

The front panel of the Switch consists of 1 x Reset, 1 x Mode, 1 x Console port, 48 x 10/100/1000 Mbps adaptive Ethernet ports, 6 x 1000/10000 Mbps SFP+ ports, and a series of LED indicators. The rear panel provides an AC power connector and grounding terminal.

Figure 1 - Front Panel

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 Indicator

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

Indicator	Face plate Marker	Status	Indication
Power Status Light	PWR	Off	Power Off.
		Blinking green	Power On.
System Status Indicator	RUN	Blinking	The system is starting.
		Solid green	System startup completed.
Ethernet Port Indicator (Link/Act Mode)	1 – 48	Off	The port is NOT connected.
		Solid green	The port is connected at 10/100/1000 Mbps.
		Blinking	The port is sending or receiving data.
SFP+ indicator	49S – 54S	Off	The port is NOT connected.
		Solid green	The port is connected at 1000/10000 Mbps.
		Blinking	The port is sending or receiving data.
Ethernet port indicator (PoE Mode)	PoE (1 – 48)	Off	The port is NOT connected.
		Solid green	Port is connected to PD device.

10/100/1000 Mbps PoE RJ45 ports (1 – 48):

Designed to connect to the device with a bandwidth of 10 Mbps, 100 Mbps or 1000 Mbps. Each has a corresponding Link/Act/Speed indicator. Each RJ45 port also supports Power over Ethernet to connect and operate IEEE 802.3at/af Powered Devices (PD).

SFP+ ports (49S – 54S):

Designed to install SFP+ modules. The switch features six SFP+ receiver slots. An SFP+ port connect to the device with a bandwidth of 1000 Mbps or 10000 Mbps.

Console port (Console):

Designed to connect with the serial port of a computer or terminal for monitoring and configuring the Switch.

Mode Switch (CTRL):

Press and hold for three seconds to switch the RJ45-port LEDs to showing PoE status.

1.3.2 Rear Panel

The rear panel of the Switch contains one grounding terminal and an AC power connector as shown.

Figure 3 - Rear Panel

Grounding Terminal:

Wire the grounding terminal to an object that provides earth grounding (in rackmount installations, grounding is typically provided by the metal frame of the mounting rack), which is located on the side of the power supply connector.

AC Power Connector:

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

1.4 Package Contents

Before installing the Switch, make sure that the following packing list matches the items in the packaging. If any part is lost and damaged, please contact your place of purchase as soon as possible. In addition, make sure that you have the tools to install switches and cables on hand.

- 54-Port L2+ Fully Managed PoE+ Switch with 48 Gigabit Ports and 6 SFP+ Uplinks
- Rackmount brackets
- AC power cord
- Quick Install Guide

2 Installing and Connecting the Switch

This section describes how to install your Switch and make connections to it. Review the following topics and perform the procedures in the order being presented.

2.1 Installation

Use the following instructions to avoid incorrect installation, which could damage the Switch or void the warranty.

- Place the Switch on stable surface that can safely hold the switch and any related equipment.
- Make sure the Switch will be connected to power in the proper AC input range (refer to the switch label).
- Avoid electric shock — do not open the Switch housing, even if the switch is disconnected from power.
- Make sure that there is proper clearance on all sides of the Switch for proper heat dissipation and adequate ventilation.

2.1.1 Desktop Installation

When installing the Switch on a desktop, allow adequate space for ventilation between the device and the objects around it. Be sure to place the switch on a stable surface that can support the weight of the switch and any other components that may be placed on it.

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, please 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.

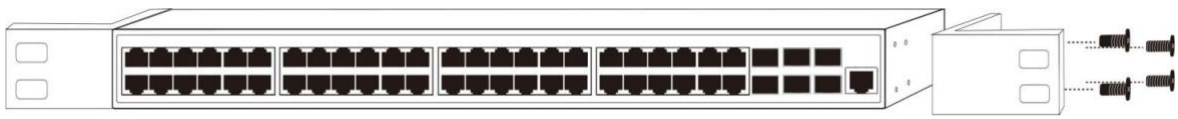


Figure 4 - Bracket Installation

B. Use the screws provided to mount the Switch on the rack; tighten the screws securely.

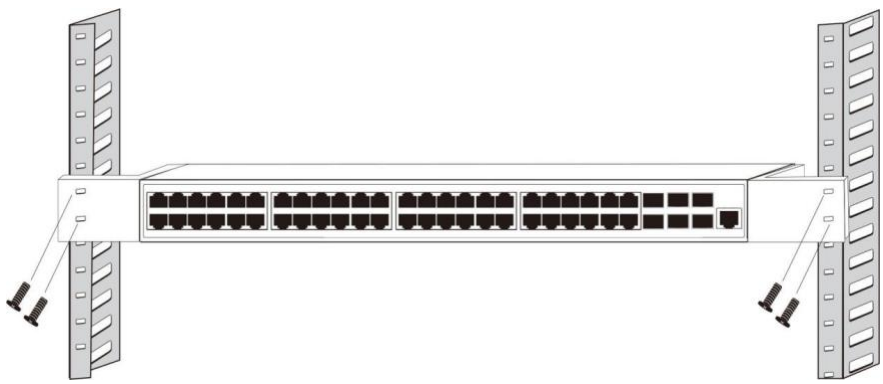


Figure 5 - Rack Installation

2.1.3 Power on the Switch

The Switch is powered on by the 100 – 240 VAC 50/60 Hz internal high-performance power supply. Follow these steps to connect:

AC Electrical Outlet:

It is recommended to use a single-phase three-wire receptacle with neutral outlet. Make 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 the external power receptacle with the included power cord. Check that the ON power indicator is lit, which indicates that the Switch is receiving power.

2.2 NIC Connection to the Switch

After installing the network card driver, insert the NIC into the computer. Connect one end of the twisted pair to the RJ45 jack on your computer. Connect the other end to any RJ45 port of the Switch, with a maximum distance of 100 meters between the Switch and the computer. Once the connection is OK and the devices power on normally, the LINK/ACT/Speed status indicator lights, corresponding to ports on the Switch.

2.3 Switch connection to a Powered Device

Ports 1 – 48 offer a PoE power supply function, which makes it possible to provide power to a Powered Device (PD) such as a VoIP phone, network camera, wireless access point and more. You only need to connect the Switch PoE port directly to the PD with a network cable.

3 Logging into the Switch

3.1 Switch to End Node

Use standard Cat5/5e (minimum) 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 is connected.

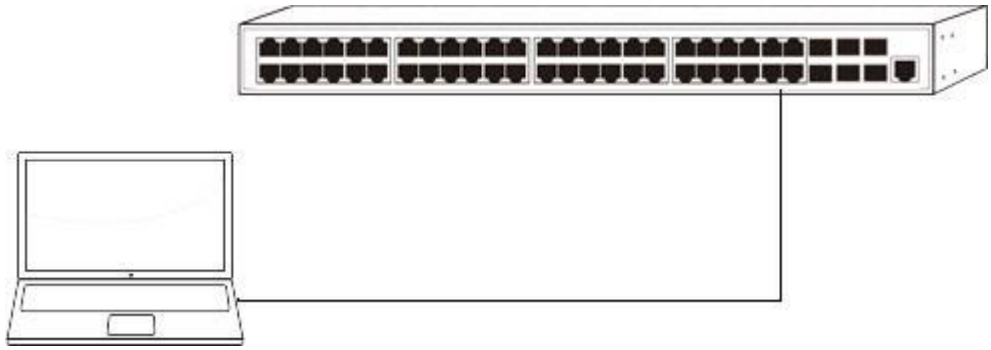


Figure 6 - Connect PC to Switch

Refer to the LED Indicators. The LINK/ACT/Speed LEDs for each port lights when the link is available.

3.2 Login Information

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

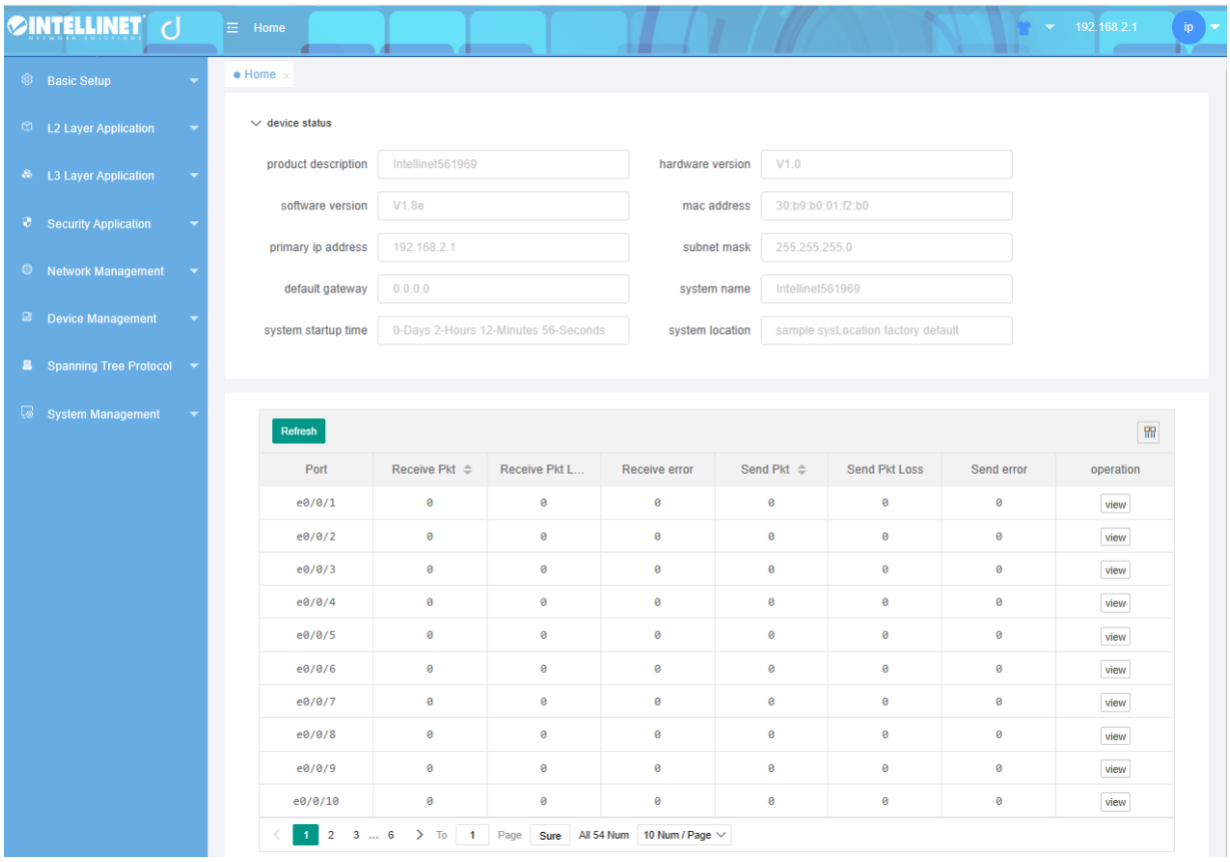
Parameter	Default Value
Default IP address	192.168.2.1
Default username	admin
Default password	The switch's serial number

You can log into the configuration window of the Switch through the following steps:

1. Connect the Switch to 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" ranges 2 – 254), for example, 192.168.2.100.
4. Open your web browser, enter http://192.168.2.1, and press **Enter**. The Switch login window appears, as shown below.

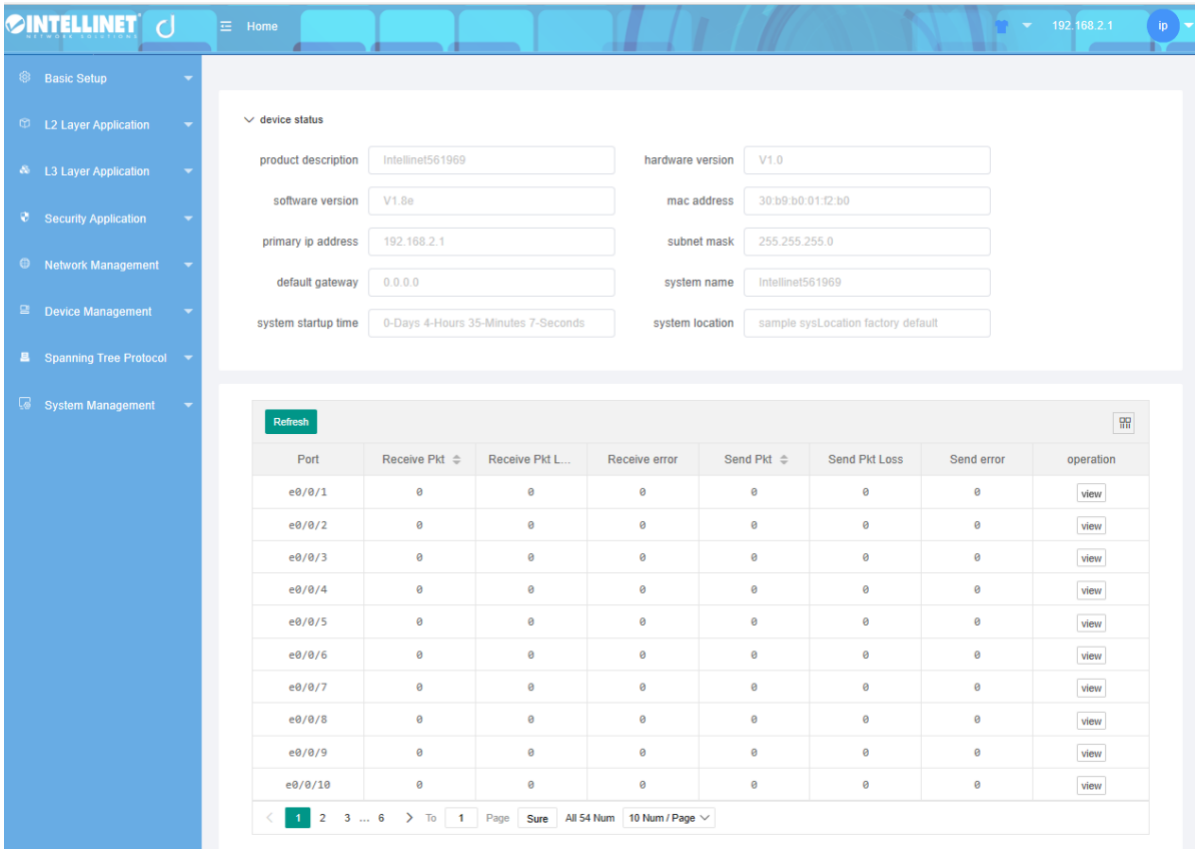
Figure 7- Login Windows

5. Enter the Username and Password (the factory default Username is **admin** and the Password is the same as the serial number found on the bottom of the switch), and then click **Login** to log into the Switch configuration window .



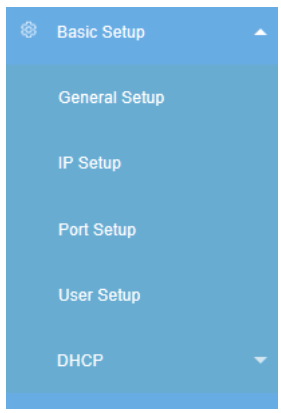
4 Web Configuration Guide

The Switch configuration interface consists of three main areas: the status bar at the top, the left function menu bar, and the main configuration window. Select the different functions in the function menu bar to modify all settings in the main configuration window.



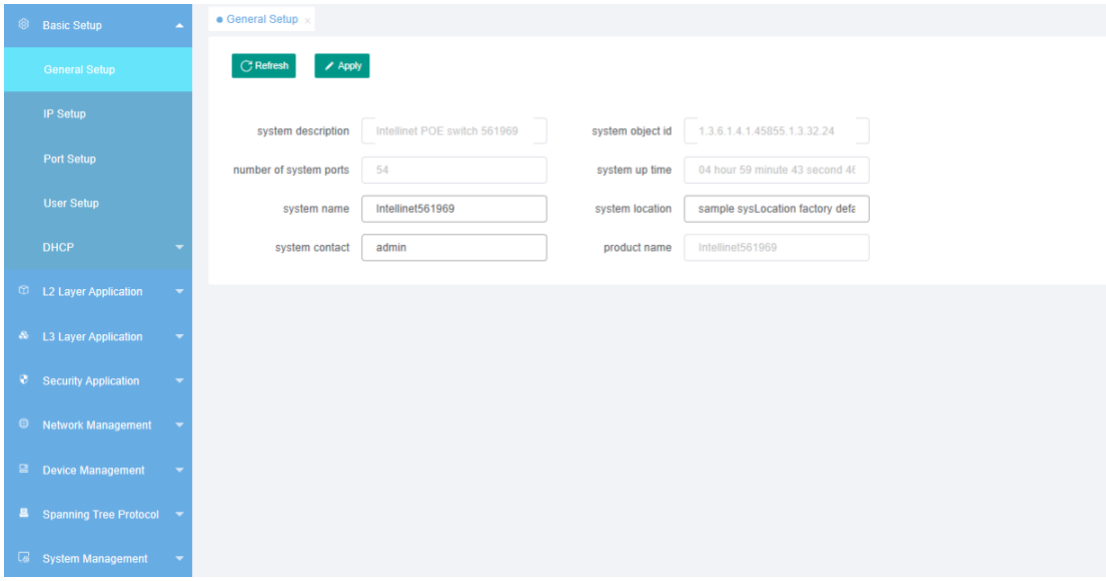
4.1 Basic Setup

Choose Basic Setup, and the following page appears. There are configurable pages **for General Setup**, **IP Setup**, **Port Setup**, **User Setup**, and **DHCP**.



4.1.1 General Setup

To view basic information of the Switch, such as System description, the number of ports, etc., or to modify the System name, System contact and System location, select **Basic Setup**>**General Setup** in the navigation bar.



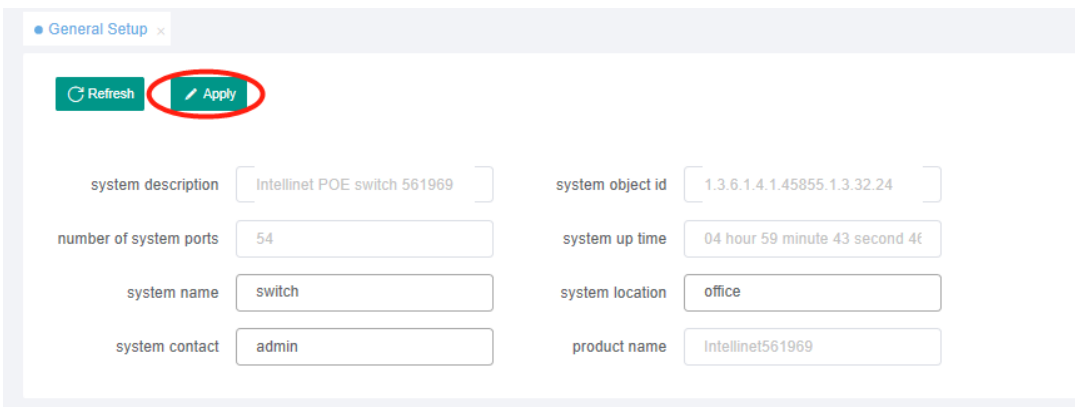
【Parameters & Descriptions】

Parameter	Description
System description	Brief description of device type.
System name	System name.
System Location	Specify the system location.
System contact	Include company or related URL.

【Configuration Example】

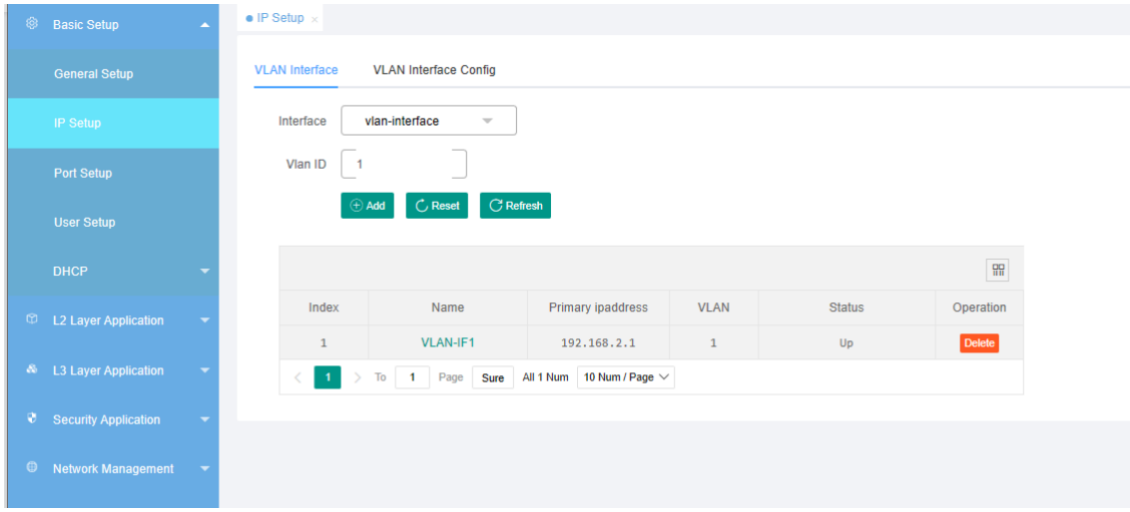
To configure general system information:

1. Click Basic Setup > General Setup.
2. Specify the system name as Switch, the location as office, and the contact information as admin for the system administrator.
3. Click **Apply**.



4.1.2 IP Setup

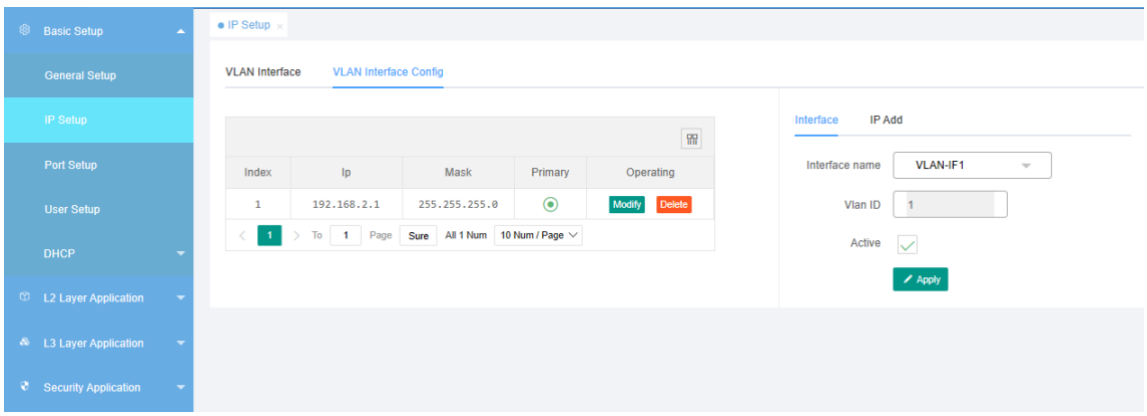
To add VLAN interfaces and configure VLAN interfaces, select **Basic Setup**>**IP Setup** in the navigation bar.



【Parameters & Descriptions】

Parameter	Description
Interface	VLAN-interface or superVLAN-interface; this parameter is optional.
VLAN ID	VLAN label.

To configure the VLAN interface, select **Basic Setup**>**IP Setup**>**VLAN interface** in the navigation bar.

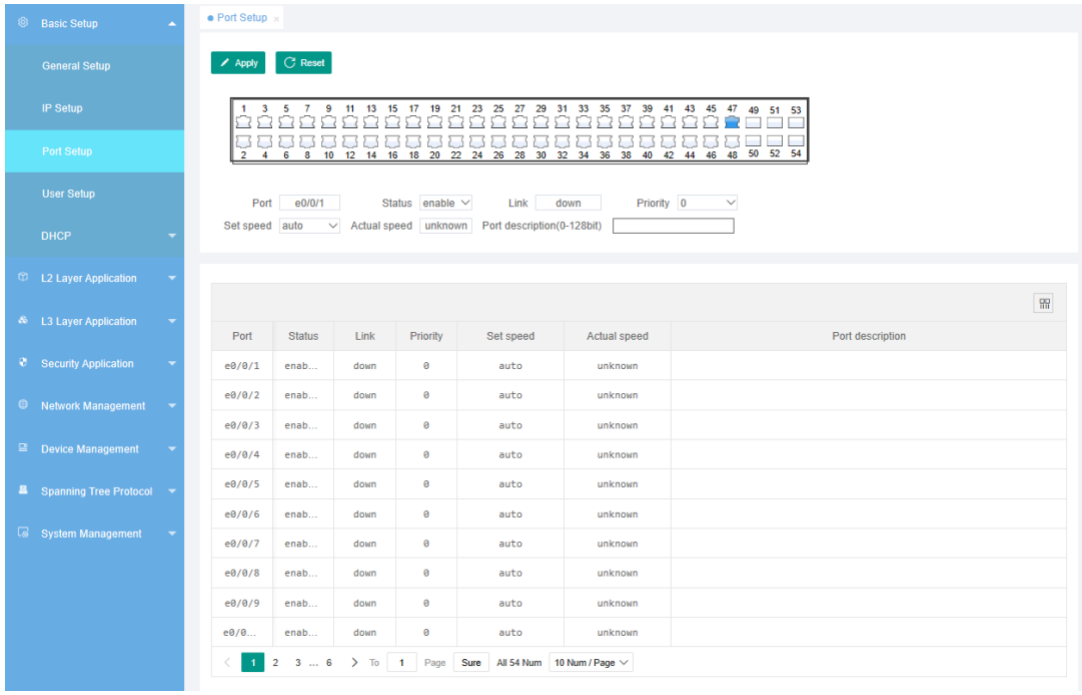


【Parameters & Descriptions】

Parameter	Description
IP address	Secure IP address for the user to log in.
Mask	Specifies the subnet mask.
Interface name	Name of the interface.
VLAN ID	You can specify the VLAN ID.

4.1.3 Port Setup

To configure the related parameters of port, select **Basic Setup**>**Port Setup** in the navigation bar.



【Parameters & Descriptions】

Parameter	Description
Port	Port number.
Status	Choose whether to enable or disable.
Link	Status: down or up.
Priority	Set port priority, the range is 0 – 7.
Set speed	Default is auto; choose from the following modes: full-10 half-10 auto-10 full-100 half-100 auto-100 full-1000 full-10G auto
Actual speed	The actual speed of the port.
Port description	The port is described.

