UltraTech
POWER PRODUCTS

L2
Managed

Software User Manual

GUI General Use

CLI Network Administrators

0E-8PRTMAN

0E-24PRTMAN

L2 Managed PoE Switches

Release A3

NDAA COMPLIANT

TAA COMPLIANT

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About This Manual

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Purpose

This GUI user guide gives specific information on how to operate and use the management functions of the 0E-8PRTMAN / 0E-24PRTMAN via HTTP web browser.

Audience

The Manual is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of general switch functions, the Internet Protocol (IP), and Hypertext Transfer Protocol (HTTP).

CONVENTIONS

The following conventions are used throughout this manual to show information.

WARRANTY

See the Customer Support/ Warranty booklet included with the product. A copy of the specific warranty terms applicable to your Manufacture products and replacement parts can be obtained from your Manufacture Sales and Service Office authorized dealer.

Disclaimer

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Revision History

Release	Date	Revision
Initial Release	**2021/02/04**	**A1**
Revision	**2022/01/03**	**A2**
Revision	**2023/01/13**	**A3**

Table of Contents

INTRODUCTION

Overview

In this User Guide, it will not only tell you how to install and connect your network system but configure and monitor the 0E-8PRTMAN / 0E-24PRTMAN through the web by (RJ-45) serial interface and Ethernet ports step-by-step. Many explanations in detail of hardware and software functions are shown as well as the examples of the operation for web-based interface.

The 0E-8PRTMAN / 0E-24PRTMAN are L2 smart PoE switches, is a portfolio of affordable managed switches that provides a reliable infrastructure for your business network. These switches deliver more intelligent features you need to improve the availability of your critical business applications, protect your sensitive information, and optimize your network bandwidth to deliver information and applications more effectively. It provides the ideal combination of affordability and capabilities for entry level networking includes small business or enterprise application and helps you create a more efficient, better-connected workforce.

0E-8PRTMAN / 0E-24PRTMAN is L2 smart POE Switches, the specification is highlighted as follows.

Features

- **Layer 2 Switch**
  - 802.1d (STP), 802.1w (RSTP), 802.1s (MSTP)
  - Loop protection
  - SNMP
  - QoS
  - VLAN
  - LACP
  - DHCP Server
- **PoE Management**
  - PoE Per Port On/OFF Control
  - PoE Status
  - PoE Power Delay
  - PoE Auto Checking
  - PoE Scheduling Profile

Chapter 1 Operation of Web-based Management

Initial Configuration

This chapter instructs you how to configure and manage the 0E-8PRTMAN / 0E-24PRTMAN through the web user interface. With this facility, you can easily access and monitor through any one port of the switch all the status of the switch, including, each port activity, Spanning tree status, port aggregation status, VLAN and priority status, and so on.

The default values of the 0E-8PRTMAN / 0E-24PRTMAN are listed in the table below:

IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
User Name	admin
Password	admin

After the 0E-8PRTMAN / 0E-24PRTMAN have been finished configuring the interface, you can browse it at re-login page. In the IP address bar of a browser, it will show the following screen and ask you to input username and password in order to login and access authentication.

The default username is **"admin"** and password is "**admin"**. For the first time to use, please enter the default username and password, and then click the **<Login>** button. The login process now is completed. In this login menu, you have to input the complete username and password respectively, the 0E-8PRTMAN / 0E-24PRTMAN will not give you a shortcut to username automatically. This looks inconvenient, but safer.

In the 0E-8PRTMAN / 0E-24PRTMAN, allowed two or more users using administrator's identity to manage this switch, which administrator to do the last setting, it will be an available configuration to effect the system.

NOTE:
To optimize the display effect, we recommend you to use Google Chrome,, Firefox, Microsoft Edge and have the resolution 1024x768. The switch supported neutral web browser interfaces

Figure 1: The login page

Chapter 2 FIRST TIME WIZARD

When the first time you use this device, you can configure some basic settings, such as password, IP address, date & time, system information.

According to the following procedure:

Step1: Change default password

Configure new password and enter it again.