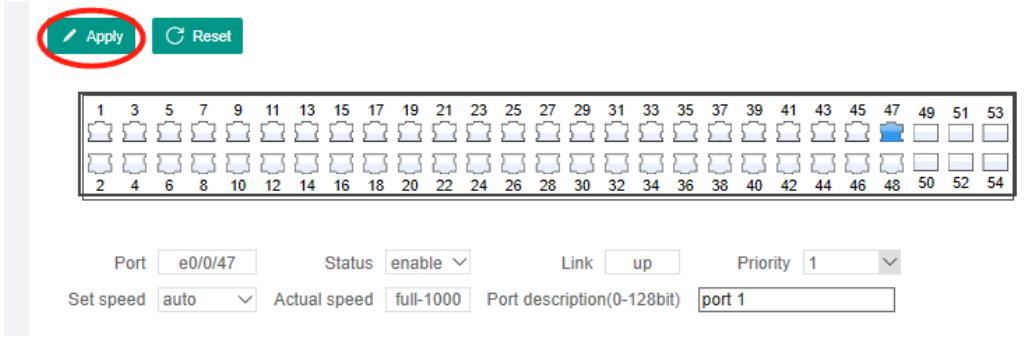
【Configuration Example】

To configure static routes:

1. Click **Basic Setup** > **Port Setup**.
2. Configure the related parameters for port 47, Status is **enable**, Priority is **1**, Set speed is **auto**, Mode is **auto**, Port

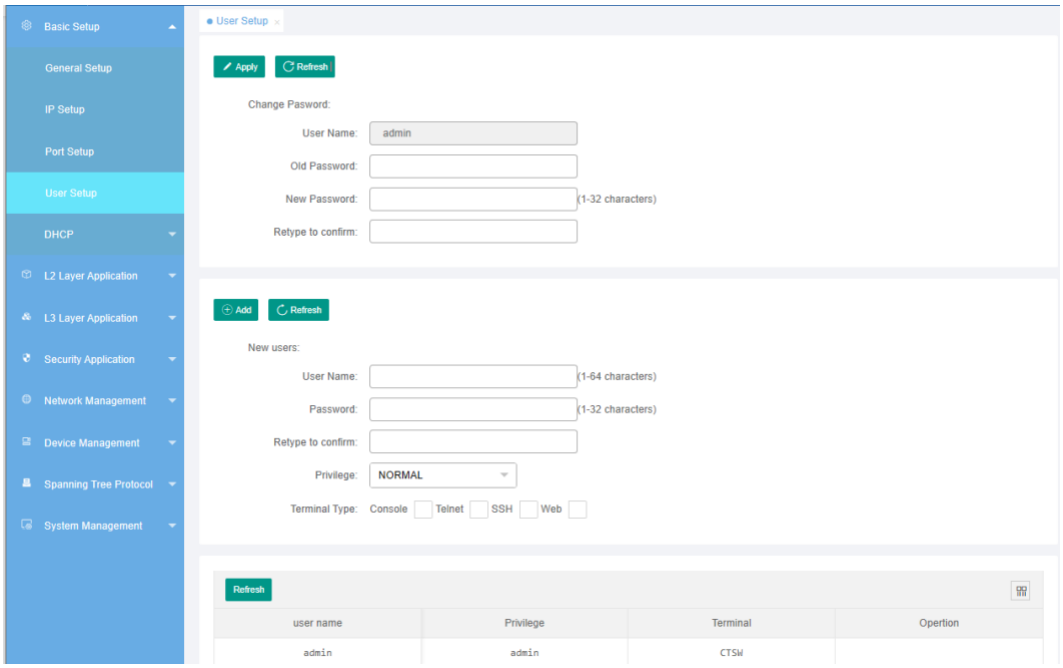
description is **port 1**.

3. Click **Apply**.



4.1.4 User Setup

To change the login password of the switch or add a new user, select **Basic Setup**>**User Setup**, in the navigation bar.

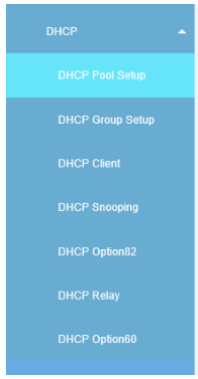


【Parameters & Descriptions】

Parameter	Description
Username	Provide the username.
Password	Encrypted password.
Retype to confirm	Reconfirm password.
Privilege	Select NORMAL or ADMIN.
Terminal Type	Select Console / Telnet/ SSH / Web.

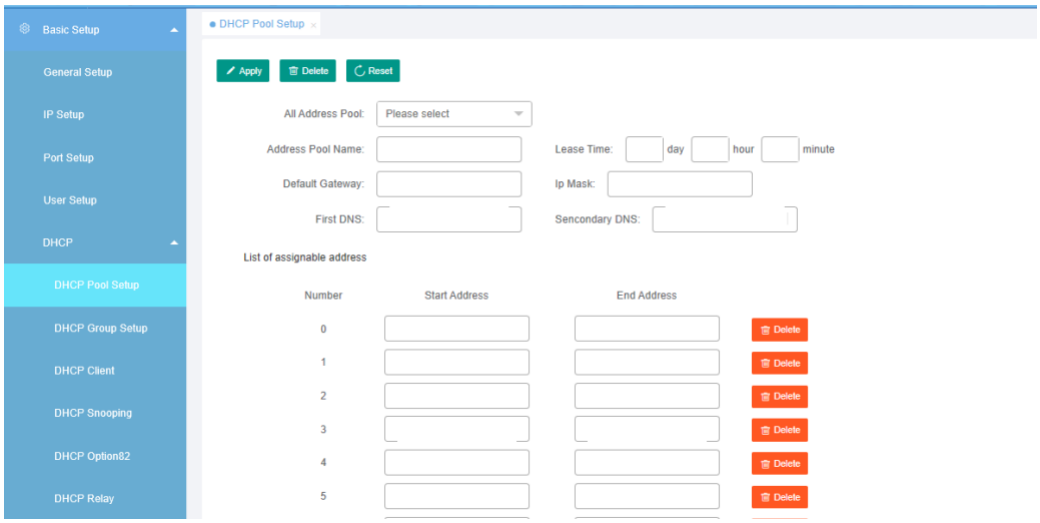
4.1.5 DHCP

To configure settings for DHCP, including DHCP Pool Setup, DHCP Group Setup, DHCP Client, DHCP Snooping, DHCP Option82, DHCP Relay and DHCP Option60, select **Basic Setup**>**DHCP** in the navigation bar.



4.1.5.1 DHCP Pool Setup

To create, edit or delete a DHCP Pool address setup, select **Basic Setup**>**DHCP**>**DHCP Pool Setup** in the navigation bar.

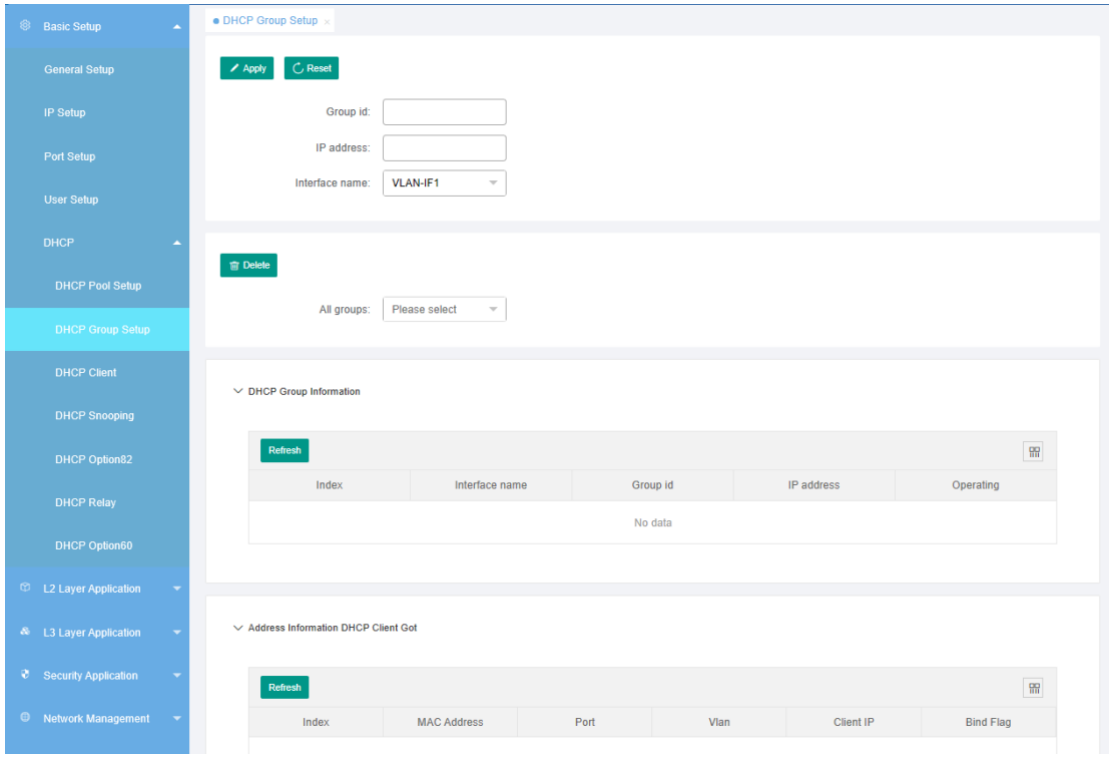


【Parameters & Descriptions】

Parameter	Description
All Address Pool	Set the pool ID.
Address Pool Name	Set the name of ip pool.
Lease time	The lease period and day can be set to three digits, and the hour and day can be divided into two digits.
Default Gateway	Configure the gateway corresponding to the address in the address pool.
Ip Mask	Set Ip Mask .
First DNS	DNS server address assigned to the DHCP client.
Secondary DNS	Set Secondary DNS.
Start address	Set Start address.
End address	End Start address.

4.1.5.2 DHCP Group Setup

To reference the interface configuration on the DHCP server and view groups and clients to obtain address information, select **Basic Setup>DHCP >DHCP Group Setup** in the navigation bar.

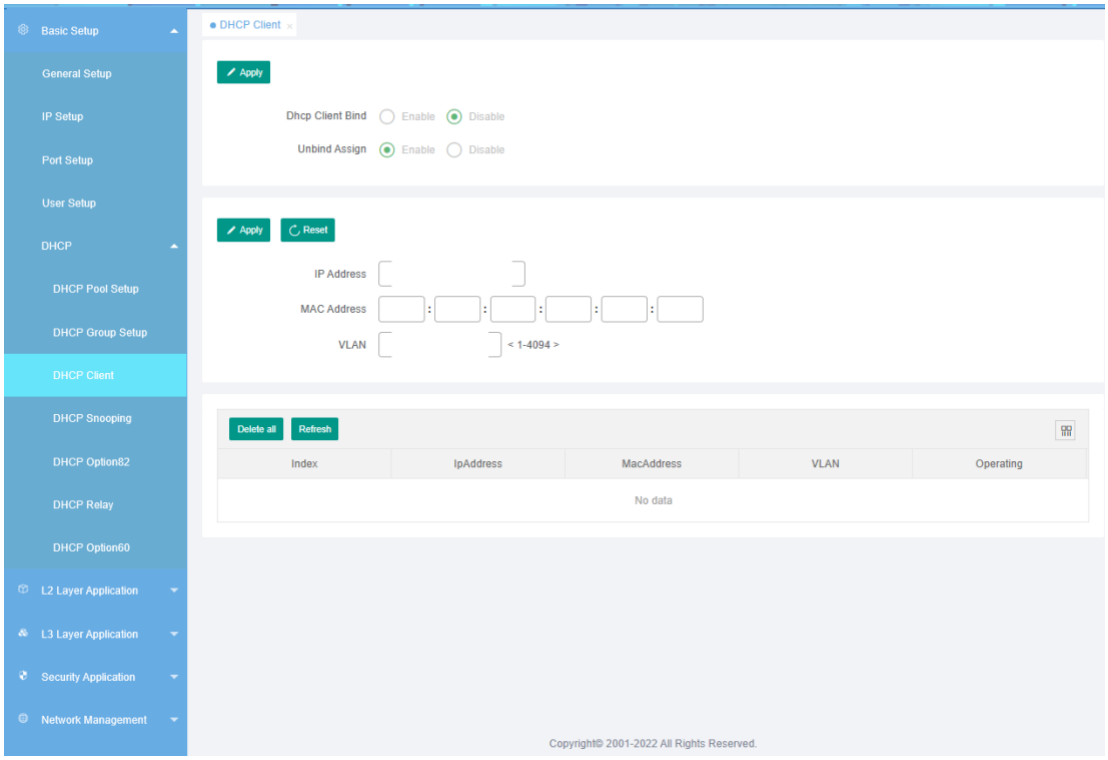


【Parameters & Descriptions】

Parameter	Description
Group ID	DHCP server group ID.
IP address	DHCP server IP address.

4.1.5.3 DHCP Client

To set client binding and binding entries related to DHCP Clients, select **Basic Setup>DHCP >DHCP Client** in the navigation bar.

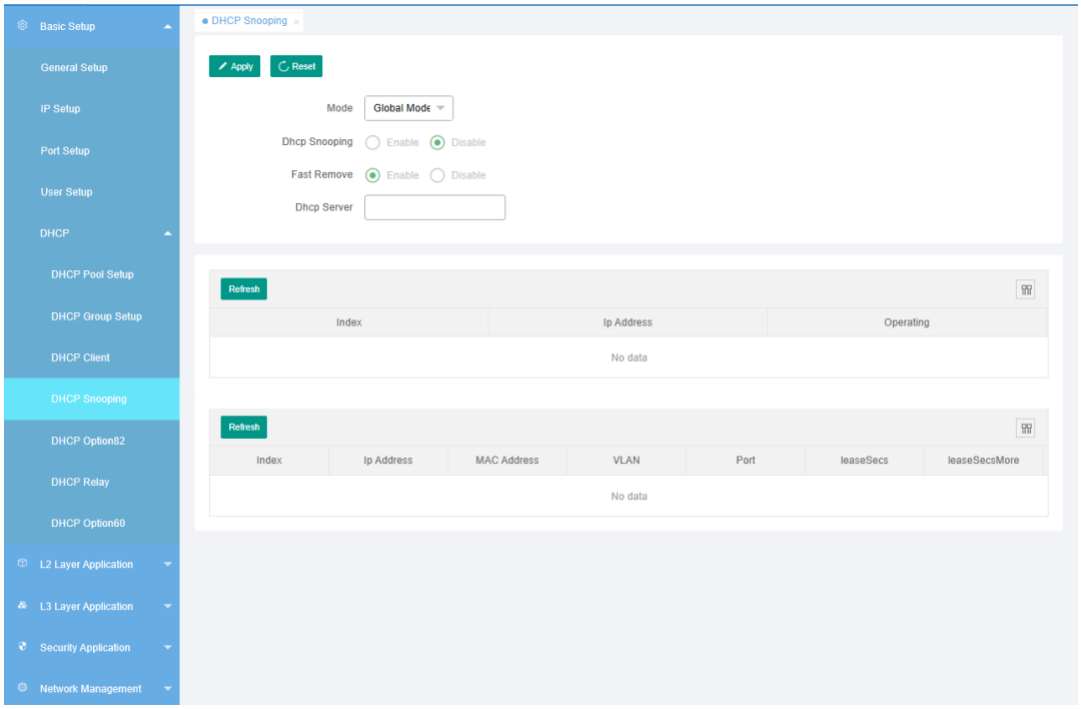


【Parameters & Descriptions】

Parameter	Description
DHCP Client Bind	Select Enable or Disable.
Unbind Assign	Select Enable or Disable.
IP Address	IP address of the bound entry.
MAC Address	MAC address of the bound entry.
VLAN	VLAN bound to the entry. The value ranges from 1 to 4094.

4.1.5.4 DHCP Snooping

To set the mode, enable DHCP Snooping, enable fast deletion, and provide the IP address of the DHCP server, select **Basic Setup>DHCP >DHCP Snooping** in the navigation bar.

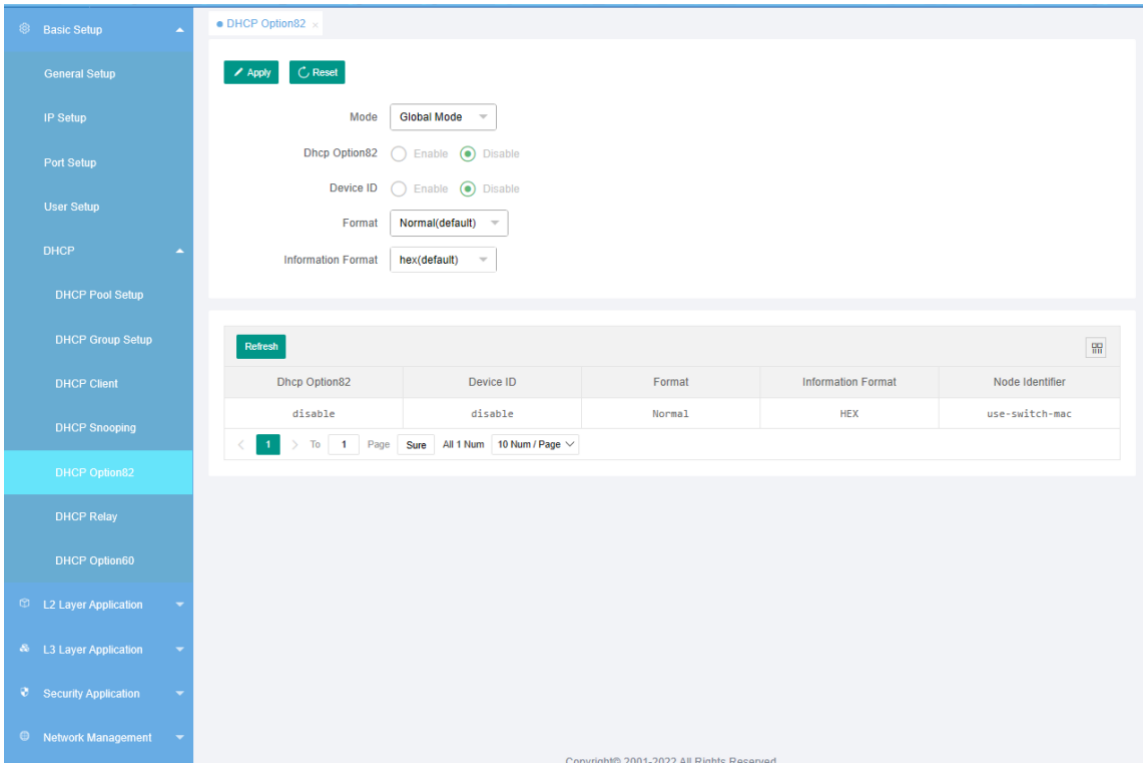


【Parameters & Descriptions】

Parameter	Description
Mode	Global Mode, VLAN Mode, and Port Mode are available.
Dhcp Snooping	Select Enable or Disable.
Fast Remove	Select Enable or Disable.
Dhcp Server	Set the IP address of the DHCP server.
Trust Mode	Select Enable or disable.
VLAN Id	VLAN label.
Max Learn Num	The value ranges from 0 to 9999. The default value is 2048.

4.1.5.5 DHCP Option82

To review and configure settings related to DHCP Option82, such as to set the mode, enable DHCP option82, enable Device ID and set formats, select **Basic Setup>DHCP >DHCP Option82** in the navigation bar.

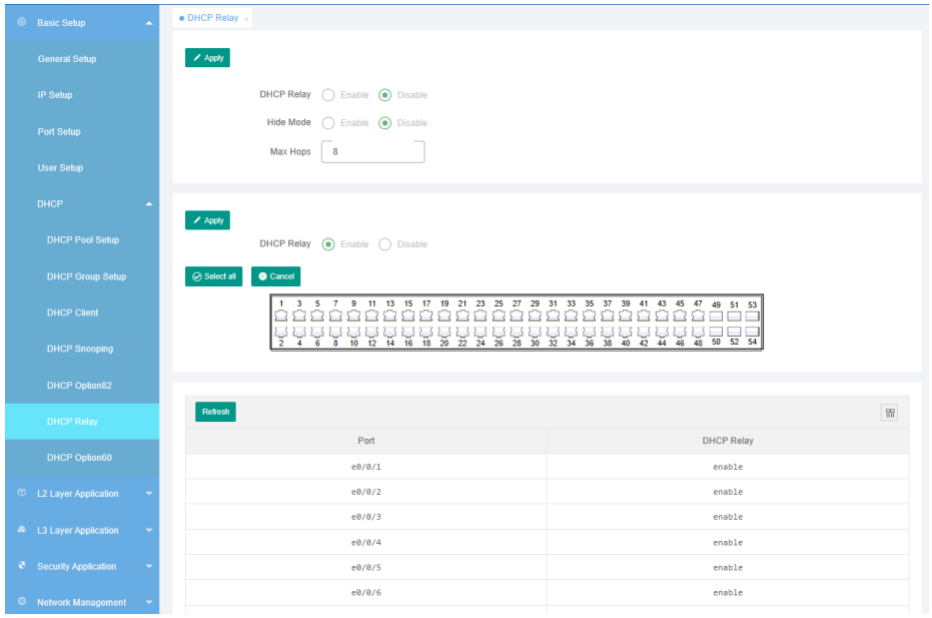


【Parameters & Descriptions】

Parameter	Description
Mode	Global Mode, VLAN Mode, and Port Mode are available.
Dhcp Option82	Select Enable or Disable.
Device ID	Select Enable or Disable.
Format	Normal (default), User-defined format, and Verbose are optional.
Information Format	Hex (default) and scii are two optional formats.
Strategy	Replace (default), Drop, and Keep are optional.

4.1.5.6 DHCP Relay

To configure DHCP Relay globally and on ports, and set the maximum number of the hidden mode, select **Basic Setup>DHCP >DHCP Relay** in the navigation bar.

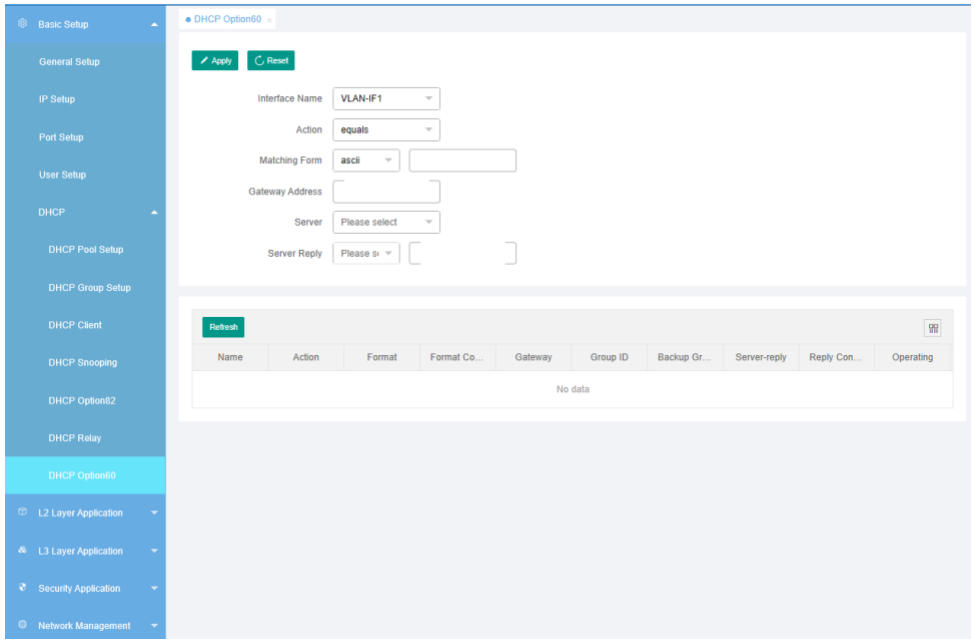


【Parameters & Descriptions】

Parameter	Description
DHCP Relay (Global)	Select Enable or Disable.
Hide Mode	Select Enable or Disable.
Max Hops	The value is an integer ranging from 1 to 16.
DHCP Relay (Port)	Select Enable or Disable.

4.1.5.7 DHCP Option60

To configure settings related to DHCP Option60, including the application Interface Name, Action, Matching mode, Gateway Address, Server, and Server Reply, select **Basic Setup>DHCP >DHCP Option60** in the navigation bar.



【Parameters & Descriptions】

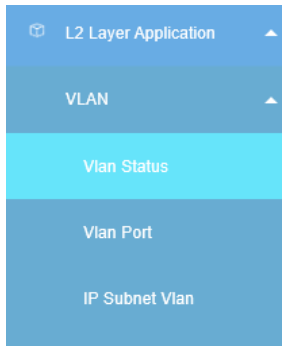
Parameter	Description
Interface Name	Select the interface to which option60 is applied from the created interface.
Action	Select equals or starts-with.
Matching Form	Select ascii or hex.
Gateway Address	Gateway IP Address.
Server	Select dhcp-serve or server-reply.
Server Reply	Select ascii or hex.

4.2 L2 Layer Application

Choose L2 Layer Application, and the following page appears. There are configuration web pages for **VLAN**, **MAC Address Forwarding**, **Port Isolation**, **ERPS Protocol**, **LLDP Protocol**, **Static Multicast**, **Multicast**, **Link Aggregation** and **Anti Dos Attack**.

4.2.1 VLAN

To configure settings related to VLANs, including VLAN Status, VLAN Port, and IP Subnet VLAN, select **L2 Layer Application**>**VLAN** in the navigation bar.



【Information】

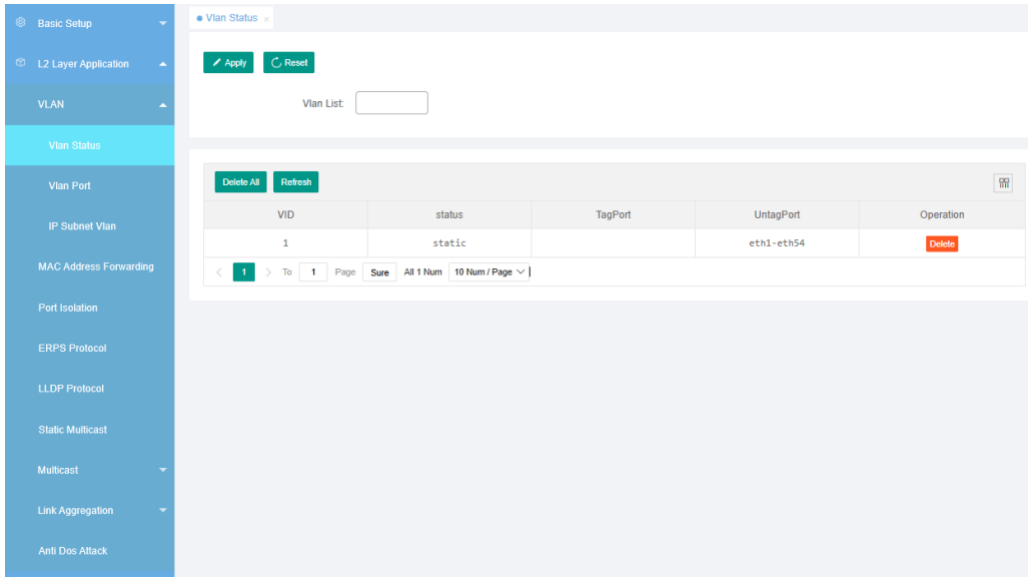
Traditional Ethernet uses a common communication medium and is based on Carrier Sense Multiple Access/Collision Detect (CSMA/CD) data network communication protocol. Overloaded hosts in a standard Ethernet LAN can cause major collisions, flooding broadcasts, subpar performance, or even the collapse of the Internet. While substantial collisions can be avoided by connecting LANs through switches, flooding broadcasts cannot be avoided because they consume a lot of bandwidth resources and can result in significant security issues.

A network topology called a Virtual Local Area Network (VLAN) is set up using a logical plan rather than a physical one. Switches use VLAN technology to manage broadcast in LANs. You can divide a physical LAN into several logical LANs, each with its own broadcast domain, by implementing VLANs. The communication between hosts on the same VLAN is similar to that of a LAN. However, hosts in separate VLANs are unable to directly connect with one another.

VLANs therefore restrict broadcast packets. Standard Ethernet is how hosts in the same VLAN communicate, while Layer 3 switches, routers, and other Internet-connected devices are the method of communication for hosts in separate VLANs.

4.2.1.1 VLAN Status

To set the VLAN List and add VID, select **L2 Layer Application**>**VLAN**>**VLAN Status** in the navigation bar.

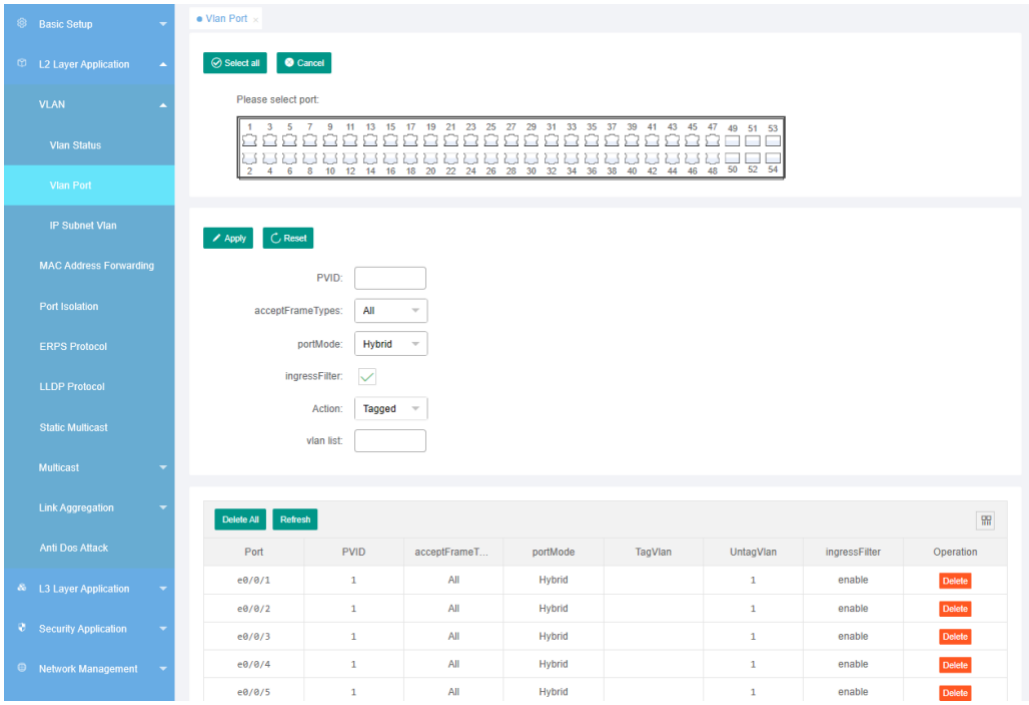


【Parameters & Descriptions】

Parameter	Description
VLAN Status	View all VLANs configured in the device.
VLAN List	Add VID.

4.2.1.2 VLAN Port

To set a VLAN port, select **L2 Layer Application**>**VLAN**>**VLAN Port** in the navigation bar.

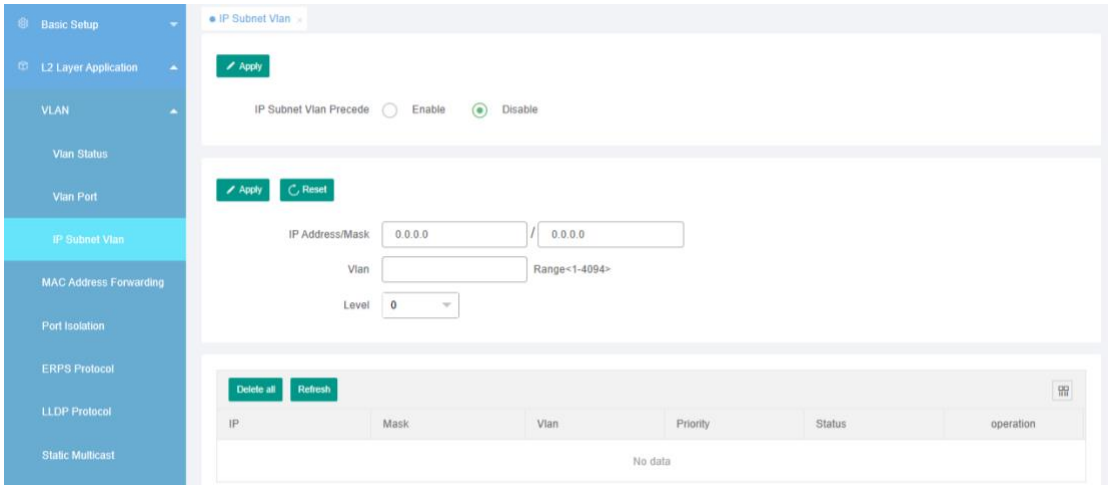


【Parameters & Descriptions】

Parameter	Description
PVID	The PVID of the port can be modified; the default port PVID is "1".
AcceptFrameTypes	Choose the following kinds: All, Tagged only and Untagged only.
PortMode	Choose the following modes: **Hybrid**: The port can be either a tagged member or untagged member in the VLAN and can be a member port for multiple VLANs. Used to connect switches to each other and to computers. **Trunk**: The port can only be a tagged member in the VLAN and can be a member port for multiple VLANs. Typically used to connect switches to each other. **Access**: The port belongs to one VLAN. The port can only be an untagged member in the VLAN and the port can only be in one VLAN, not multiple. Commonly used to connect computer ports.
IngressFilter	Click the box to enable the port filtering function. When the function is enabled and the port settings are to only receive Tagged messages, Untagged messages will be discarded if the port receives them; otherwise, it can be forwarded. The default port filtering function is enabled.
Action	There are three attributes: Remove, Tagged, and Untagged.

4.2.1.3 IP Subnet VLAN

To set the IP subnet VLAN priority, IP address/mask, VLAN, and priority, select **L2 Layer Application**>**VLAN**>**IP Subnet VLAN** in the navigation bar.

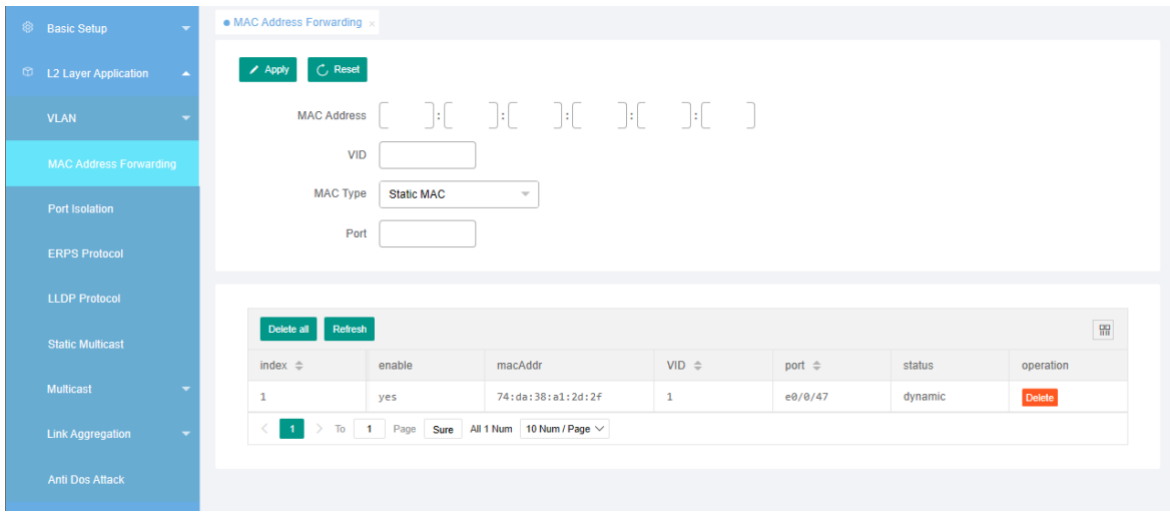


【Parameters & Descriptions】

Parameter	Description
IP Subnet VLAN Precede	Select Enable or Disable.
IP Address/Mask	Set the IP address and mask.
VLAN	Set VLAN ID. The value ranges from 1 to 4094.
Level	Set the VLAN priority. The value ranges from 0 to 7.

4.2.2 MAC Address Forwarding

To set the MAC address, VID, MAC type, and port (non-blackhole MAC), select **L2 Layer Application**>**MAC Address Forwarding** in the navigation bar.



【Parameters & Descriptions】

Parameter	Description
MAC Type	Types are: Static MAC, Dynamic MAC, Blackhole MAC, Permanent MAC.

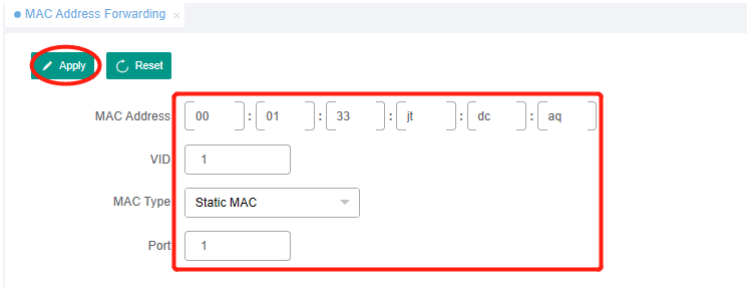
【Instructions】

Blackhole MAC: If a PC's MAC address is configured on a switch to be a blackhole MAC, then the PC's packets will be discarded by the switch and not forwarded to the network.

【Configuration Example】

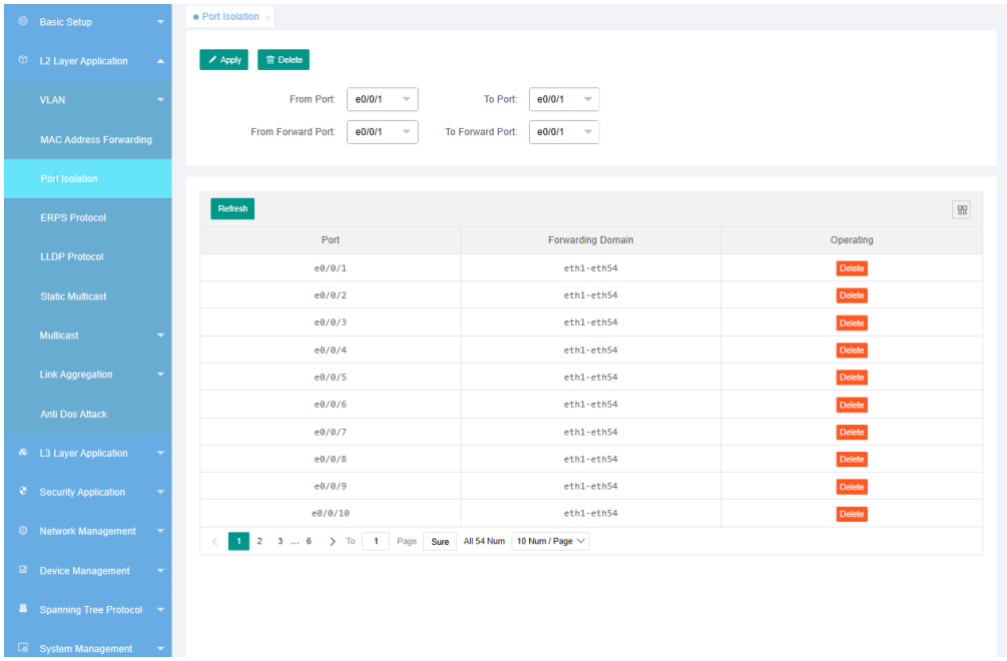
1. Click L2 Layer Application > MAC Address Forwarding.

2. MAC Address Forwarding.



4.2.3 Port Isolation

To set and delete the forwarding port, select **L2 Layer Application**>**Port Isolation** in the navigation bar.

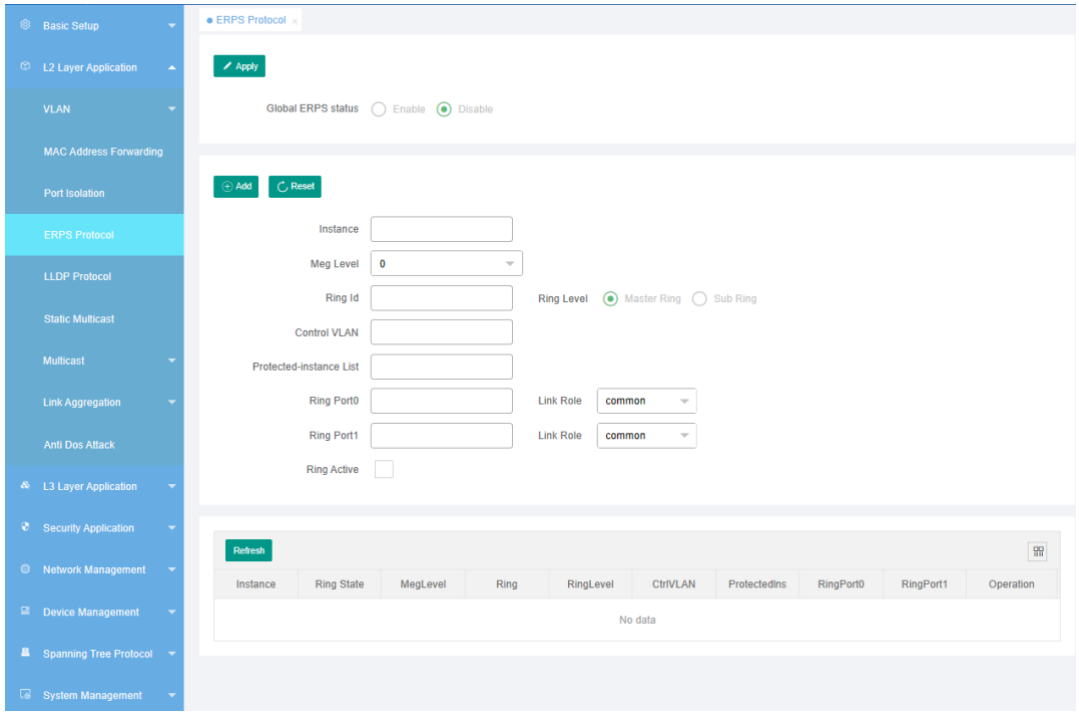


【Parameters & Descriptions】

Parameter	Description
From Port, To Port	Select the configured port range.
From Forward Port, To Forward Port	Configure the forwarding port range for the selected port.
Delete	Restore the default configuration of the current port. Most ports are forwarding ports.

4.2.4 ERPS Protocol

To configure Global ERPS status, select **L2 Layer Application**>**ERPS Protocol** in the navigation bar.



【Parameters & Descriptions】

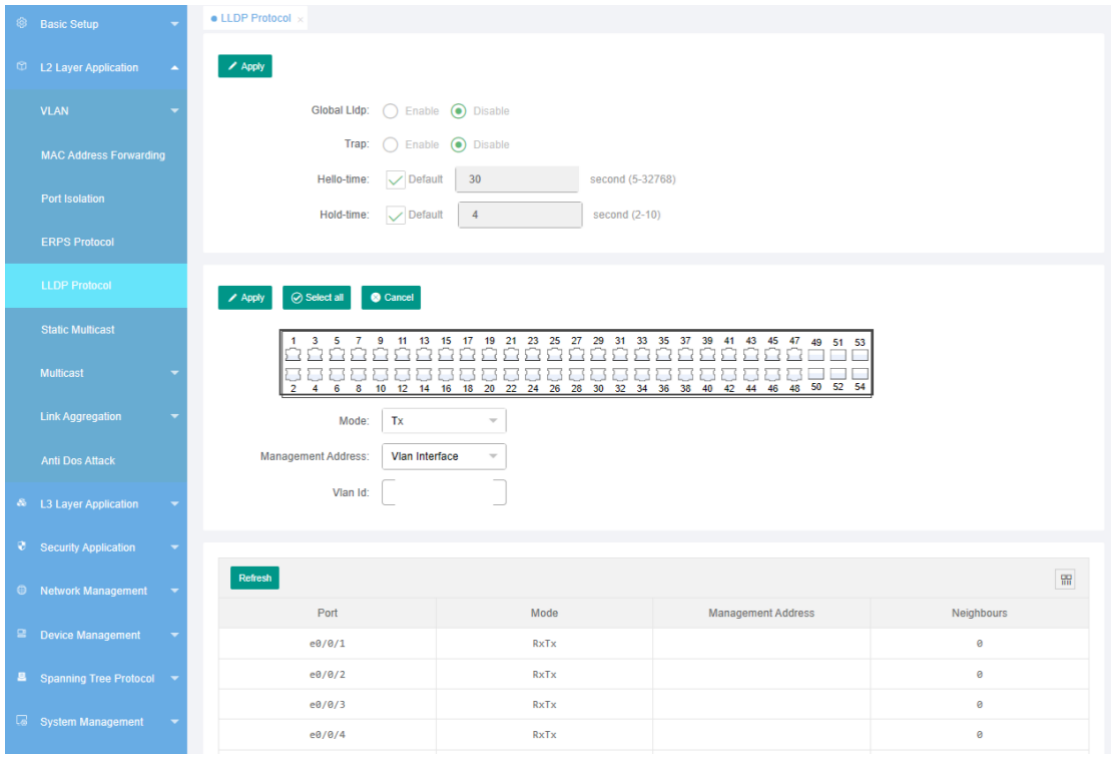
Parameter	Description
Global ERPS status	Enable or Disable the ERPS function globally.
Instance	Instance ID: The value ranges from 0 to 15.
Meg Level	The value ranges from 0 to 7.
Ring ID	Value range: 1 to 239. Ring level: Default primary ring.
Control VLAN	In the ERPS ring, the control VLAN is used to transmit ERPS packets and must be set to a VLAN not created on the device.
Protected-instance List	The service VLAN to be protected is the VLAN mapping in the MSTP instance. The value ranges from 0 to 15.
Ring Port0	The port number of the ERPS link.
Ring Port1	The port number of the ERPS link.
Ring Active	The ERPS ring was enabled.

【Information】

An ERPS ring has only one RPL owner port, as determined by the user configuration, to prevent loops in the ERPS ring by blocking the RPL owner port from forwarding user traffic. When the device where the RPL owner port resides receives a fault message and learns that other nodes or links on the ERPS ring are faulty, the device automatically releases the RPL owner port and recovers the receiving and sending of traffic through the port to ensure that traffic is not interrupted.

4.2.5 LLDP Protocol

To enable or disable Global LLDP, Trap, set Hello-time or Hold-time, choose port(s), or choose the Mode and management address, select **L2 Layer Application**>**LLDP Protocol** in the navigation bar.

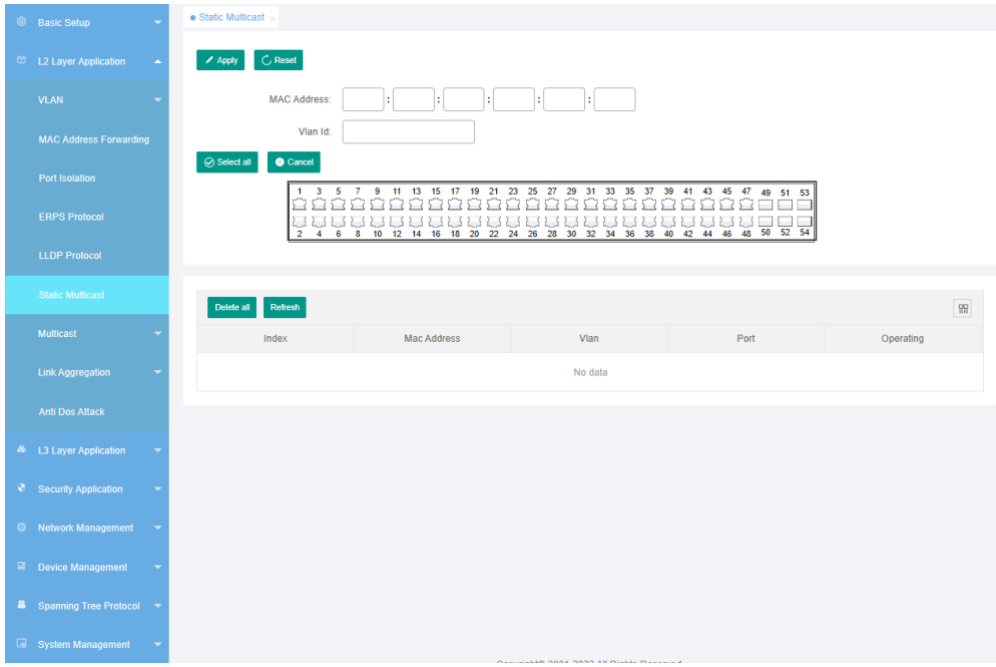


【Parameters & Descriptions】

Parameter	Description
Global LLDP	Select Enable or Disable.
Trap	Select Enable or Disable.
Hello-time	The value ranges from 5 to 32768 seconds. The default value is 30 seconds.
Hold-time	The value ranges from 2 to 10 seconds. The default value is 4 seconds.
Port	You can select one or more ports at the same time.
Mode	Four modes are available: Tx, Rx, TxRx, and Disable.
Management Address	Select VLAN interface or SuperVLAN interface.

4.2.6 Static Multicast

To set the MAC address, VLAN number, and port number, select **L2 Layer Application**>**Static Multicast** in the navigation bar.

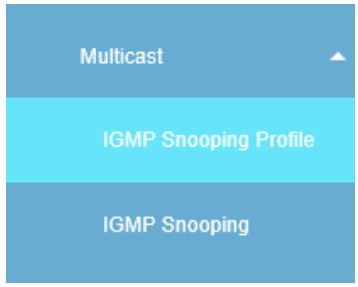


【Parameters & Descriptions】

Parameter	Description
MAC Address	Set the MAC address.
VLAN Id	Set the VLAN Id.
Port	Select a static multicast port.

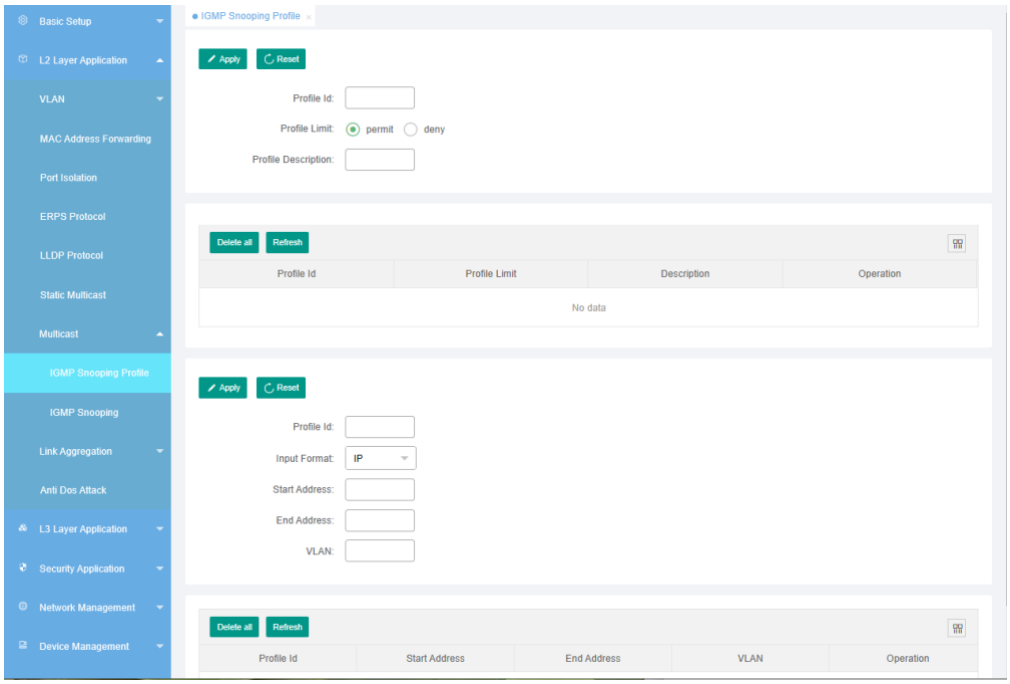
4.2.7 Multicast

To configure an IGMP Snooping Profile and IGMP Snooping, select **L2 Layer Application**>**Multicast** in the navigation bar.



4.2.7.1 IGMP Snooping Profile

To set the Profile ID, set a configuration restriction, provide a configuration description, or set an input format, select **L2 Layer Application**>**Multicast**>**IGMP Snooping Profile** in the navigation bar.

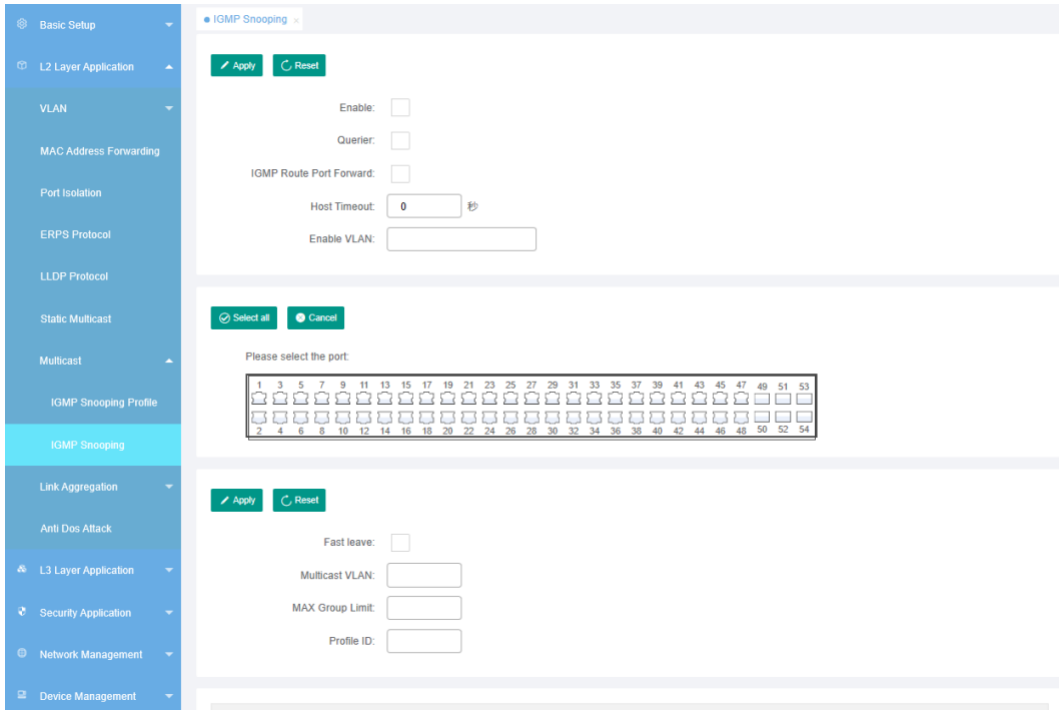


【Parameters & Descriptions】

Parameter	Description
Profile Id	ID ranges from 1 to 128.
Profile Limit	Preview rules can be Allowed or Denied.
Input Format	The preview address can be an IP address or a MAC address.

4.2.7.2 IGMP Snooping

To enable the function, the querier or IGMP route port forwarding, or to configure other settings such as host timeout, Enable VLAN, Fast Leave, Multicast VLAN, Maximum Group Limit, and Filter Setting ID, select **L2 Layer Application**>**Multicast**>**IGMP Snooping** in the navigation bar.

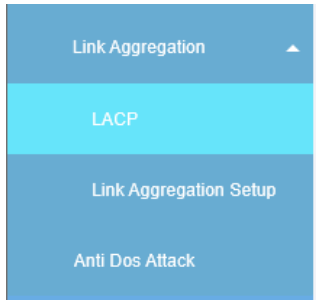


【Parameters & Descriptions】

Parameter	Description
Enable	Enable IGMP Snooping.
Querier	Enable the IGMP Snooping timer query.
IGMP Route Port Forward	Enable the routing and forwarding function.
Host Timeout	The dynamic IPv6 multicast aging time is specified.
Fast leave	Enable the quick port exit function.
Multicast VLAN	Configuring an IPv6 Multicast VLAN (1 to 4094).
MAX Group Limit:	Configure the maximum number of IPv6 multicast packets that a port can learn (1024 by default).

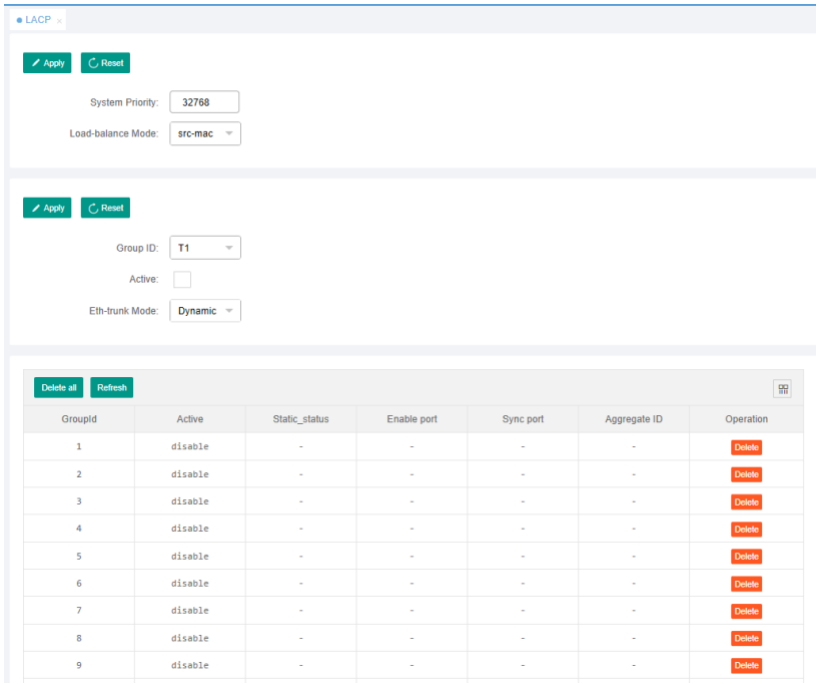
4.2.8 Link Aggregation

For settings related to LACP and Link Aggregation Setup, select **L2 Layer Application**>**Link Aggregation** in the navigation bar.



4.2.8.1 LACP

To set the system priority, load balancing policy, aggregation group number, and aggregation group mode, select **L2 Layer Application**>**Link Aggregation**>**LACP** in the navigation bar.

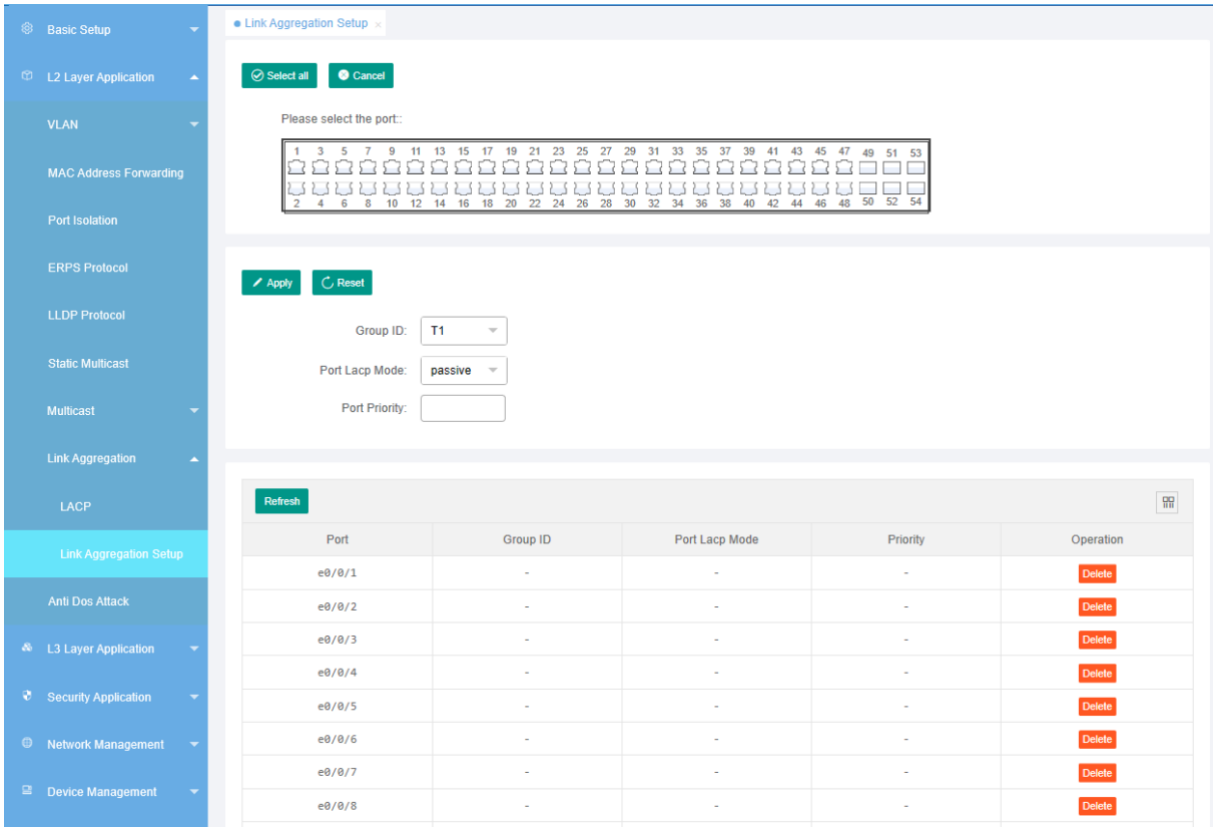


【Parameters & Descriptions】

Parameter	Description
System Priority	Configure the system priority of the aggregation group. The default priority is 32768 (priority range: 1 to 65535).
Load-balance Mode	Configure the load balancing policy. The default value is src-mac (including src-mac, dst-mac, src-dst-mac, src-ip, dst-ip, and src-dst-ip).
Group ID	Add a port to a specified aggregation group (T1 to T16).
Eth-trunk Mode	There are Dynamic and Static modes.

4.2.8.2 Link Aggregation Setup

To set the aggregation group ID, Port LACP mode, and port priority, select **L2 Layer Application**>**Link Aggregation**>**Link Aggregation Setup** in the navigation bar.

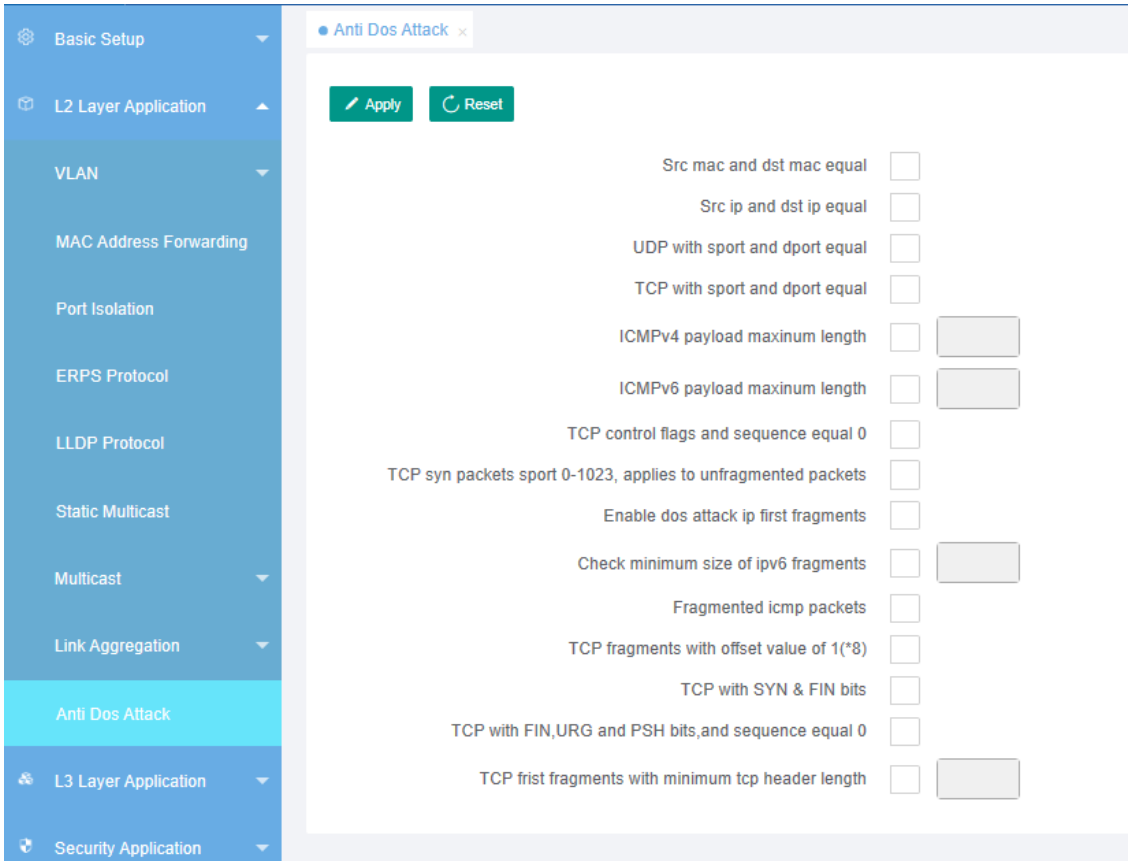


【Parameters & Descriptions】

Parameter	Description
Group ID	Add the port to the specified Aggregation Group ID.
Port LACP Mode	The LACP mode of a port can be active or passive. Active mode: In active mode, the port initiates LACP negotiation. Passive mode: In passive mode, a port responds only to LACP negotiation.
Port Priority	The priority ranges from 1 to 65535.

4.2.9 Anti Dos Attack

To set the maximum load length of ICMPv4, the maximum load length of ICMPv6, the minimum fragment size detection of iPv6, and minimum TCP header length of the first fragment of a TCP packet, select **L2 Layer Application**>**Anti Dos Attack** in the navigation bar.

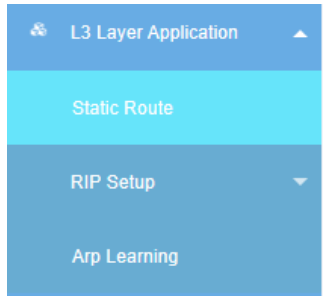


【Parameters & Descriptions】

Parameter	Description
ICMPv4 payload maximum length	The value contains 0 to 16384 characters.
ICMPv6 payload maximum length	The value contains 0 to 16384 characters.
Check minimum size of ipv6 fragments	The fragment size ranges from 0 to 16384.
TCP first fragments with minimum TCP header length	The value contains 0 to 255 characters.

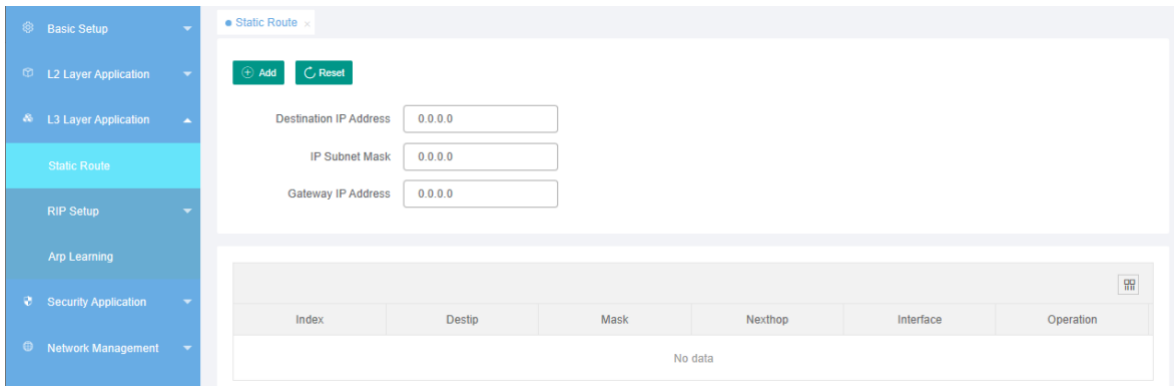
4.3 L3 Layer Application

Choose L3 Layer Application, and the following page appears. There are **Static Route**, **RIP Setup** and **Arp Learning** configuration web pages.



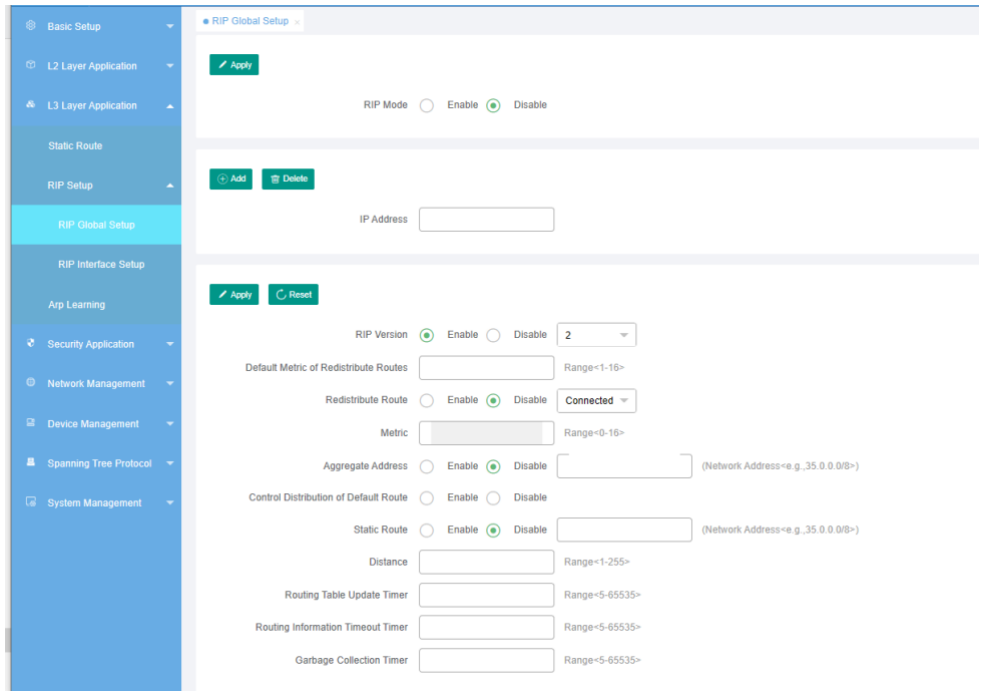
4.3.1 Static Route

To set the destination IP address, IP mask, and next hop, select **L3 Layer Application**>**Static Route** in the navigation bar.



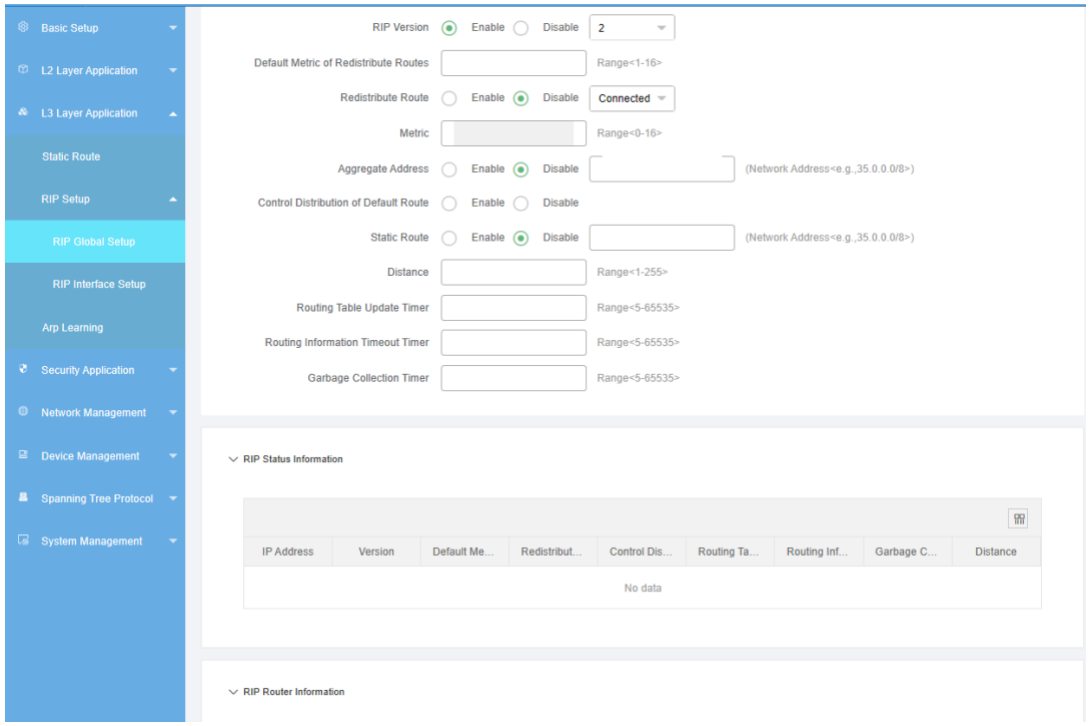
4.3.2 RIP Setup

To set RIP Global Setup and RIP Interface Setup, select **L3 Layer Application**>**RIP Setup**.



4.3.2.1 RIP Global Setup

To configure RIP Mode, IP Address, Default Metric of Redistribute Routes, Metric, Aggregate Address, Static Route, Distance, Routing Table Update Timer, Routing Information Timeout Timer, Garbage Collection Timer, and so on, select **L3 Layer Application**>**RIP Setup**>**RIP Global Setup** in the navigation bar.

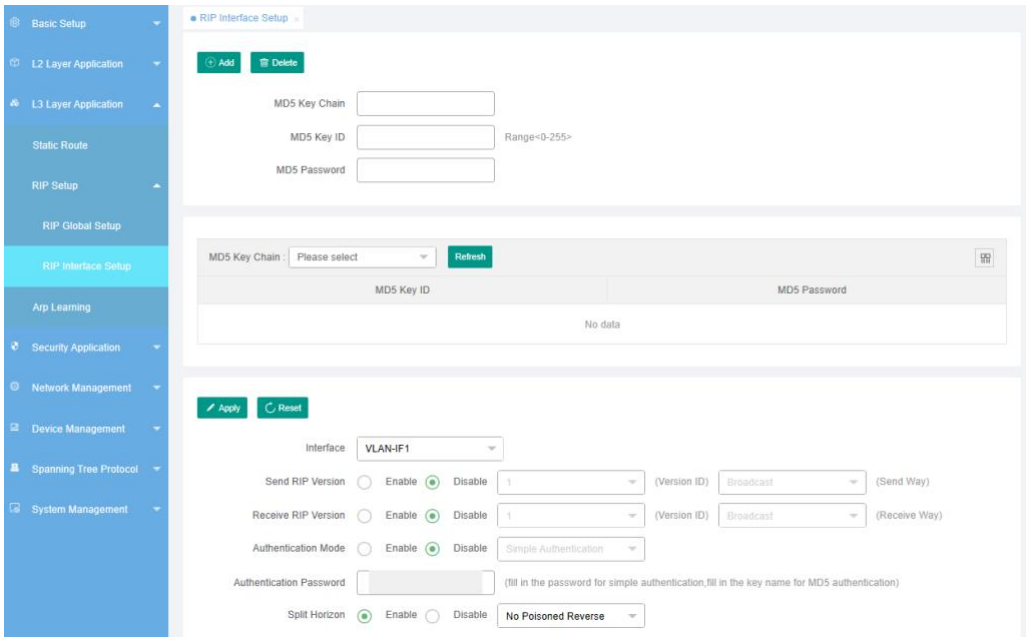


【Parameters & Descriptions】

Parameter	Description
RIP Mode	Set RIP Mode as Enable or Disable.
IP Address	Add IP Address.
RIP Version	Set RIP Version as Enable or Disable.
Default Metric of Redistribute Routes	Set Default Metric of Redistribute Routes, ranges from 1 to 16.
Redistribute Route	Set Redistribute Route Enable or Disable.
Metric	Set Metric ranges from 1 to 16.
Distance	Set Distance ranges from 1 to 255.
Routing Table Update Timer	Set Routing Table Update Timer, ranges from 5 to 65535.
Routing Information Timeout Timer	Set Routing Information Timeout Timer, ranges from 5 to 65535.
Garbage Collection Timer	Set Garbage Collection Timer, ranges from 5 to 65535.

4.3.2.2 RIP Interface Setup

To configure RIP Interface Setup, select **L3 Layer Application**>**RIP Setup**>**RIP Interface Setup** in the navigation bar.

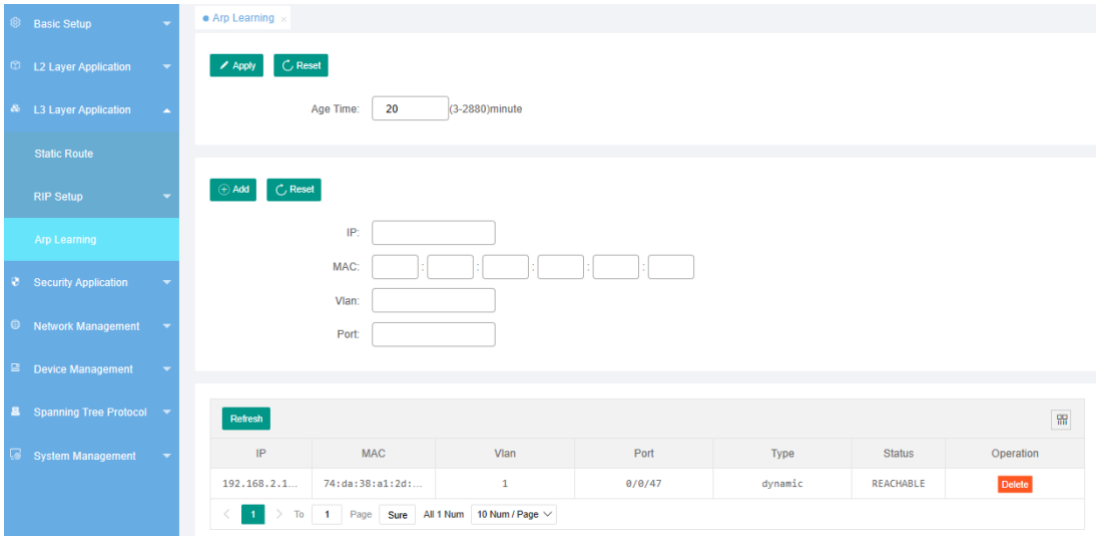


【Parameters & Descriptions】

Parameter	Description
MD5 Key ID	Setting MD5 Key ID, ranges from 0 to 255.
Authentication Password	Setting Authentication Password: fill in the password for simple authentication; fill in the key name for MD5 authentication.

4.3.3 Arp Learning

To set the aging time, IP address, MAC address, VLAN, and Port, select **L3 Layer Application**>**Arp Learning**.

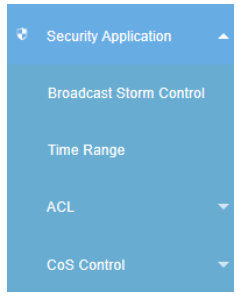


【Parameters & Descriptions】

Parameter	Description
Age Time	The aging time, ranges from 3 to 2880 minutes.

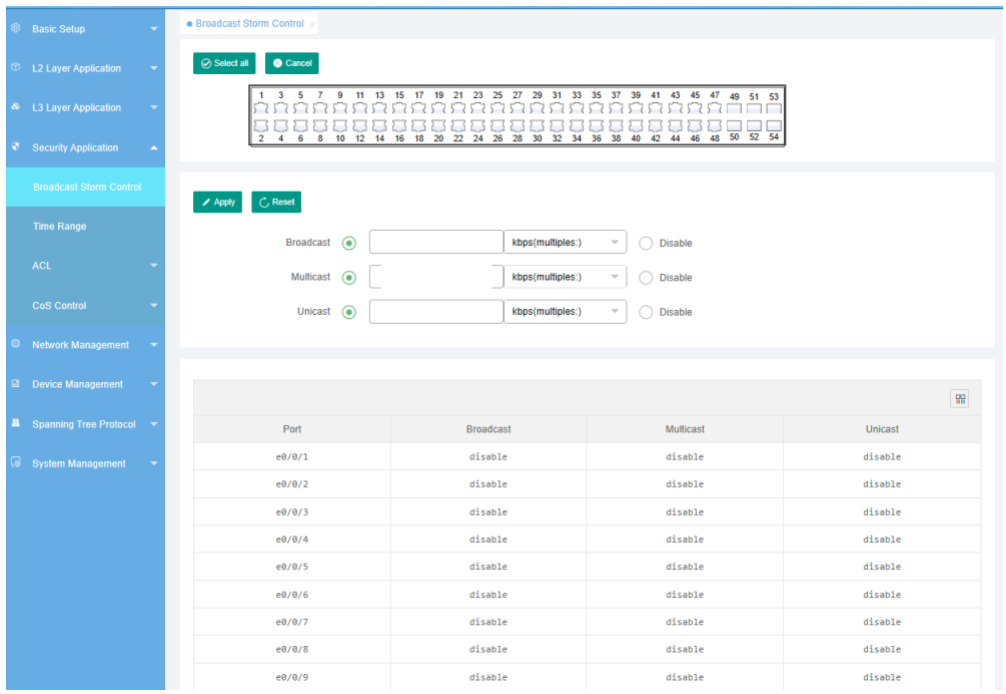
4.4 Security Application

Choose Security Application, and the following page appears. There are **Broadcast Storm Control**, **Time Range**, **ACL** and **CoS Control** configuration web pages.



4.4.1 Broadcast Storm Control

To set values for broadcast, multicast, and unicast, select **Security Application**>**Broadcast Storm Control** in the navigation bar.

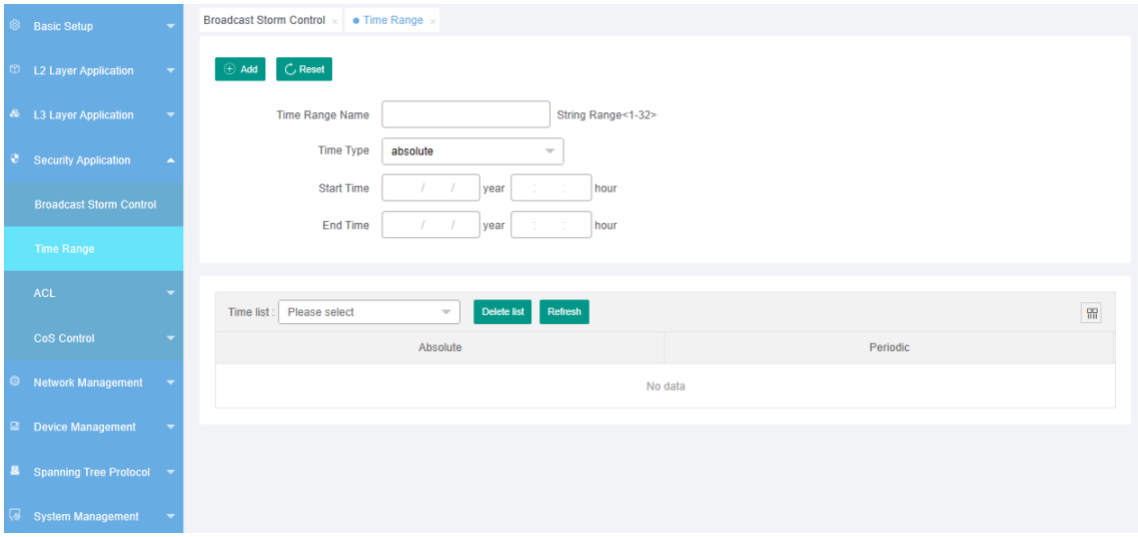


【Parameters & Descriptions】

Parameter	Description
Broadcast	Broadcast rate limit (pps [multiples: 1] / kbps [multiples: 16].
Multicast	Multicast rate limit (pps [multiples: 1] / kbps [multiples: 16].
Unicast	Unicast rate limit (pps [multiples: 1] / kbps [multiples: 16].

4.4.2 Time Range

To set the time range name, time type, start period, and end period, select **Security Application**>**Time Range** in the navigation bar.



【Parameters & Descriptions】

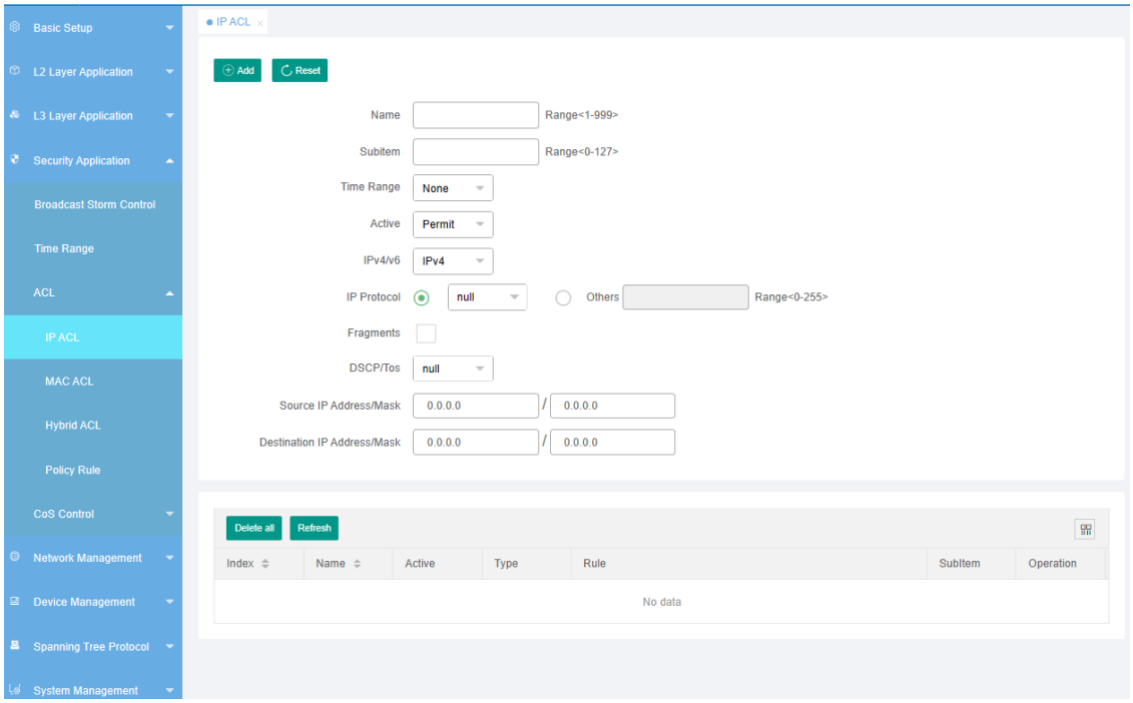
Parameter	Description
Time Range Name	Name time range; the value contains 1 to 32 characters.
Time Type	Choose absolute time or periodic time.

4.4.3 ACL

To set IP ACL, MAC ACL, Hybrid ACL and Policy Rule, select **Security Application**>**ACL** in the navigation bar.

4.4.3.1 IP ACL

To set an IP name, Subitem, a Time Range, Active, IPv4/v6, IP Protocol, and DSCP/Tos, select **Security Application**>**ACL**>**IP ACL** in the navigation bar.

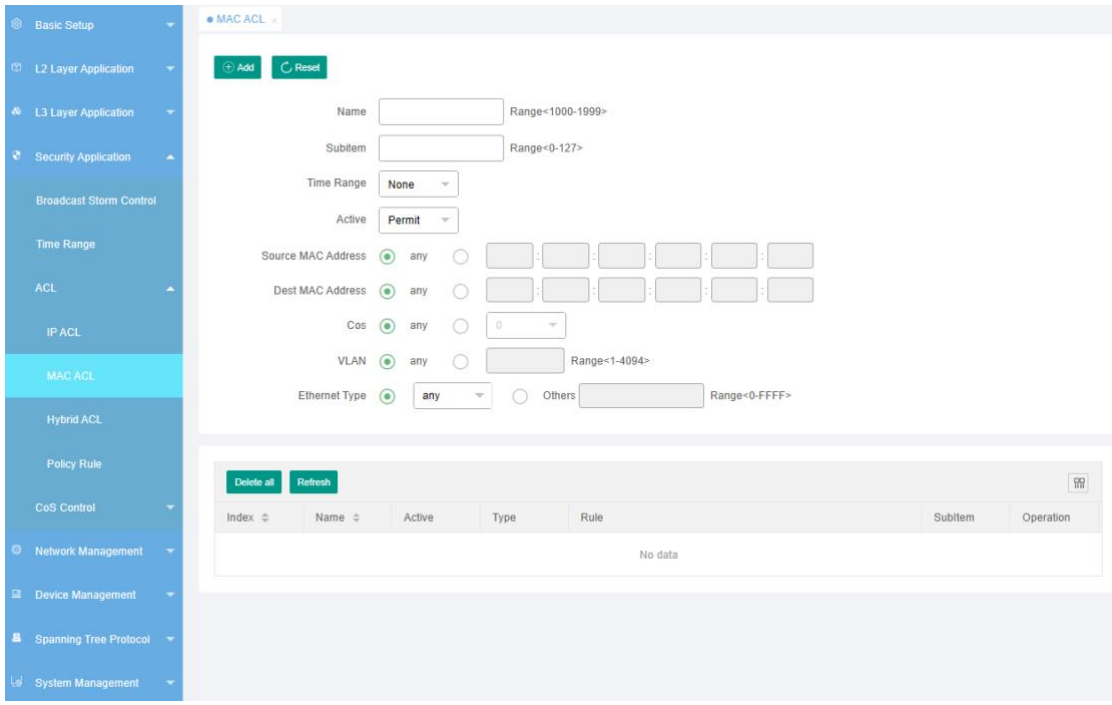


【Parameters & Descriptions】

Parameter	Description
Name	The range from 1 – 999.
Subitem	The range from 0 – 127.
Active	Choose to permit or deny.
IPv4/v6	Choose IPv4 or IPv6.
IP Protocol	IPv4 protocols include null, gre, icmp, igmp, ipinip, ospf, tcp and udp. IPv6 protocols include null, gre, icmpv6, ipinip, ospf, tcp and udp.
DSCP/Tos	The value can be null, DSCP, or Tos/Precedence.

4.4.3.2 MAC ACL

To set the Name, Subitem, Time range, Active, Source MAC address, Destination MAC address, Priority, VLAN, and Ethernet Type, select **Security Application**>**ACL**>**MAC ACL** in the navigation bar.

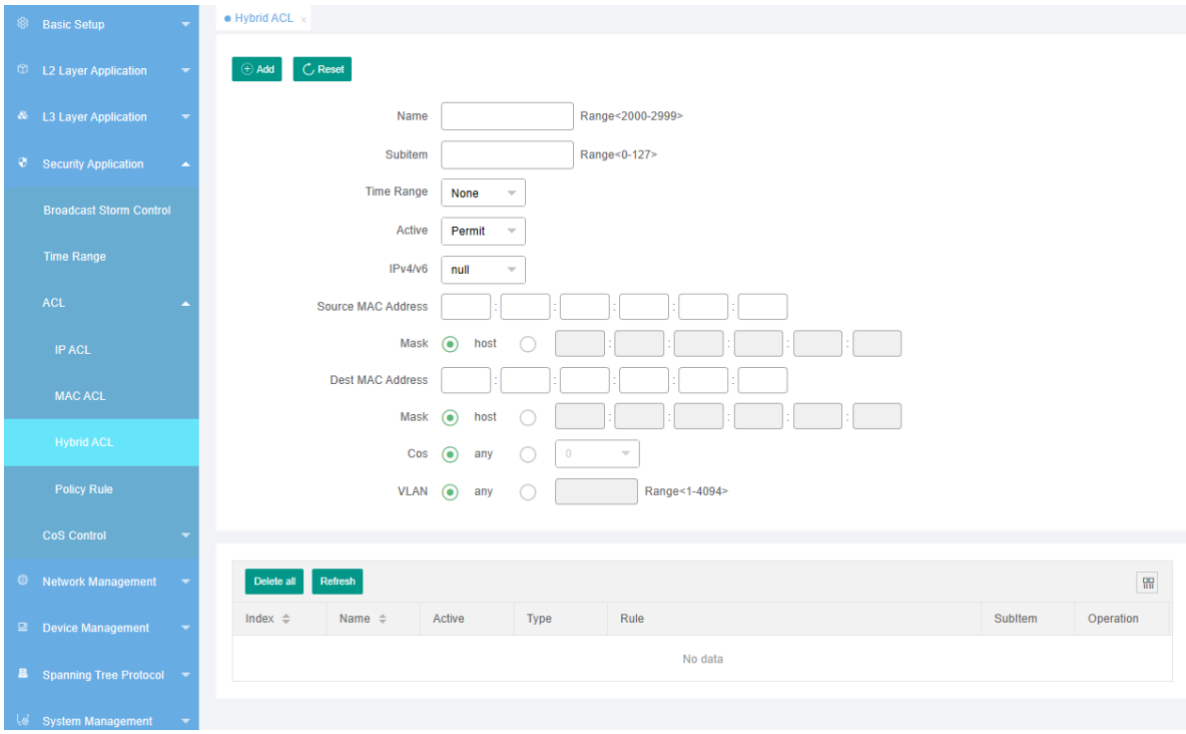


【Parameters & Descriptions】

Parameter	Description
Name	The range of 1000 – 1999.
Subitem	The range of 0 – 127.
Active	Choose to permit or deny.
Source MAC Address	Set source MAC address.
Dest MAC Address	Set destination MAC address.
Cos	The priority ranges from 0 to 7.
VLAN	Set the VLAN. The value ranges from 1 to 4094.
Ethernet Type	The Ethernet type can be any, arp, ip, or rarp.

4.4.3.3 Hybrid ACL

To set a Name, Subitem, Time Range, Active, IPv4/v6, Source MAC address, Destination MAC Address, Priority, and VLAN, select **Security Application**>**ACL**>**Hybrid ACL** in the navigation bar.

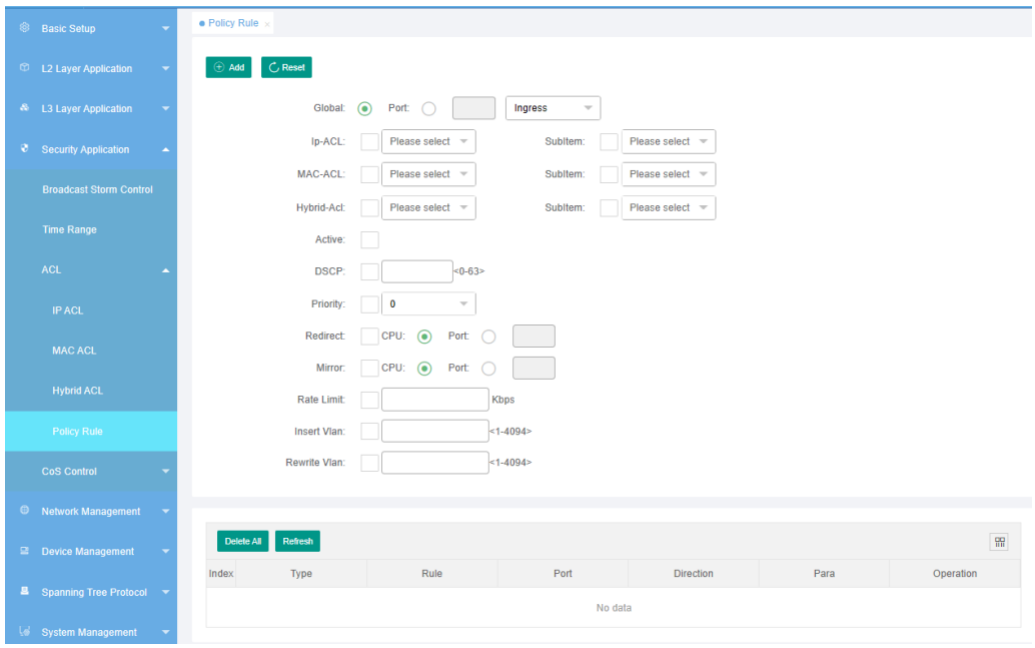


【Parameters & Descriptions】

Parameter	Description
Name	The range of 2000 – 2999.
Subitem	The range of 0 – 127.
Active	Choose to permit or deny.
IPv4/v6	Choose to IPv4 or IPv6.
Source MAC Address	Set source MAC address.
Dest MAC Address	Set destination MAC address.
Cos	The priority ranges from 0 to 7.
VLAN	Set the VLAN. The value ranges from 1 to 4094.

4.4.3.4 Policy Rule

To set Global/Port, IP-ACL, MAC-ACL, Hybrid-ACL, Active, DSCP, Priority, Redirect, Mirror, Rate Limit, Insert VLAN, and rewrite VLAN, select **Security Application**>**ACL**>**Policy Rule** in the navigation bar.

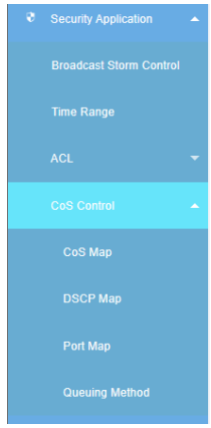


【Parameters & Descriptions】

Parameter	Description
Active	Activate the configured policy.
DSCP	The range of 0 – 63.
Priority	The priority ranges from 0 to 7.
Redirect	The value can be CPU or port. The default CPU is used.
Mirror	The value can be CPU or port. The default CPU is used.
Rate Limit	Set rate limit.
Insert VLAN	Insert VLAN ranges from 1 to 4094.
Rewrite VLAN	Rewrite VLAN ranges from 1 to 4094.

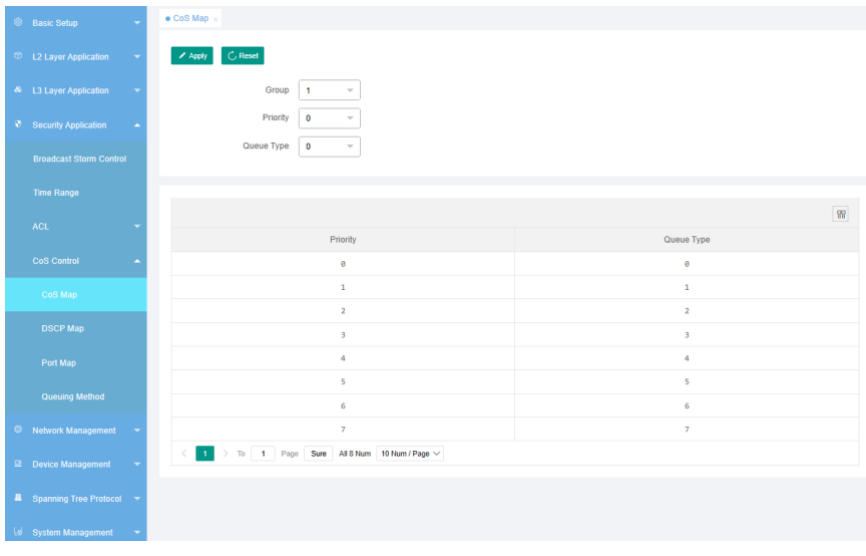
4.4.4 CoS Control

To set CoS MAP, DSCP MAP, Port MAP, and Queue Method, select **Security Application**>**CoS Control** in the navigation bar.



4.4.4.1 CoS MAP

To set groups, priorities, queue types, and so on, select **Security Application**>**CoS Control**>**CoS MAP** in the navigation bar.

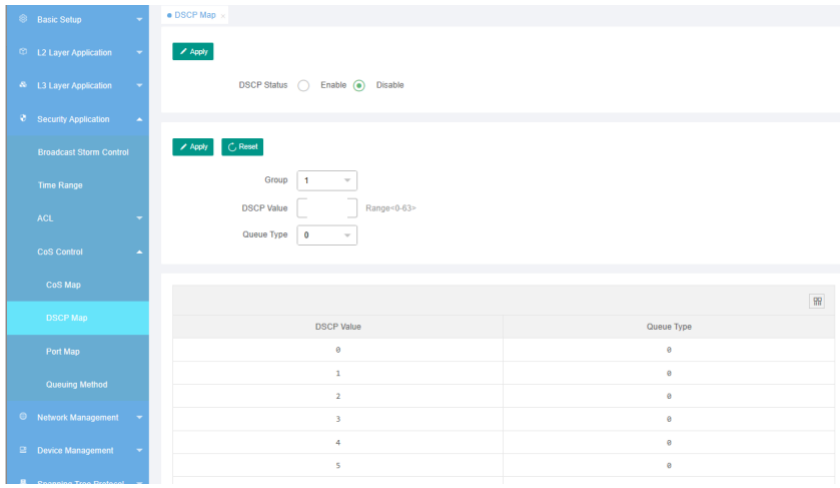


【Parameters & Descriptions】

Parameter	Description
Group	Set the group number and select the group.
Priority	The priority ranges from 0 to 7.
Queue Type	Queue Type ranges from 0 to 7.

4.4.4.2 DSCP MAP

To set the DSCP status, Group, DSCP Value, and Queue Type, select **Security Application**>**CoS Control**>**DSCP MAP** in the navigation bar.

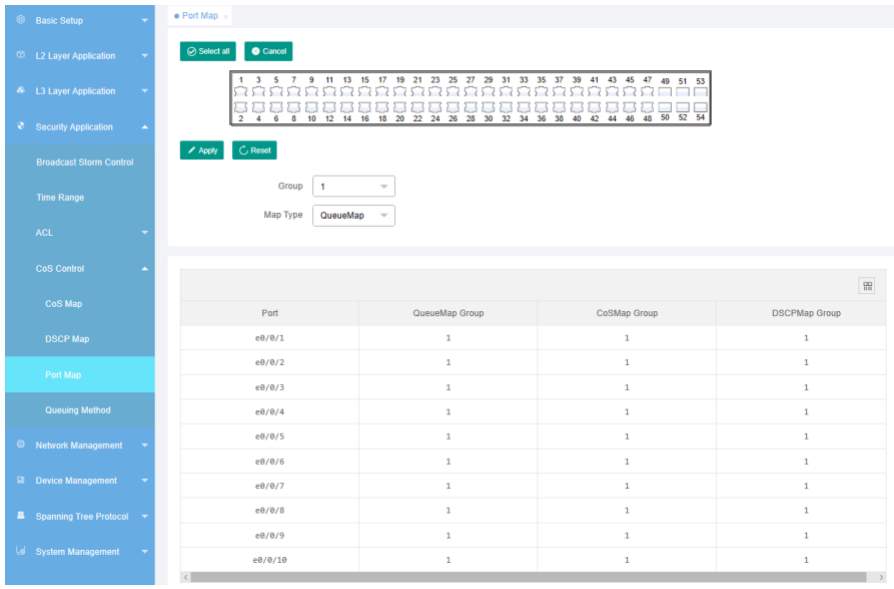


【Parameters & Descriptions】

Parameter	Description
DSCP Status	The DSCP status is enabled or disabled.
DSCP Value	DSCP Value ranges from 0 to 63.
Queue Type	Queue Type ranges from 0 to 7.

4.4.4.3 Port Map

To set ports, groups, and mapping types, select **Security Application**>**CoS Control**>**Port MAP** in the navigation bar.

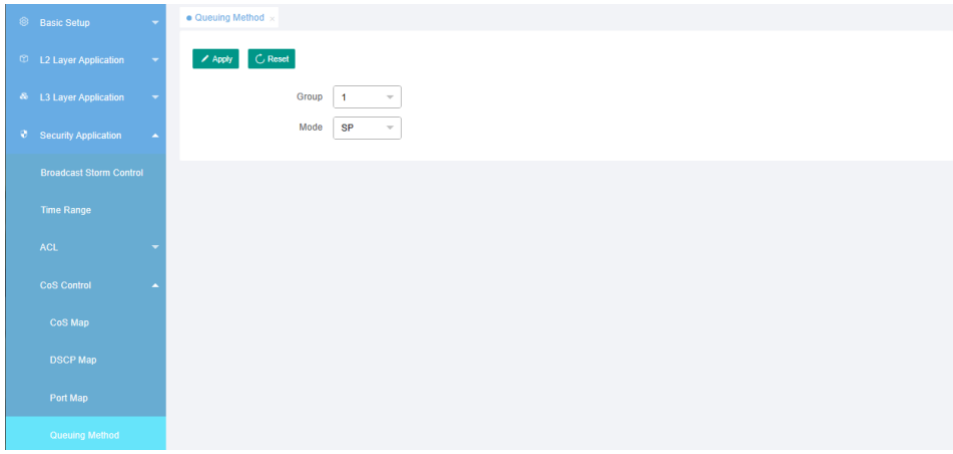


【Parameters & Descriptions】

Parameter	Description
Port	Select the port to be mapped.
Map Type	There are QueueMap, CoSMap, and DSCPMap.

4.4.4.4 Queuing Method

To set groups and modes, select **Security Application**>**CoS Control**>**Queuing Method** in the navigation bar.

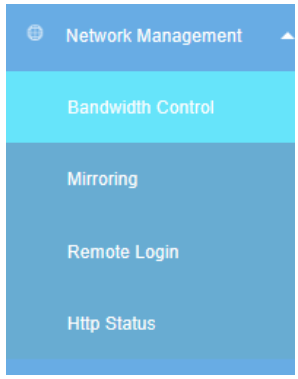


【Parameters & Descriptions】

Parameter	Description
Mode	There are five modes: SP, WRR, SP+WRR, WFQ, and SP+WFQ.

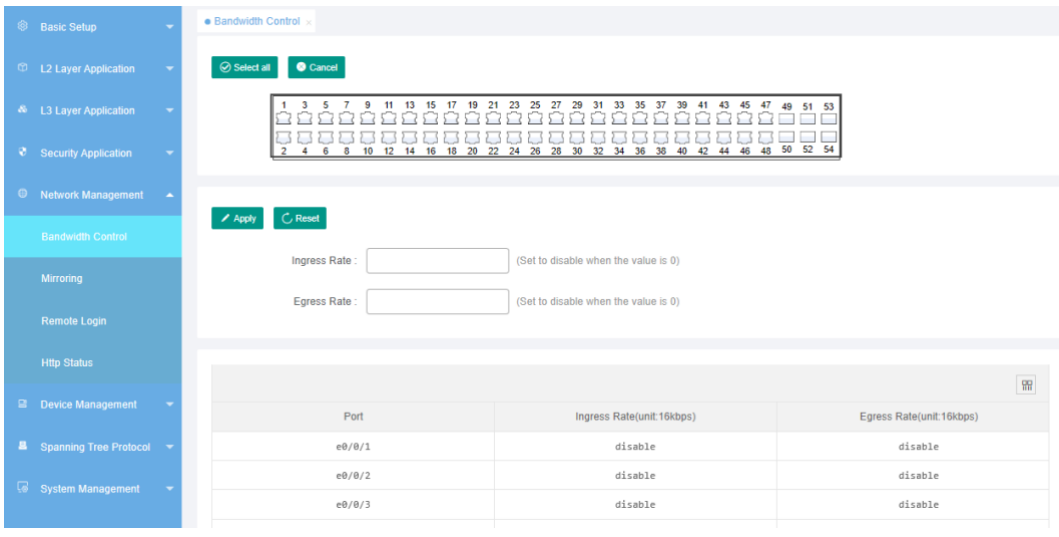
4.5 Network Management

Choose Network Management, and the following page appears. There are **Bandwidth Control**, **Mirroring**, **Remote Login** and **Http Status** configuration web pages.



4.5.1 Bandwidth Control

To set the port, Ingress Rate, and Egress Rate, select **Network Management**>**Bandwidth Control** in the navigation bar.

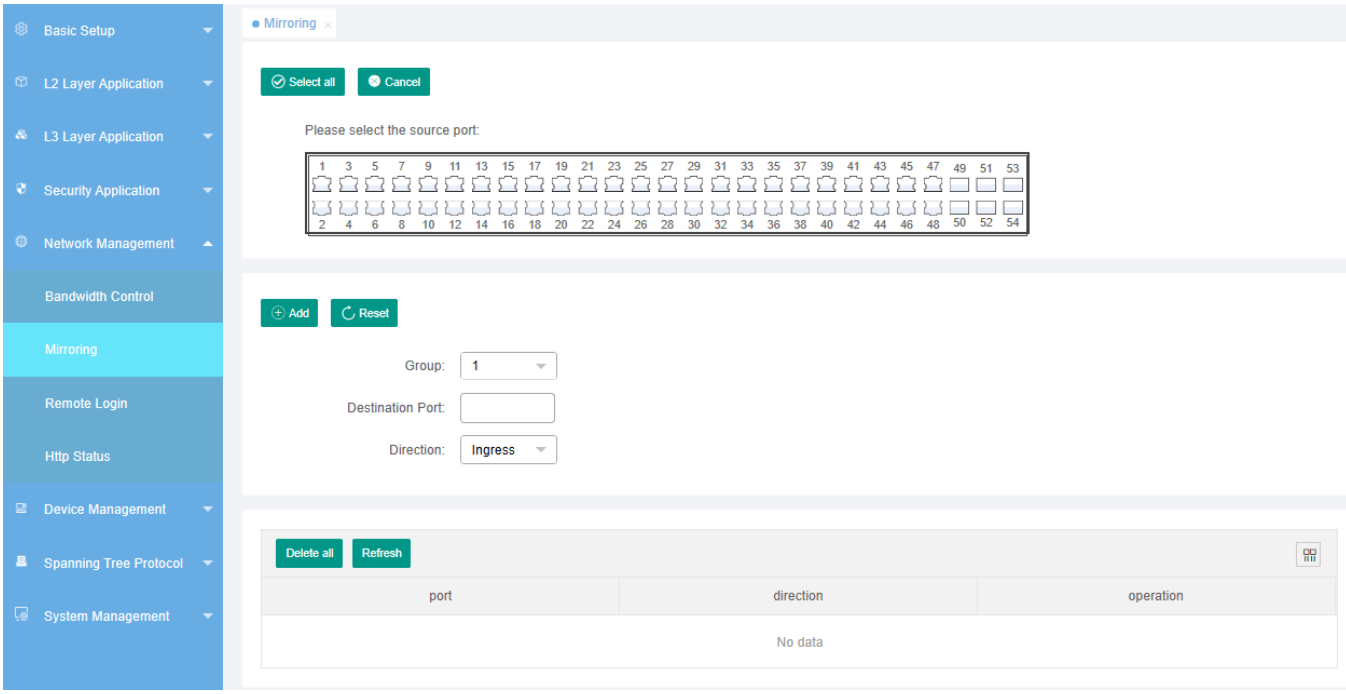


【Parameters & Descriptions】

Parameter	Description
Ingress Rate	Set the Ingress Rate. If the value is 0, set it to disable.
Egress Rate	Set the Egress Rate. If the value is 0, set it to disable.

4.5.2 Mirroring

To set the mirror group, destination port, and direction, select **Network Management**>**Mirroring** in the navigation bar.

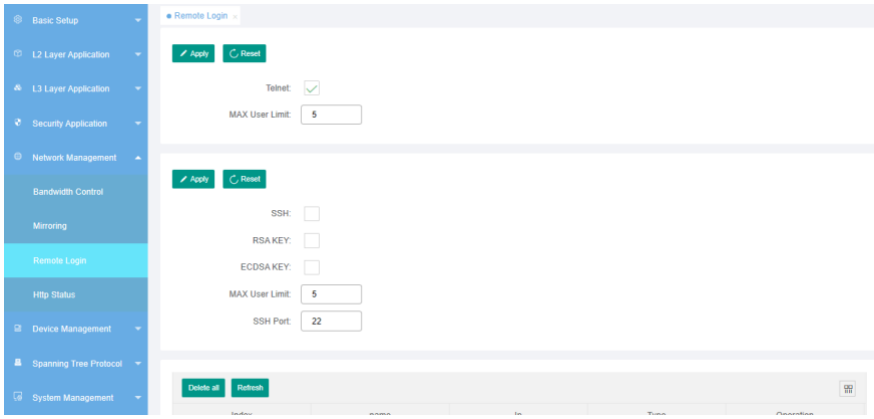


【Parameters & Descriptions】

Parameter	Description
Group	Select mirror group.
Destination Port	Select any port other than the source port.
Direction	Configure the direction of the mirrored packet. The direction can be inbound, outbound, and bidirectional.

4.5.3 Remote Login

To set the remote Settings and the maximum number of users, select **Network Management**>**Remote Login** in the navigation bar.

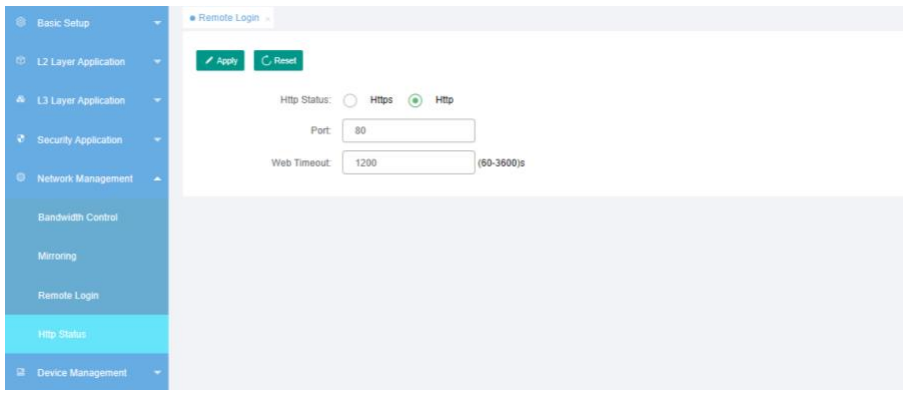


【Parameters & Descriptions】

Parameter	Description
Telnet	Select whether to enable remote Settings (after Telnet is enabled remotely, it is automatically disabled 24 hours later).
MAX User Limit	Setting remote as maximum user (0 – 5).
SSH	Select whether to enable SSH Settings (after SSH is enabled, it is automatically disabled 24 hours later).
SSH Port	Port 22 is the default.

4.5.4 Http Status

To set the Http Status, Port and Web Timeout, select **Network Management**>**Http Status** in the navigation bar.

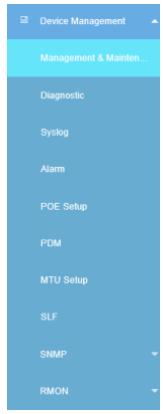


【Parameters & Descriptions】

Parameter	Description
Http Status	Select Http or Https.
Port	Setting port.
Web Timeout	Web Timeout ranges from 60 to 3600 seconds.

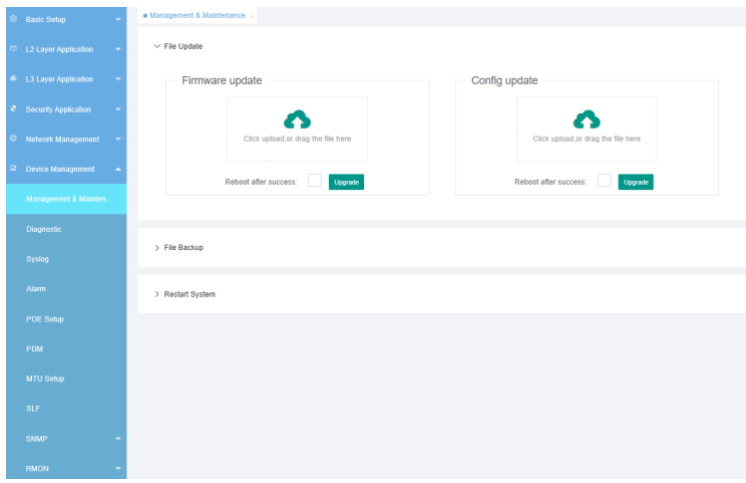
4.6 Device Management

Choose **Device Management**, and the following page appears. There are **Management & Maintenance**, **Diagnostic**, **Syslog**, **Alarm**, **PoE Setup**, **PDM**, **MTU Setup**, **SLF**, **SNMP** and **RMON** configuration web pages.



4.6.1 Management & Maintenance

To set file update, file backup, and system restart, select **Device Management**>**Management & Maintenance** in the navigation bar.

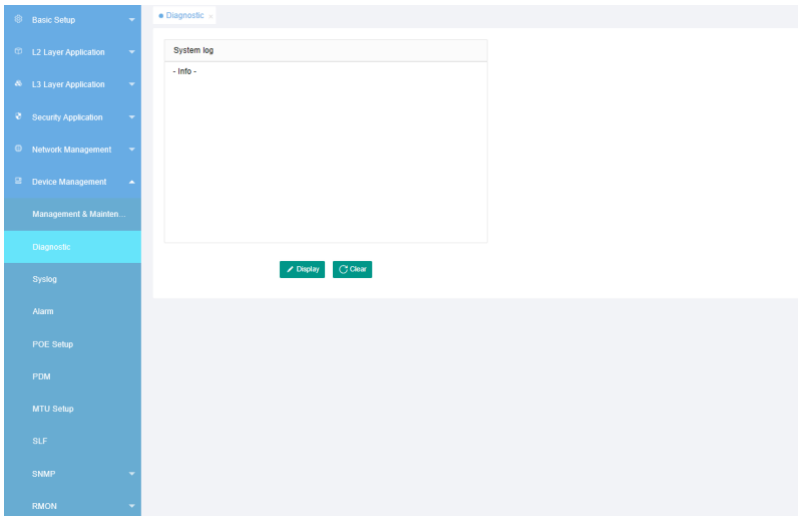


【Parameters & Descriptions】

Parameter	Description
File Update	Update firmware and configuration files (optionally restart after successful update).
File Backup	Back up configuration files and log files.
Restart System	There are two restart types: Restart and Factory Settings reset.

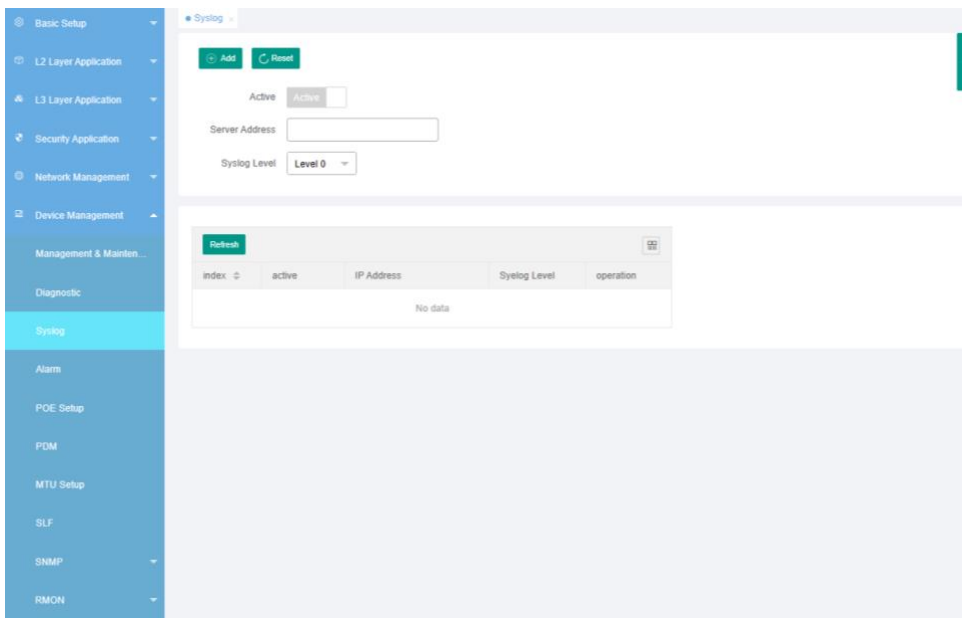
4.6.2 Diagnostic

In the navigation bar, select **Device Management**>**Diagnostic**. Click the display button to display the system log; click the Clear button to clear system logs.



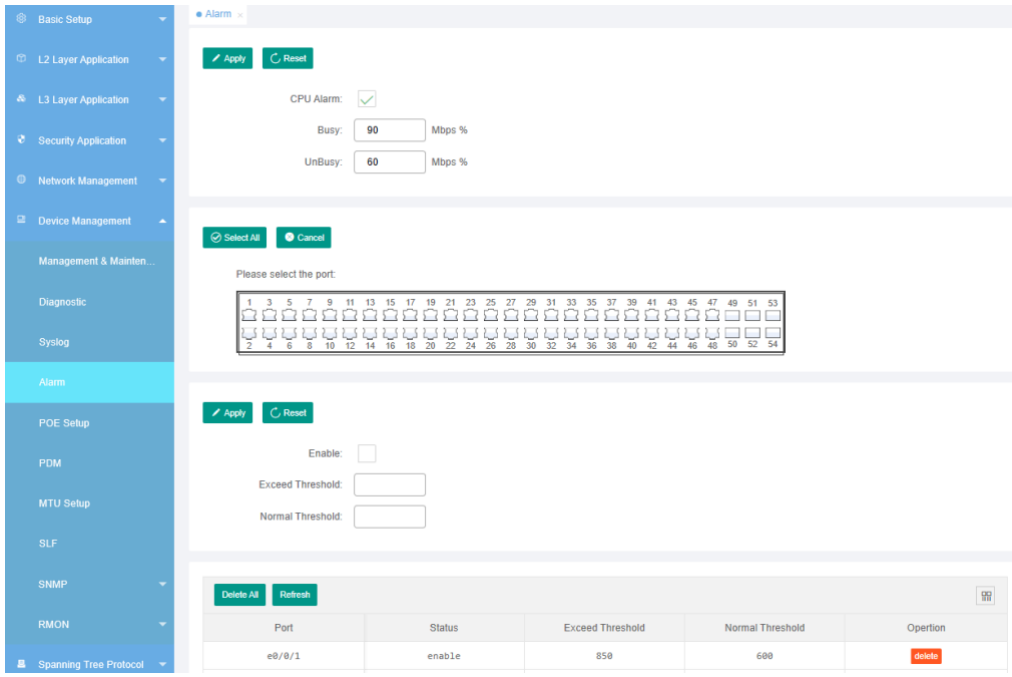
4.6.3 Syslog

To enable the log function and the log function of the corresponding module globally, and to set the log server address and log level, select **Device Management**>**Syslog** in the navigation bar.



4.6.4 Alarm

To set a CPU alarm, Busy and Unbusy thresholds, Activation, traffic overload and normal traffic thresholds, select **Device Management**>**Alarm** in the navigation bar.

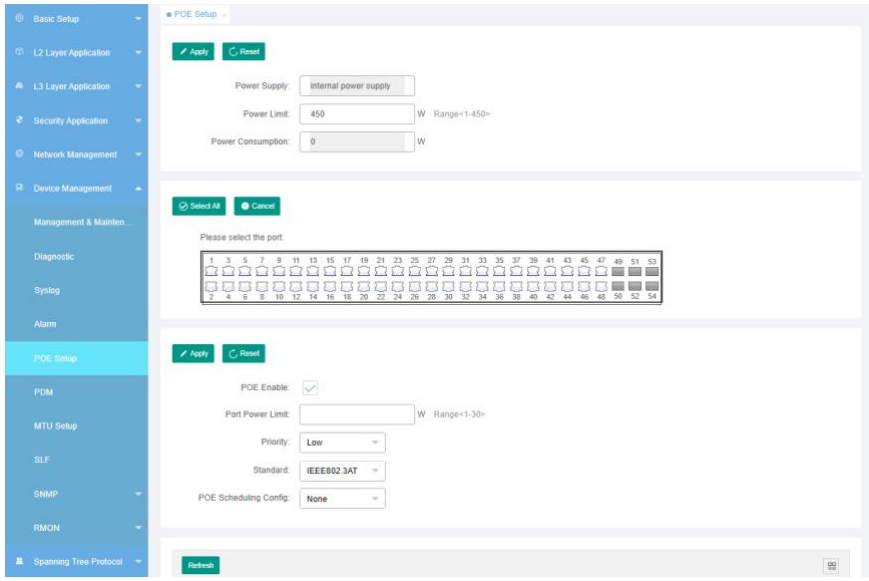


【Parameters & Descriptions】

Parameter	Description
CPU Alarm	Click to enable/disable the CPU alarm function.
Busy	Set the busy hour threshold.
UnBusy	Set the unbusy hour threshold.
Enable	Status On or Off.
Exceed Threshold	The threshold of a GE port ranges from 1 to 1000.
Normal Threshold	The normal traffic threshold should be smaller than the excessive traffic threshold.

4.6.5 PoE Setup

To set relevant parameters for PoE, select **Device Management**>**PoE Setup** in the navigation bar.

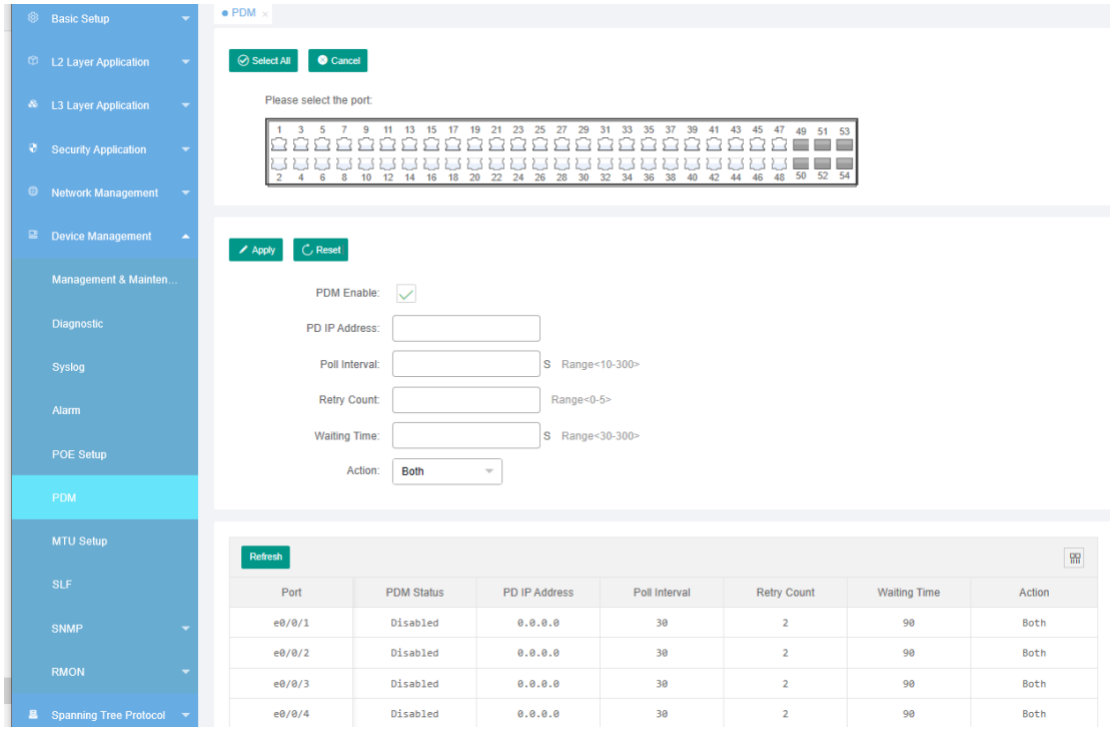


【Parameters & Descriptions】

Parameter	Description
Power Limit	The PoE power supply of a switch can be limited.
PoE Enable	Enable or Disable the PoE power supply for a port. The default value is Enable.
Port Power Limit	Limit the port power.
Priority	The priority can be low, critical, or high. The default priority is low.
Standard	The IEEE 802.3af and IEEE 802.3at modes can be configured. The default mode is IEEE 802.3at.

4.6.6 PDM (Powered Device Monitor)

To set relevant parameters for the PDM function, select **Device Management**>**PDM** in the navigation bar.

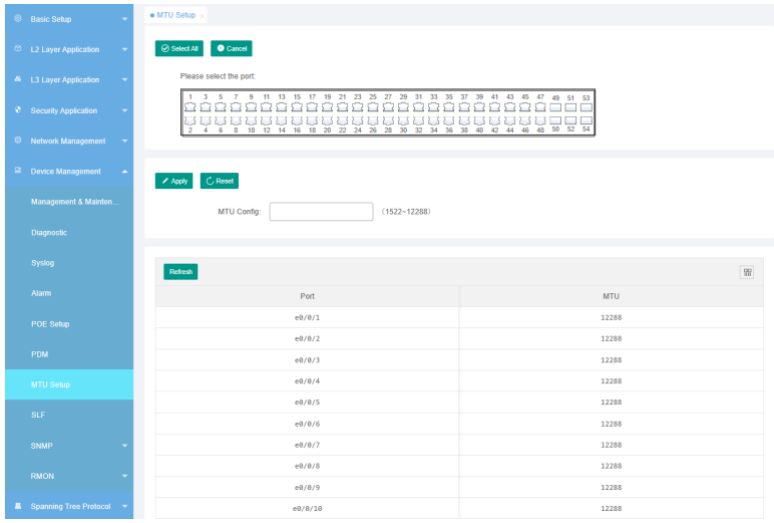


【Parameters & Descriptions】

Parameter	Description
PDM Enable	Enable or Disable the PDM for a port. The default value is Enable.
Poll Interval	Set Poll Interval, range is from 10 to 300.
Retry Count	Set Retry Count, range is from 0 to 5.
Waiting Time	Set Waiting Time, range is from 30 to 300.
Action	Options are Both, Notify, Reboot-PD and Nothing. The default value is Both.

4.6.7 MTU Setup

To set relevant parameters for MTU, select **Device Management**>**MTU Setup** in the navigation bar.

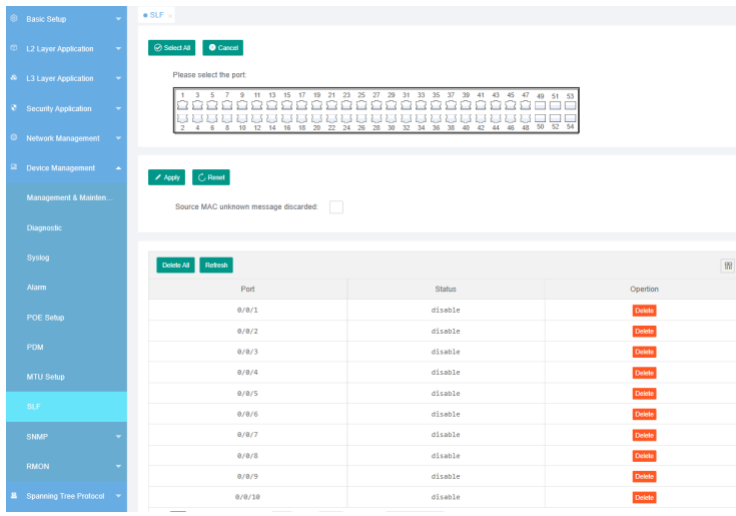


【Parameters & Descriptions】

Parameter	Description
MTU Config	Set MTU value, range is from 1522 to 12288.

4.6.8 SLF

To set Enable or Disable packet discarding with unknown source MAC addresses, select **Device Management**>**SLF** in the navigation bar.

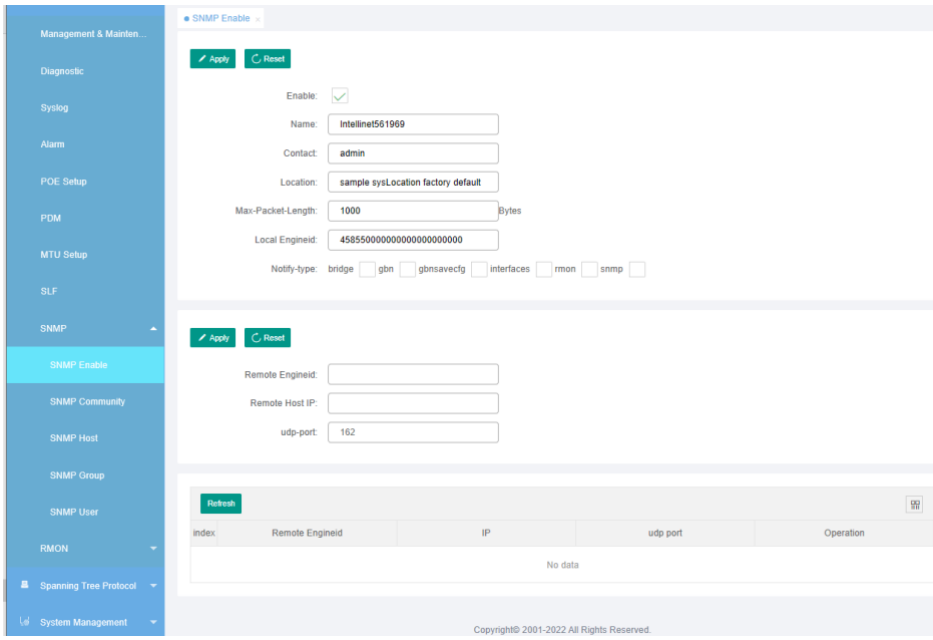


【Parameters & Descriptions】

Parameter	Description
Source MAC unknown message discarded	Enable or disable this function.
Delete	Restore the default port Settings and disable the function of discarding packets with unknown source mac addresses.

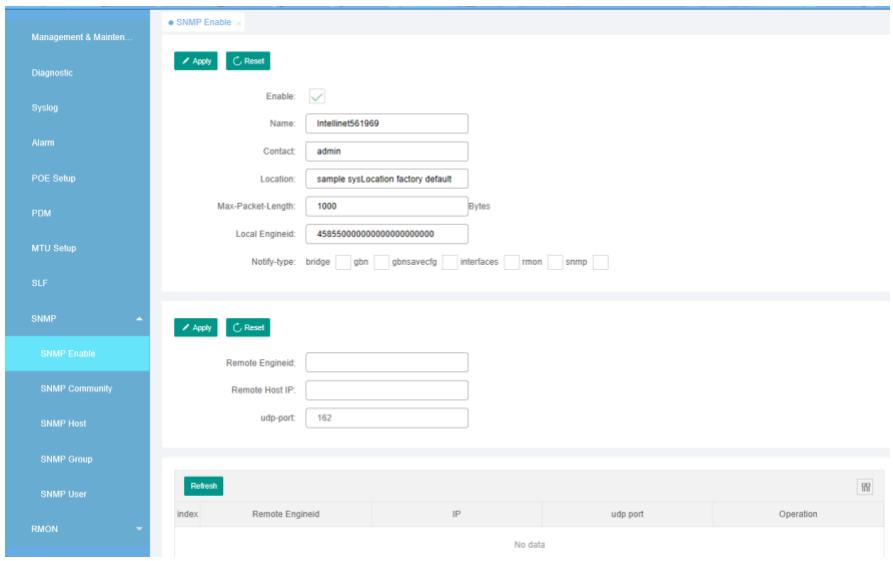
4.6.9 SNMP

To set global SNMP, SNMP community, SNMP host, SNMP group, and SNMP user, select **Device Management**>**SNMP** in the navigation bar.



4.6.9.1 SNMP Enable

To enable or disable the function, set the switch system name, administrator information, switch location, maximum packet length, local engine ID, remote engine ID, remote host IP address, and remote udp port, select **Device Management**>**SNMP**>**SNMP Enable** in the navigation bar.

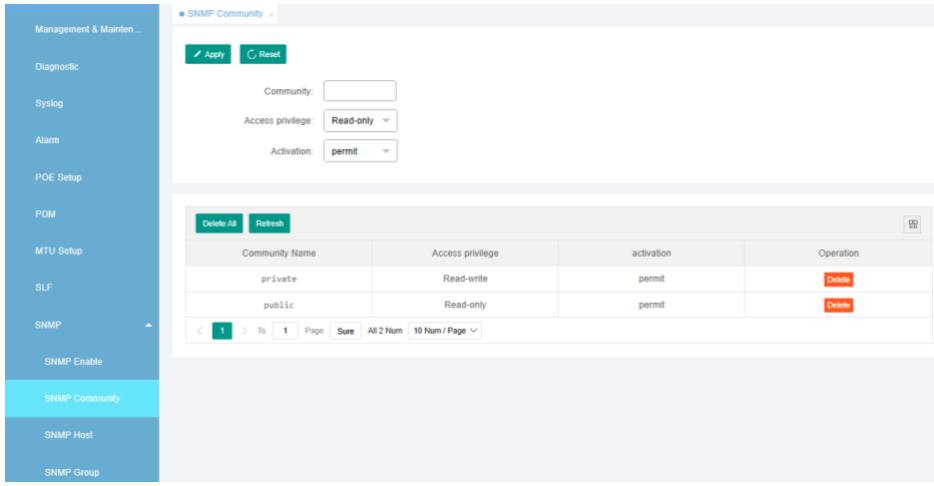


【Parameters & Descriptions】

Parameter	Description
Enable	Click to enable the function. The default value is Enable.

4.6.9.2 SNMP Community

To set the community name, read/write permission, and activation, select **Device Management**>**SNMP**>**SNMP Community** in the navigation bar.

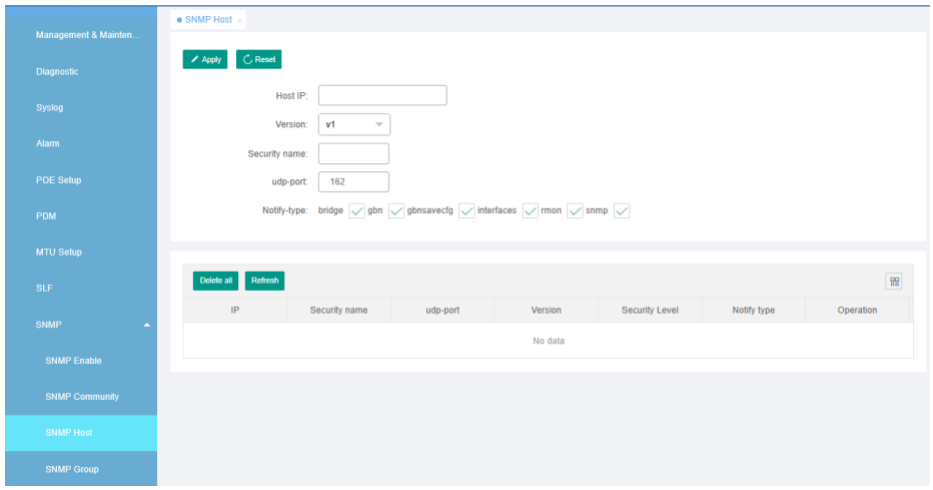


【Parameters & Descriptions】

Parameter	Description
Community	Community character string, equivalent to the communication password between the NMS and SNMP agent.
Access privilege	The value can be Read-only or Read-write.
Activation	The value can be Permit or Deny.

4.6.9.3 SNMP Host

To set the host IP address, version information, SNMP security name, udp port, and notification type, select **Device Management**>**SNMP**>**SNMP Host** in the navigation bar.

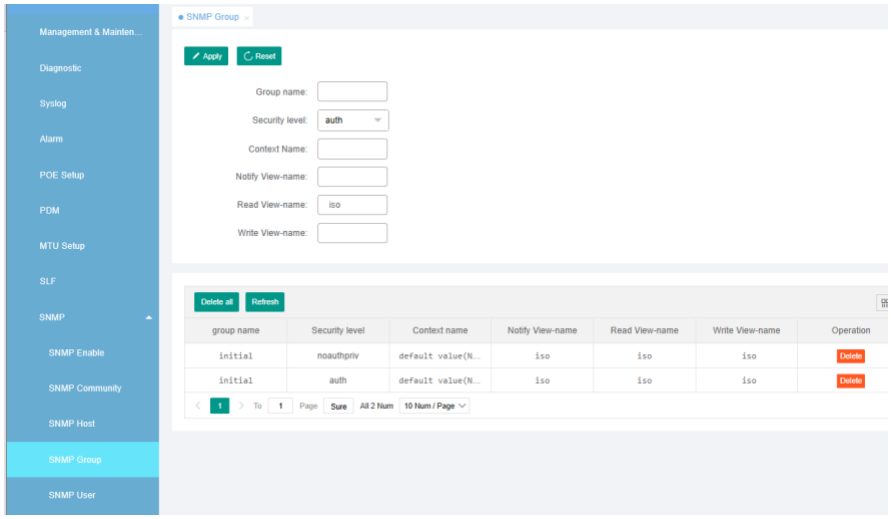


【Parameters & Descriptions】

Parameter	Description
Host IP	Set the IP address of the trap host.
Version	The version can be v1, v2c, or v3.

4.6.9.4 SNMP Group

To set the group name, security level, device context, notification view name, read access view name, and write access view name, select **Device Management**>**SNMP**>**SNMP Group** in the navigation bar.

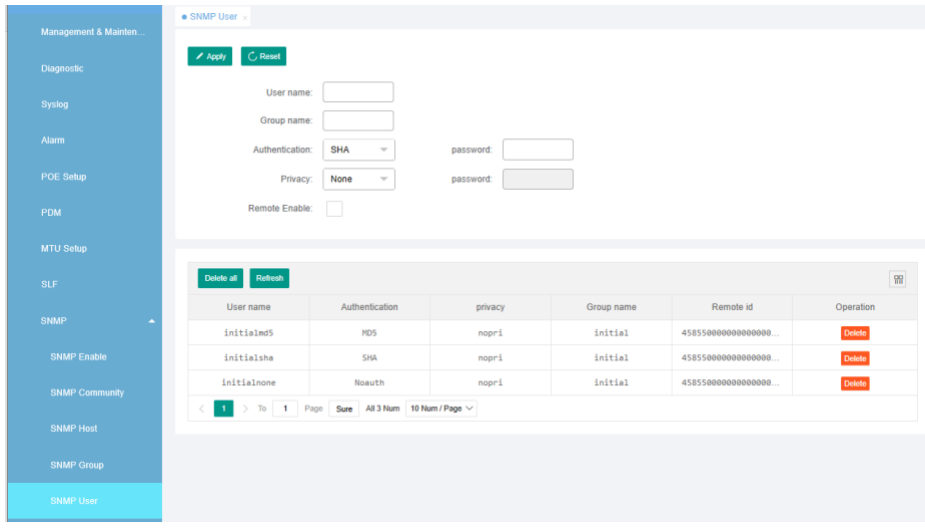


【Parameters & Descriptions】

Parameter	Description
Group name	SNMP group name.
Security level	The security levels are noauthpriv, auth, and priv.

4.6.9.5 SNMP User

To set the user name, group name, authentication mode, encryption mode, password, and remote function, select **Device Management**>**SNMP**>**SNMP User** in the navigation bar.

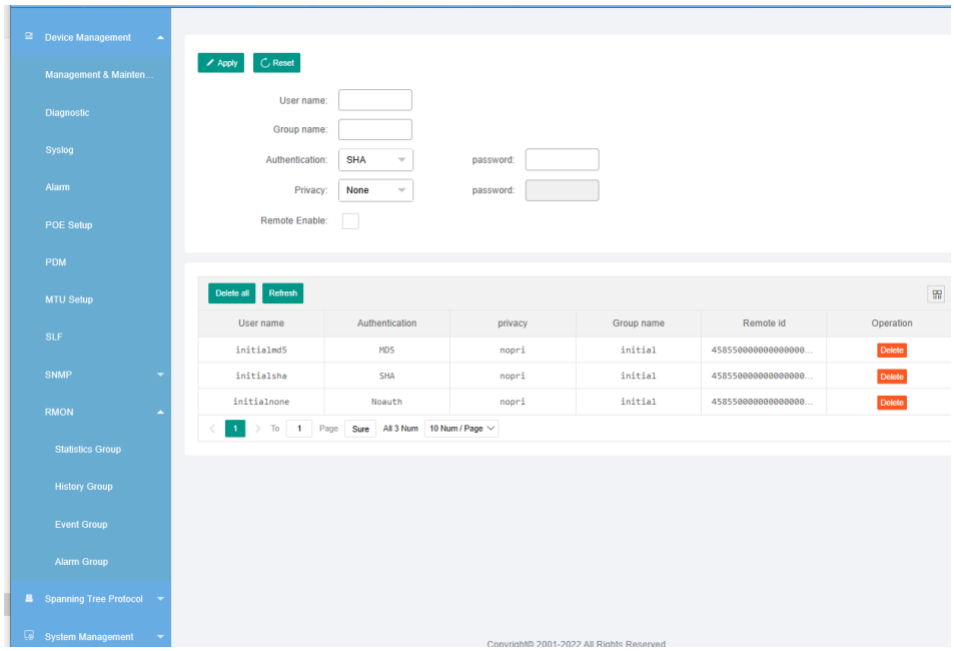


【Parameters & Descriptions】

Parameter	Description
User name	SNMP name.
Authentication	MD5 and SHA - Specify the security level.
Privacy	DES encryption protocol .
password	Authentication password and Privacy password.

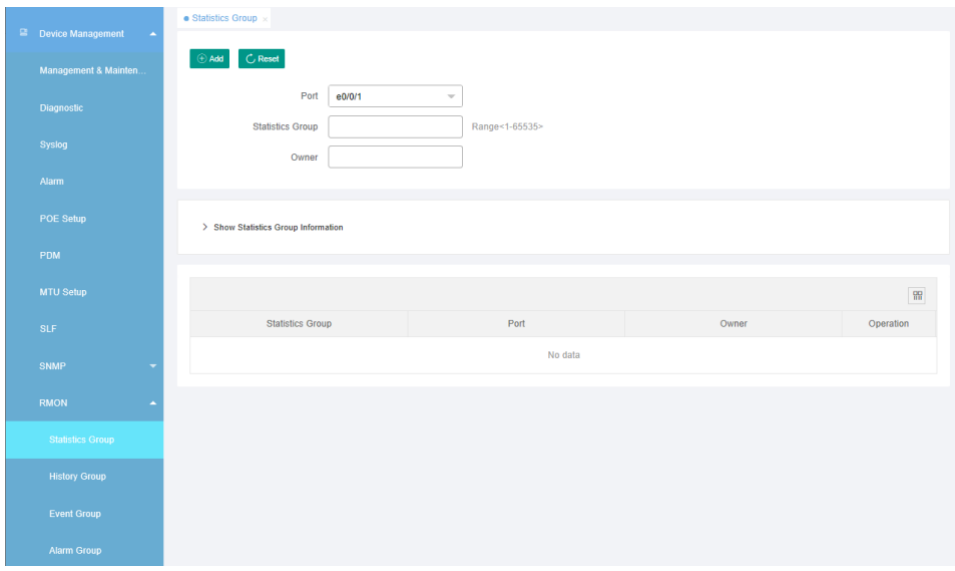
4.6.10 RMON

To set statistics group, history group, event group, and alarm group, select **Device Management**>**RMON** in the navigation bar.



4.6.10.1 Statistics Group

To set ports, statistics groups, owners, and so on, select **Device Management**>**RMON**>**Statistics Group** in the navigation bar.

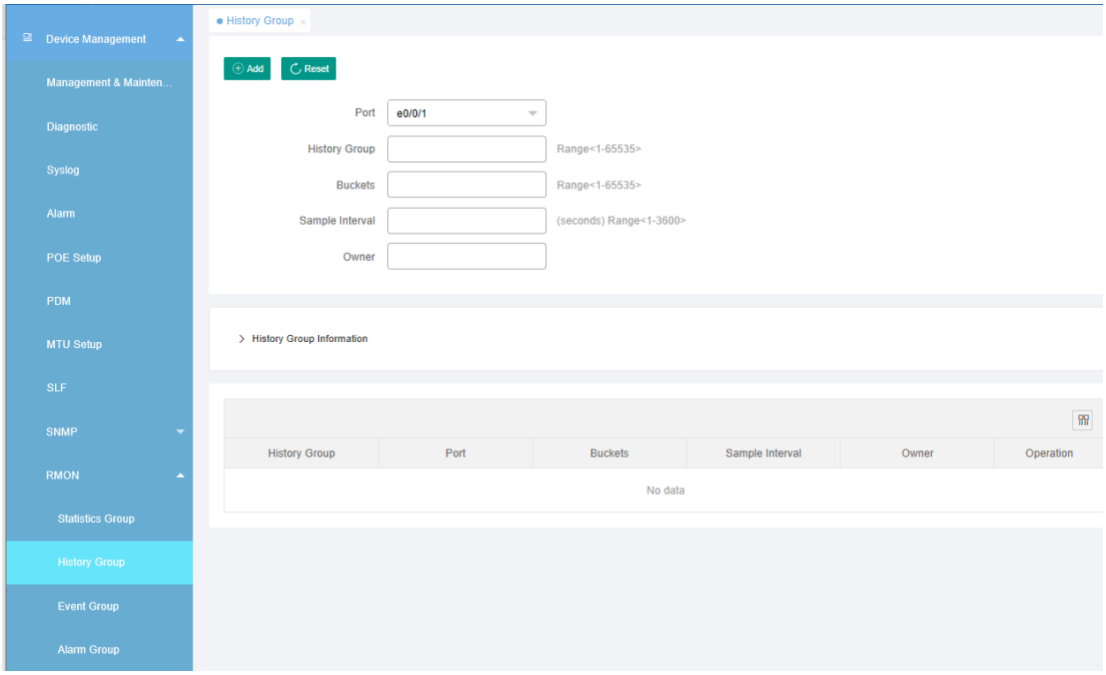


【Parameters & Descriptions】

Parameter	Description
Port	Select any port on the switch.
Statistics Group	The value ranges from 1 to 65535.
Owner	The user sets the owner name.

4.6.10.2 History Group

To set ports, history groups, number of records, sampling intervals, owners, and so on, select **Device Management>RMON>History Group** in the navigation bar.

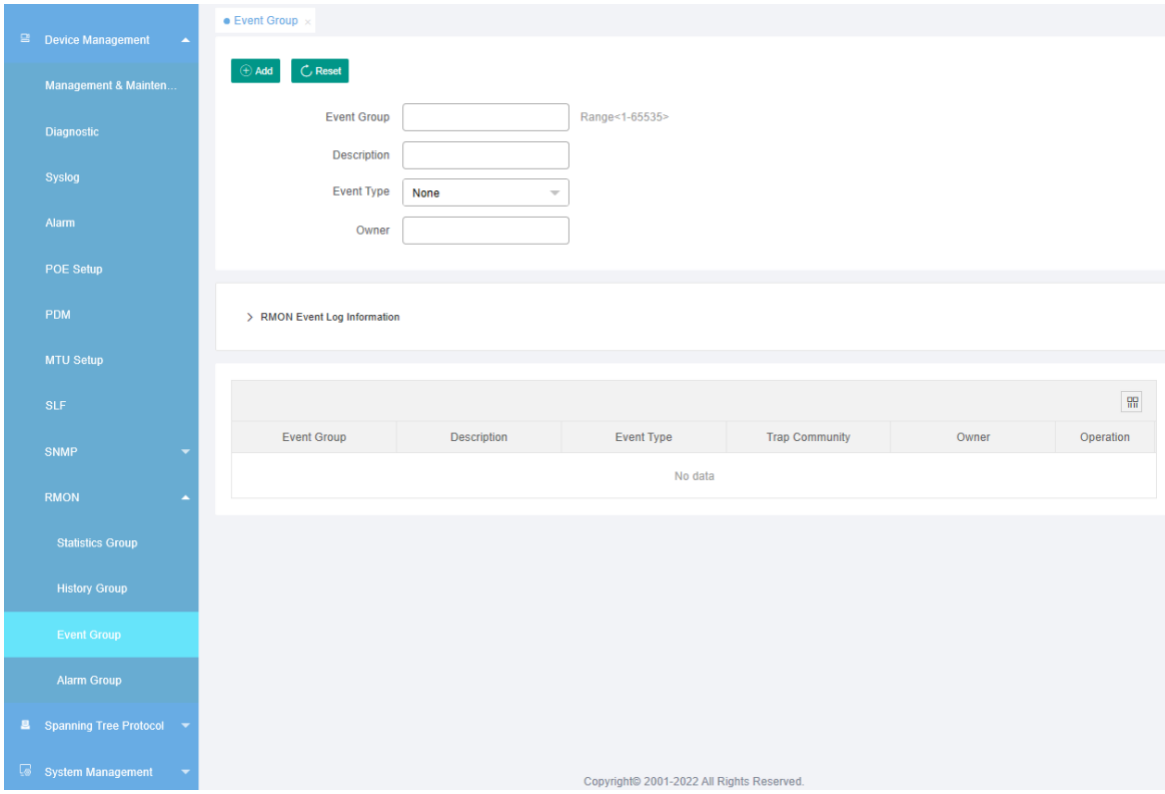


【Parameters & Descriptions】

Parameter	Description
Port	Select any port on the switch.
History Group	Set the History Group. The value ranges from 1 to 65535.
Buckets	Set the Buckets. The value ranges from 1 to 65535.
Sample Interval	Set the sampling interval. The value ranges from 1 to 3600 seconds.
Owner	The user sets the owner name.

4.6.10.3 Event Group

To set Event Groups, Descriptions, Event Types, Owners, and so on, select **Device Management**>**RMON**>**Event Group** in the navigation bar.

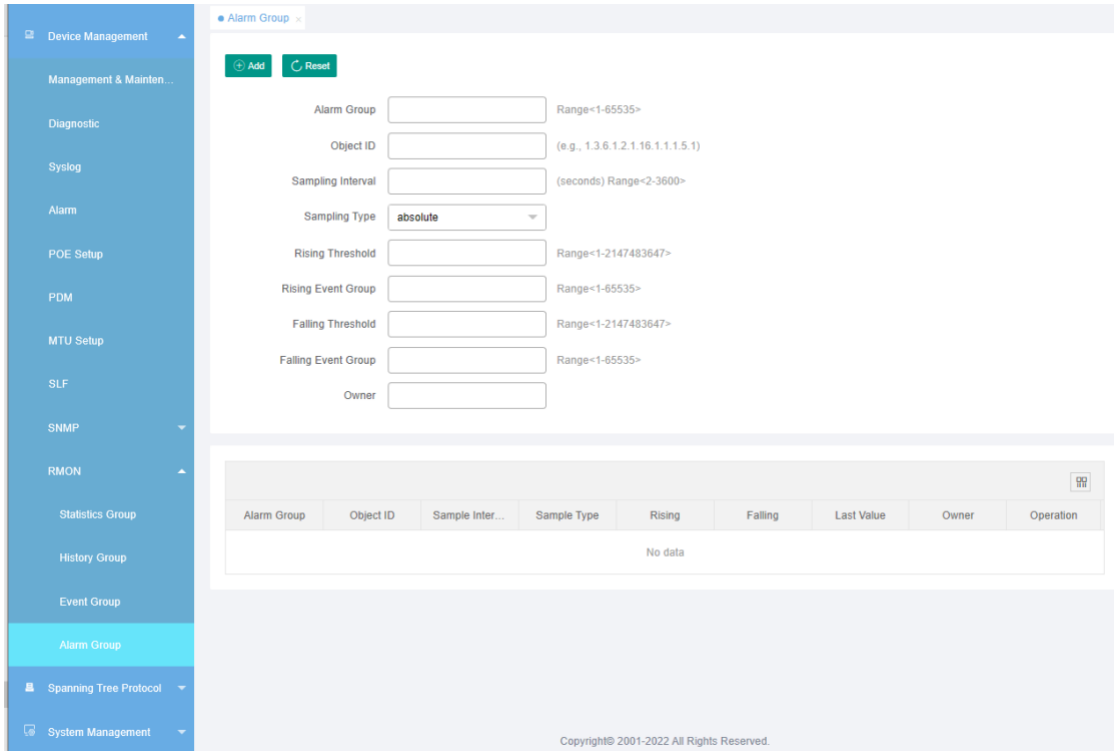


【Parameters & Descriptions】

Parameter	Description
Event Group	Set the Event Group. The value ranges from 1 to 65535.
Event Type	The Log, Trap, and log-trap events are available.

4.6.10.4 Alarm Group

To set an Alarm Group, Object ID, Sampling Interval, Sampling Type, Rise Threshold, Rise Event Group, Fall Threshold, Fall Event Group, and Owner, select **Device Management**>**RMON**>**Alarm Group** in the navigation bar.

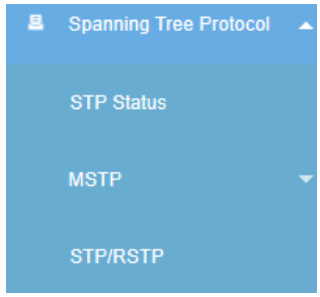


【Parameters & Descriptions】

Parameter	Description
Alarm Group	Set the Alarm Group. The value ranges from 1 to 65535.
Object ID	The value ranges from 2 to 3600 seconds.
Sampling Type	There are two types: absolute and delta.
Rising Threshold	The value ranges from 1 to 2147483647.
Rising Event Group	The value ranges from 1 to 65535.
Falling Threshold	The value ranges from 1 to 2147483647.
Falling Event Group	The value ranges from 1 to 65535.

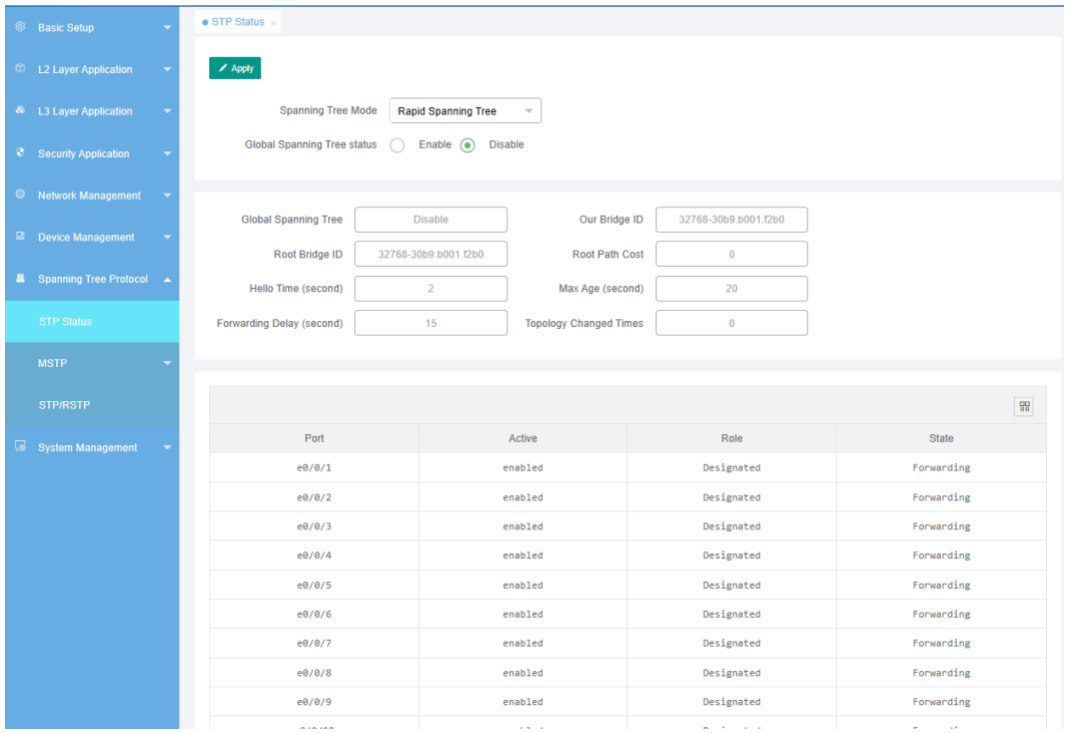
4.7 Spanning Tree Protocol

Choose **Spanning Tree Protocol**, and the following page appears. There are **STP Status**, **MSTP** and **STP Status** configuration web pages.



4.7.1 STP Status

To set the generated tree mode and global spanning tree state, select **Spanning Tree Protocol**>**STP Status** in the navigation bar.

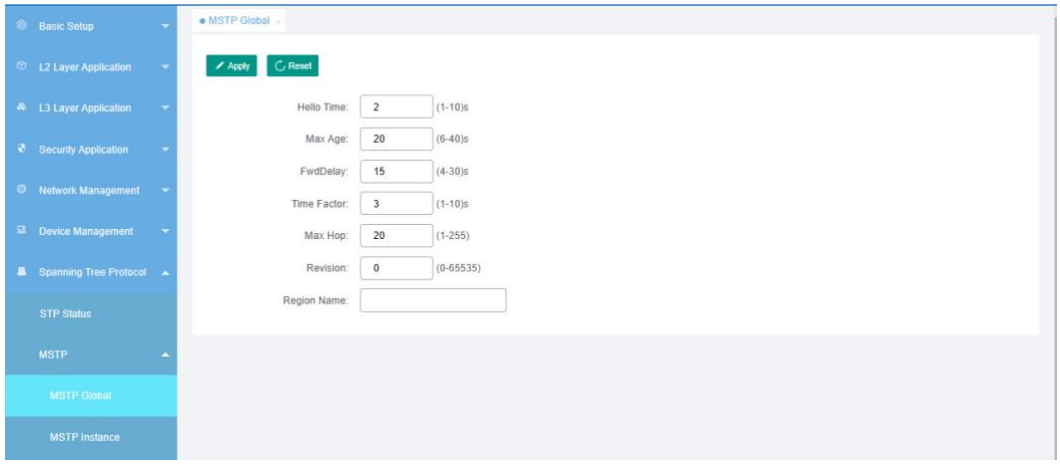


【Parameters & Descriptions】

Parameter	Description
Spanning Tree Mode	IEEE compatible spanning tree, rapid spanning tree, multiple spanning tree three modes.
Global Spanning Tree status	Enable or disable the global spanning tree.

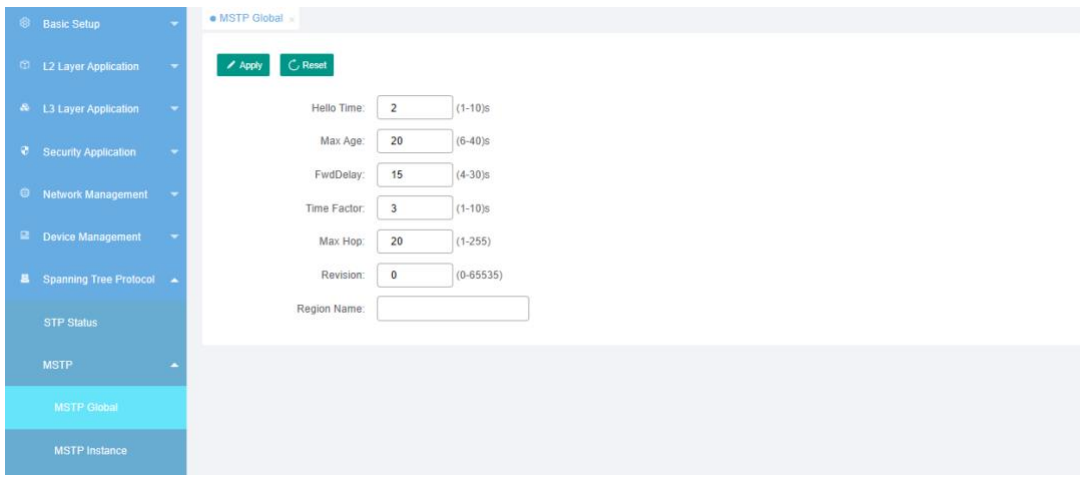
4.7.2 MSTP

To set MSTP global, MSTP instance, MSTP port, MSTP instance port, and MSTP guard, select **Spanning Tree Protocol**>**MSTP** in the navigation bar.



4.7.2.1 MSTP Global

To set the sending period, maximum aging time, forwarding delay, timeout factor, maximum hop count, area modification level, and area name, select **Spanning Tree Protocol**>**MSTP**>**MSTP Global** in the navigation bar.

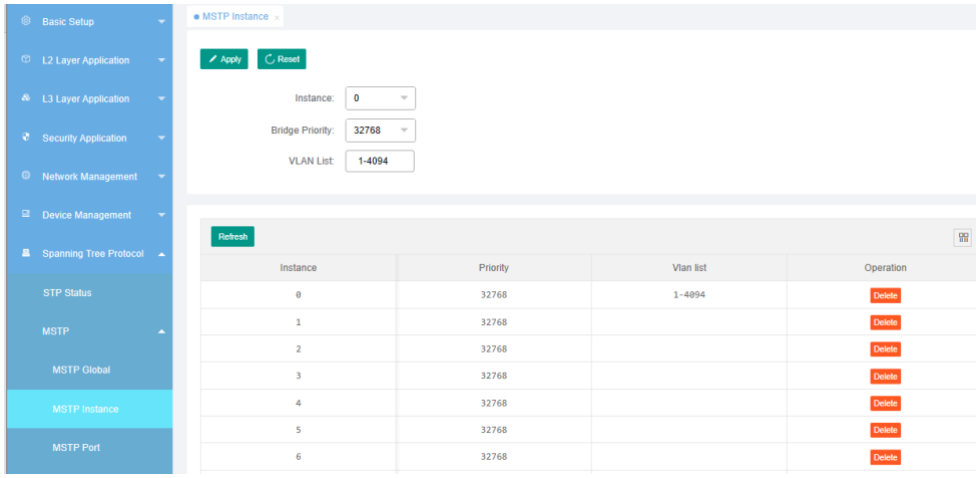


【Parameters & Descriptions】

Parameter	Description
Hello Time	The value ranges from 1 to 10 seconds.
Max Age	If the port does not receive any packet within this period (6-40 seconds), the port initiates a topology change.
FwdDelay	Port status switching time (4 to 30 seconds).
Time Factor	The value ranges from 1 to 10 seconds.
Max Hop	This parameter specifies the maximum number of hops supported by BPDUs in the spanning tree. The value ranges from 1 to 255.
Revision	The range correction level ranges from 0 to 65535.

4.7.2.2 MSTP Instance

To set the instance ID, bridge priority, and VLAN list, select **Spanning Tree Protocol**>**MSTP**>**MSTP Instance** in the navigation bar.

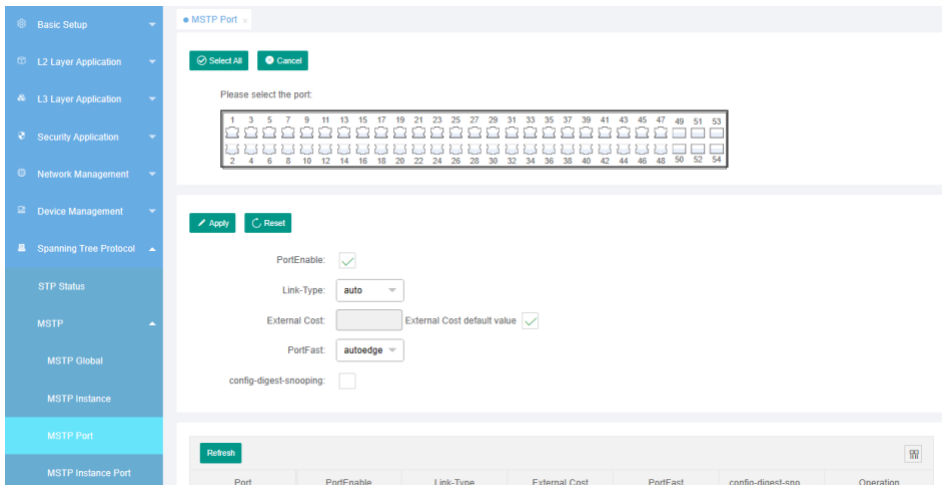


【Parameters & Descriptions】

Parameter	Description
Instance	The value ranges from 0 to 15.
Bridge Priority	Set the bridge priority. The default bridge instance priority is 32768.
VLAN List	The VLAN list ranges from 1 to 4094.

4.7.2.3 MSTP Port

To enable or disable the function, set the connection type, external path cost, port boundary mode, digest listening feature compatible with Cisco and so on, select **Spanning Tree Protocol**>**MSTP**>**MSTP Port** in the navigation bar.

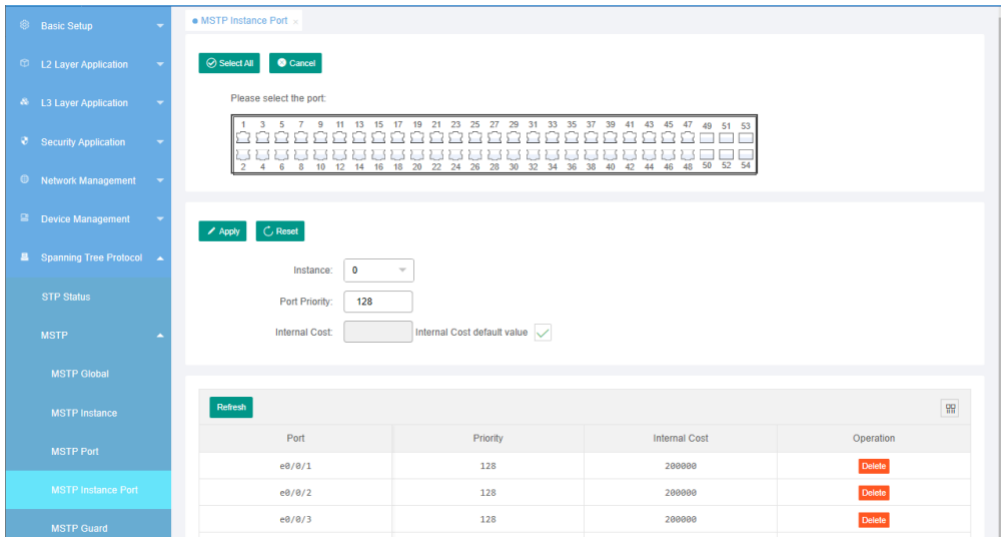


【Parameters & Descriptions】

Parameter	Description
PortEnable	Click to enable or disable the MSTP function.
Link-Type	There are three link types: auto, point-to-point, and shared.
External Cost	Configure port external path cost (default: 200000).
PortFast	There are three modes: autoedge, disable, and edgeport.
config-digest-snooping	Specifies whether the status is enabled.

4.7.2.4 MSTP Instance Port

To set the instance number, port priority, internal path cost, etc., select **Spanning Tree Protocol>MSTP>MSTP Instance Port** in the navigation bar.

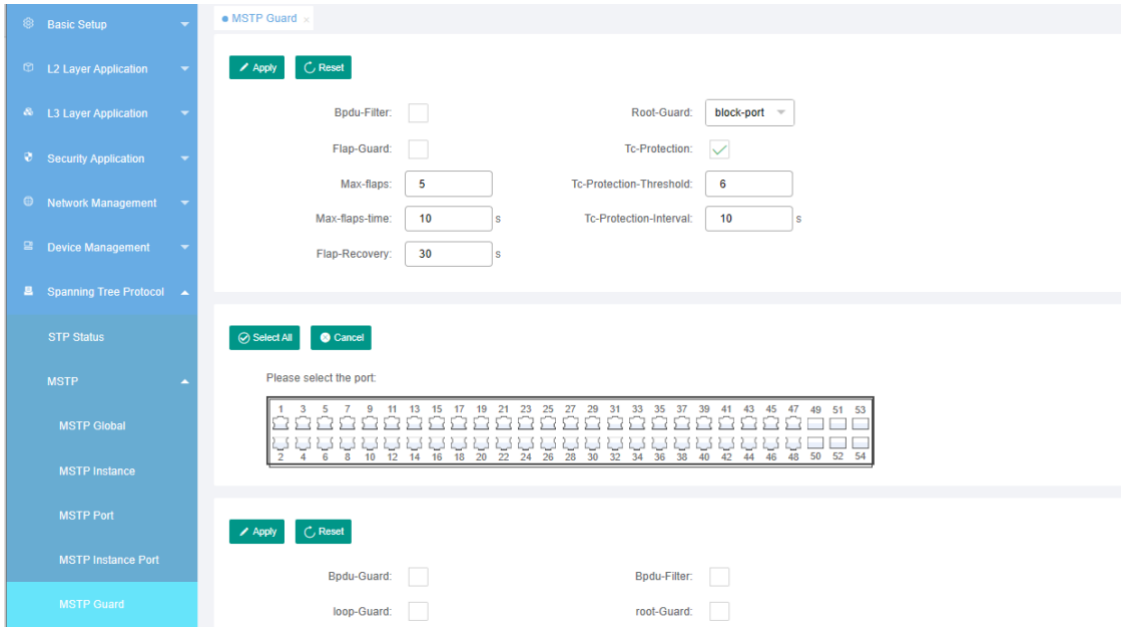


【Parameters & Descriptions】

Parameter	Description
Instance	The value ranges from 0 to 15
Port Priority	Set the port instance priority. The default value is 128.
Internal Cost	Configure the port internal path cost (default: 200000).

4.7.2.5 MSTP Guard

To set BPDU filtering, BPDU protection, loop protection, and root protection for a port, select **Spanning Tree Protocol**>**MSTP**>**MSTP Guard** in the navigation bar.

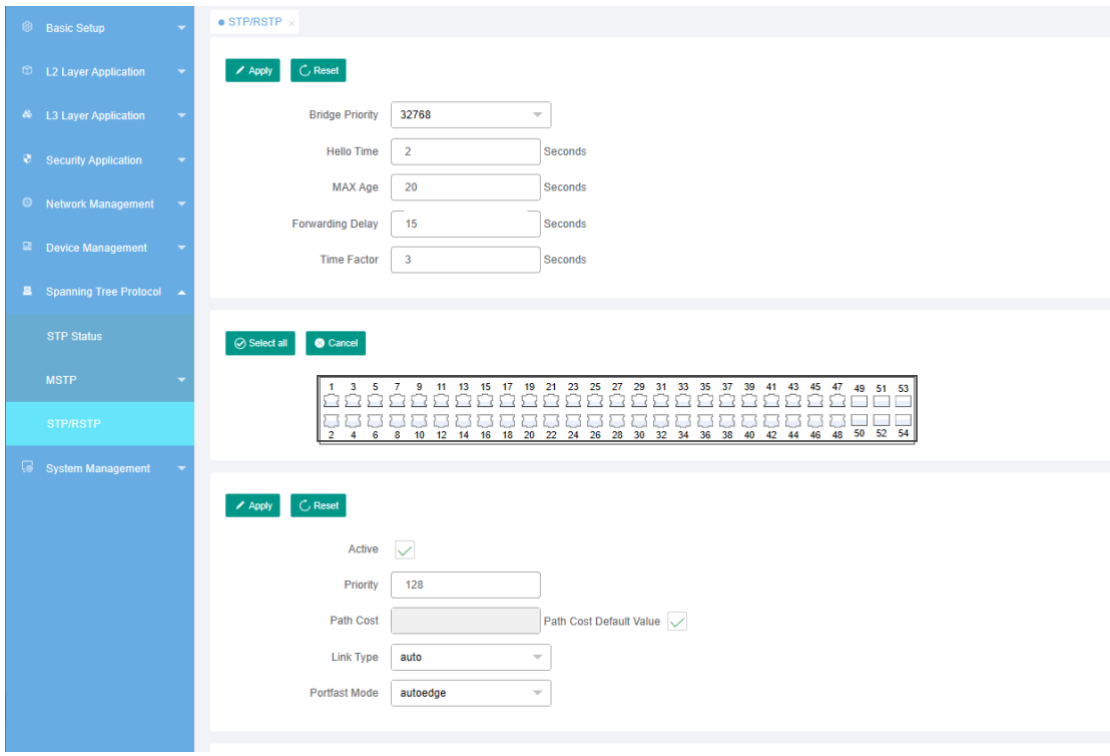


【Parameters & Descriptions】

Parameter	Description
Bpdu-Filter	Select whether to enable.
Bpdu-Guard	Select whether to enable.
root-Guard	Select whether to enable.
loop-Guard	Select whether to enable.

4.7.3 STP/RSTP

To set the bridging priority, sending period, maximum aging time, forwarding delay, timeout factor, enable/disable, priority, path cost, link type, and boundary status, select **Spanning Tree Protocol**>**STP/RSTP** in the navigation bar.

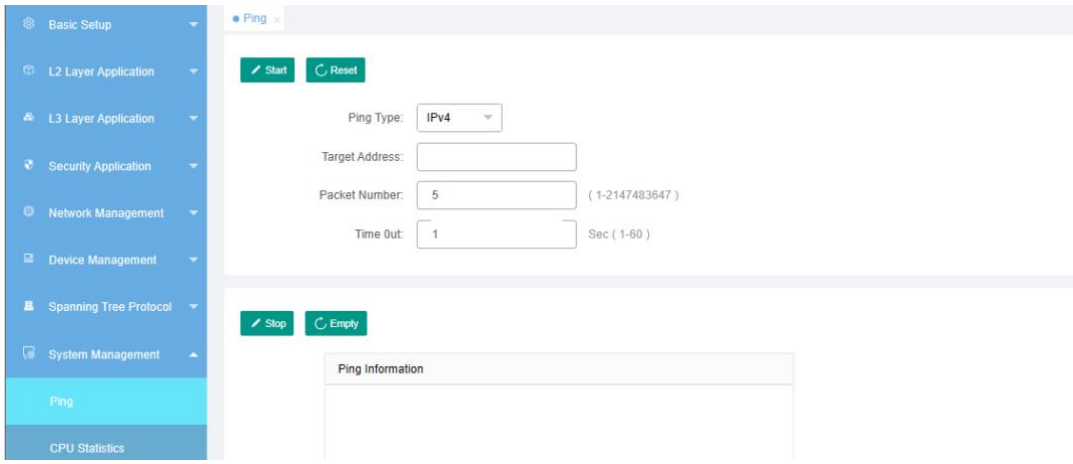


【Parameters & Descriptions】

Parameter	Description
Bridge Priority	Set the bridge priority. The default bridge instance priority is 32768.
Hello Time	The value ranges from 1 to 10 seconds.
MAX Age	If the port does not receive any packet within this period (6 – 40 seconds), the port initiates a topology change.
Forwarding Delay	Port status switching time (4 to 30 seconds).
Time Factor	The value ranges from 1 to 10 seconds.
Active	Whether the port function is enabled.
Priority	Set the port instance priority. The default value is 128.
Path Cost	Configure port path cost (default: 200000).
Link Type	The port link type can be auto, point-to-point, or shared.
Portfast Mode	The port status can be autoedge, disable, or edgeport.

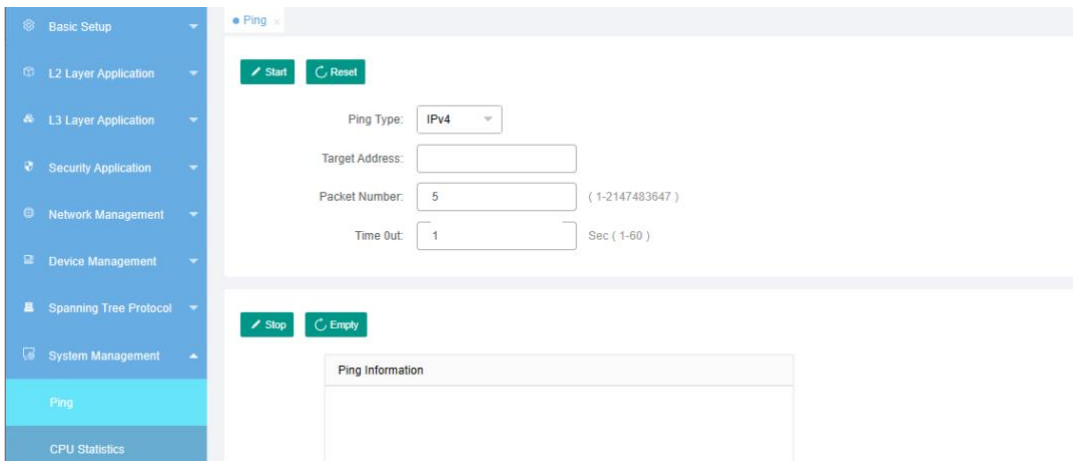
4.8 System Management

Choose **System Management**, and the following page appears. There are **Ping** and **CPU Statistics** configuration web pages.



4.8.1 Ping

To set the Ping type, destination address, number of packets, and timeout period, select **System Management**>**Ping** in the navigation bar.

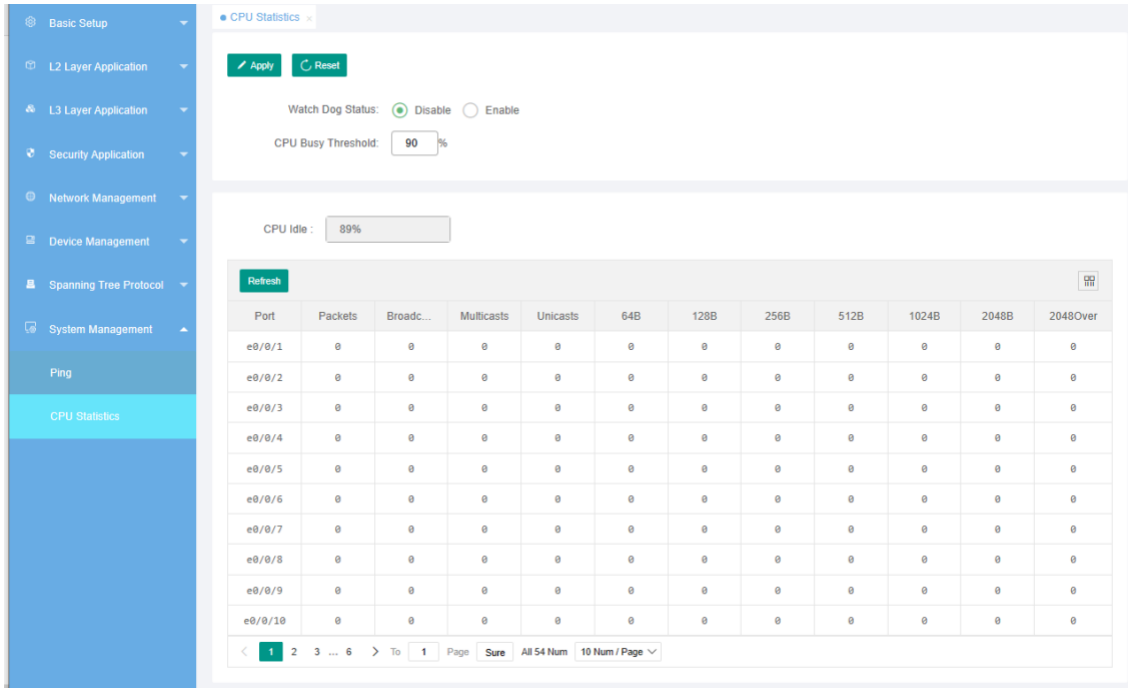


【Parameters & Descriptions】

Parameter	Description
Ping Type	The value is IPv4 or IPv6.
Target Address	The Ping destination address is specified.
Packet Number	The value ranges from 1 to 2147483647.
Time 0ut	The value ranges from 1 to 60 seconds.

4.8.2 CPU Statistics

To check the CPU idle rate to learn the data packets, broadcast, multicast, unicast, and byte information of each port, select **System Management>CPU Statistics** in the navigation bar.



【Parameters & Descriptions】

Parameter	Description
Watch Dog Status	Select Enable or Disable.
CPU Busy Threshold	Set CPU Busy Threshold.

5 Appendix: Technical Specifications

Hardware Specifications		
Standards and Protocols		IEEE 802.3i, IEEE 802.3u, IEEE 802.3az, IEEE 802.3af, IEEE 802.3ae, IEEE 802.3at, IEEE 802.3z, IEEE 802.3x
Network Media		10Base-T: UTP category 3, 4, 5 cable (maximum 100 m) 100Base-Tx: UTP category 5, 5e cable (maximum 100 m) 1000Base-T: UTP category 5e, 6 cable (maximum 100 m) 1000Base-X: MMF, MF 10GBase-X: MMF, MF
Transfer Method		Store-and-Forward
Switching Capacity		216 Gbps
Packet Forwarding		160.704 Mpps
Packet Buffer		16 Mbit
MAC Address Table		32 K
Jumbo Frame		12 KByte
Number of Ports		48 x 10/100/1000 Mbps ports 6 x 1000/10000 Mbps SFP+ ports 1 x Console port
PoE Ports(RJ45)		48 x PoE ports compliant with 802.3at/af
Power Pin Assignment		1/2 (+), 3/6 (-)
PoE Budget		450 W
Indicators	Per Port	10/100 Mbps Link/Act: Green 1000 Mbps Link/Act: Green PoE: Green
	Per Device	Power: Green SYS: Green
Power Supply		AC 100 – 240 V / 50 – 60 Hz 520 W internal power
Power Consumption		Maximum: 550 W (220 V / 50 Hz)
Dimensions (W x D x H)		440 x 330 x 44 mm (17.32 x 12.99 x 1.73 in.)
Environment		Operating Temperature: 0 – 45°C (32 – 113°F) Storage Temperature: -40 – 70°C (-40 – 158°F) Operating Humidity: 10 – 90% non-condensing Storage humidity: 5 – 90% non-condensing

Software Specification		
L2 Function • Ethernet Set • STP/RSTP/MSTP • Storm-suppression • Port mirror • Port rate limit • MAC filter • Link Aggregation (static, Lacp) • Jumbo Frame	**L3 Function** • IP interface • ARP proxy • L3 forwarding • Ping • OSPF, RIP • IPv4, IPv6 static route • IP Routing	**Security Policy** • count • ACL • QoS • Flow-control
VLAN • Port based VLAN • 802.1Q VLAN • GVRP Based MAC/protocol/IP subnet/policy VLAN • VLAN-translation	**Security** • Radius • Tacacs+ • Dos-attack • dot1x • Arp-attack • Port-security	**Application Protocol** • DHCP Relay • DHCP snooping • DHCP Client/Server • FTP/TFTP
Management • WEB • Telnet • SSH • Console	**Other** • LLDP • IGMP Snooping • MLD Snooping • Support IPMC • IGMP, PIM • SNMPV1, V2c, V3 • RMON (1, 2, 3, 9)	

6 Additional Information

6.1 WASTE ELECTRICAL & ELECTRONIC EQUIPMENT

DISPOSAL OF ELECTRIC AND ELECTRONIC EQUIPMENT

(Applicable In the E.U. and Other European Countries With Separate Collection Systems)

ENGLISH: This symbol on the product or its packaging means that this product must not be treated as unsorted household waste. In accordance with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), this electrical product must be disposed of in accordance with the user's local regulations for electrical or electronic waste. Please dispose of this product by returning it to your local point of sale or recycling pickup point in your municipality.

DEUTSCH: Dieses auf dem Produkt oder der Verpackung angebrachte Symbol zeigt an, dass dieses Produkt nicht mit dem Hausmüll entsorgtwerden darf. In Übereinstimmung mit der Richtlinie 2012/19/EU des Europäischen Parlaments und des Rates über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Elektrogerät nicht im normalen Hausmüll oder dem Gelben Sack entsorgt werden. Wenn Sie dieses Produkt entsorgen möchten, bringen Sie es bitte zur Verkaufsstelle zurück oder zum Recycling-Sammelpunkt Ihrer Gemeinde.

ESPAÑOL: Este símbolo en el producto o su embalaje indica que el producto no debe tratarse como residuo doméstico. De conformidad con la Directiva 2012/19/EU de la UE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este producto eléctrico no puede desecharse se con el resto de residuos no clasificados. Deshágase de este producto devolviéndolo a su punto de venta o a un punto de recolección municipal para su reciclaje.

FRANÇAIS: Ce symbole sur Ie produit ou son emballage signifie que ce produit ne doit pas être traité comme un déchet ménager. Conformément à la Directive 2012/19/EU sur les déchets d'équipements électriques et électroniques (DEEE), ce produit électrique ne doit en aucun cas être mis au rebut sous forme de déchet municipal non trié. Veuillez vous débarrasser de ce produit en Ie renvoyant à son point de vente ou au point de ramassage local dans votre municipalité, à des fins de recyclage.

POLSKI: Jeśli na produkcie lub jego opakowaniu umieszczono ten symbol, wówczas w czasie utylizacji nie wolno wyrzucać tego produktu wraz z odpadami komunalnymi. Zgodnie z Dyrektywą Nr 2012/19/EU w sprawie zużytego sprzętu elektrycznego i elektronicznego (WEEE), niniejszego produktu elektrycznego nie wolno usuwać jako nie posortowanego odpadu komunalnego. Prosimy o usuniecie niniejszego produktu poprzez jego zwrot do punktu zakupu lub oddanie do miejscowego komunalnego punktu zbiórki odpadów przeznaczonych do recyklingu.

ITALIANO: Questo simbolo sui prodotto o sulla relativa confezione indica che il prodotto non va trattato come un rifiuto domestico. In ottemperanza alla Direttiva UE 2012/19/EU sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE), questa prodotto elettrico non deve essere smaltito come rifiuto municipale misto. Si prega di smaltire il prodotto riportandolo al punto vendita o al punto di raccolta municipale locale per un opportuno riciclaggio.

6.2 WARRANTY

Go to **Intellinet-network.com**

EN MÉXICO: Póliza de Garantía Intellinet Network Solutions — Datos del importador y responsable ante el consumidor • IC Intracom México, S.A.P.I. de C.V. • Av. Interceptor Poniente # 73, Col. Parque Industrial La Joya, Cuautitlán Izcalli, Estado de México, C.P. 54730, México. • Tel. (55)1500-4500 • La presente garantía cubre los siguientes productos contra cualquier defecto de fabricación en sus materiales y mano de obra. A. Garantizamos los productos de limpieza, aire comprimido y consumibles, por 60 dias a partir de la fecha de entrega, o por el tiempo en que se agote totalmente su contenido por su propia función de uso, lo que suceda primero. B. Garantizamos los productos con partes móviles por 3 años. C. Garantizamos los demás productos por 5 años (productos sin partes móviles), bajo las siguientes condiciones: 1. Todos los productos a que se refiere esta garantía, ampara su cambio físico, sin ningún cargo para el consumidor. 2. El comercializador no tiene talleres de servicio, debido a que los productos que se garantizan no cuentan con reparaciones, ni refacciones, ya que su garantía es de cambio físico. 3. La garantía cubre exclusivamente aquellas partes, equipos o sub-ensambles que hayan sido instaladas de fábrica y no incluye en ningún caso el equipo adicional o cualesquiera que hayan sido adicionados al mismo por el usuario o distribuidor. • Para hacer efectiva esta garantía bastará con presentar el producto al distribuidor en el domicilio donde fue adquirido o en el domicilio de IC Intracom México, S.A.P.I. de C.V., junto con los accesorios contenidos en su empaque, acompañado de su póliza debidamente llenada y sellada por la casa vendedora (indispensable el sello y fecha de compra) donde lo adquirió, o bien, la factura o ticket de compra original donde se mencione claramente el modelo, número de serie (cuando aplique) y fecha de adquisición. Esta garantía no es válida en los siguientes casos: Si el producto se hubiese utilizado en condiciones distintas a las normales; si el producto no ha sido operado conforme a los instructivos de uso; o si el producto ha sido alterado o tratado de ser reparado por el consumidor o terceras personas.

6.3 REGULATORY STATEMENTS

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. Any changes or modifications made to this equipment without the approval of the manufacturer could result in the product not meeting the Class A limits, in which case the FCC could void the user’s authority to operate the equipment.

CE

ENGLISH : This device complies with the requirements of CE 2014/30/EU (UKCA Electromagnetic Compatibility Regulations 2016) and / or 2014/35/EU (UKCA Electrical Equipment [Safety] Regulations 2016). The Declaration of Conformity for is available at:

DEUTSCH : Dieses Gerät enspricht der CE 2014/30/EU und / oder 2014/35/EU. Die Konformitätserklärung für dieses Produkt finden Sie unter:

ESPAÑOL : Este dispositivo cumple con los requerimientos de CE 2014/30/EU y / o 2014/35/EU. La declaración de conformidad esta disponible en:

FRANÇAIS: Cet appareil satisfait aux exigences de CE 2014/30/EU et / ou 2014/35/EU. La Déclaration de Conformité est disponible à:

POLSKI : Urządzenie spełnia wymagania CE 2014/30/EU I / lub 2014/35/EU. Deklaracja zgodności dostępna jest na stronie internetowej producenta:

ITALIANO : Questo dispositivo è conforme alla CE 2014/30/EU e / o 2014/35/EU. La dichiarazione di conformità è disponibile al:

North America	Asia & Africa	Europe
IC Intracom America	IC Intracom Asia	IC Intracom Europe
550 Commerce Blvd.	4-F, No. 77, Sec. 1, Xintai 5th Rd.	Löhbacher Str. 7, D-58553
Oldsmar, FL 34677 USA	Xizhi Dist., New Taipei City 221, Taiwan	Halver, Germany