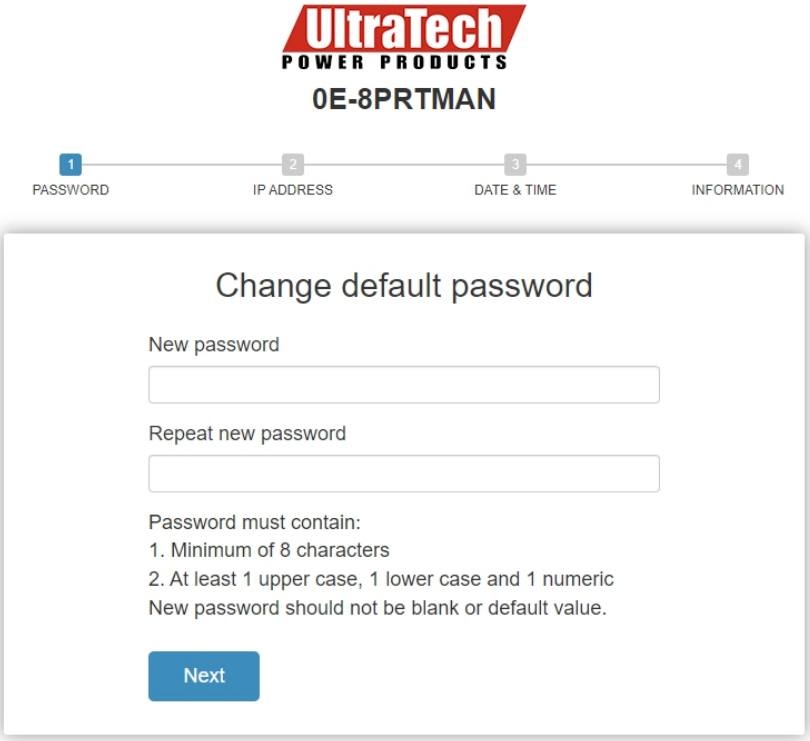


Figure 2: Change default password

Step2: Set IP address

Select “obtain IP address via DHCP” or “Set IP address manually” to set IP address.

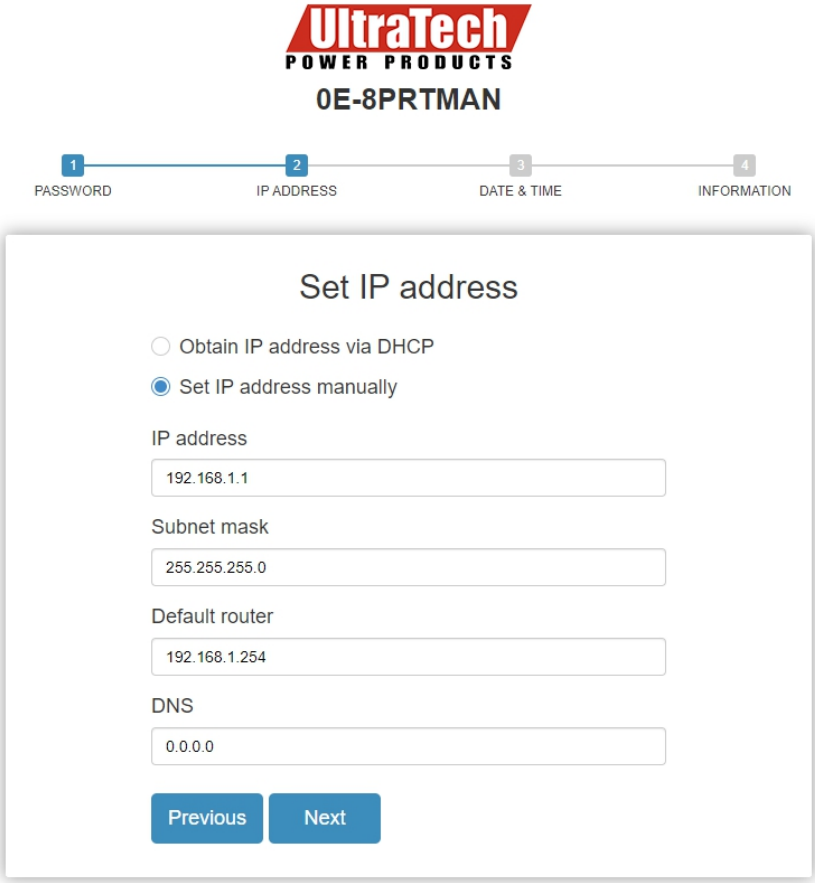


Figure 3: Set IP address

Step3: Set date and time

Enable “Automatic data and time” or select manually to set date and time.

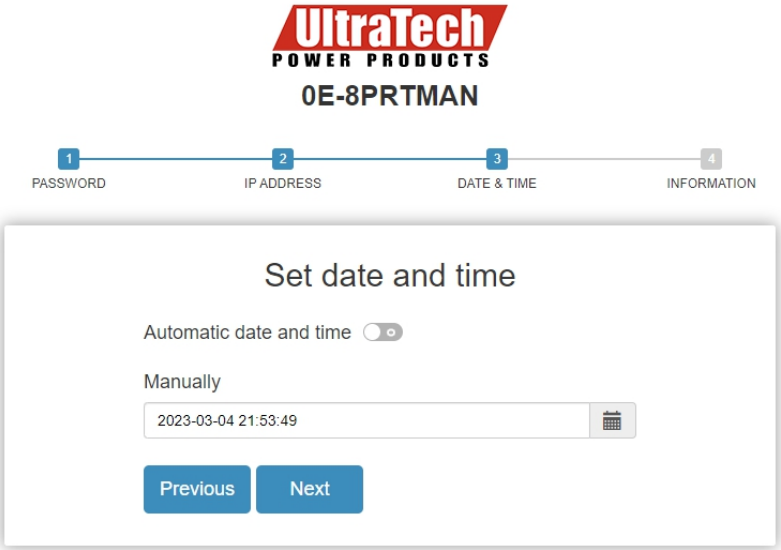


Figure 4: Set date and time

Step4: Set system information

You can set some system information to this device, such as “System contact”, “System name”, “System location”.

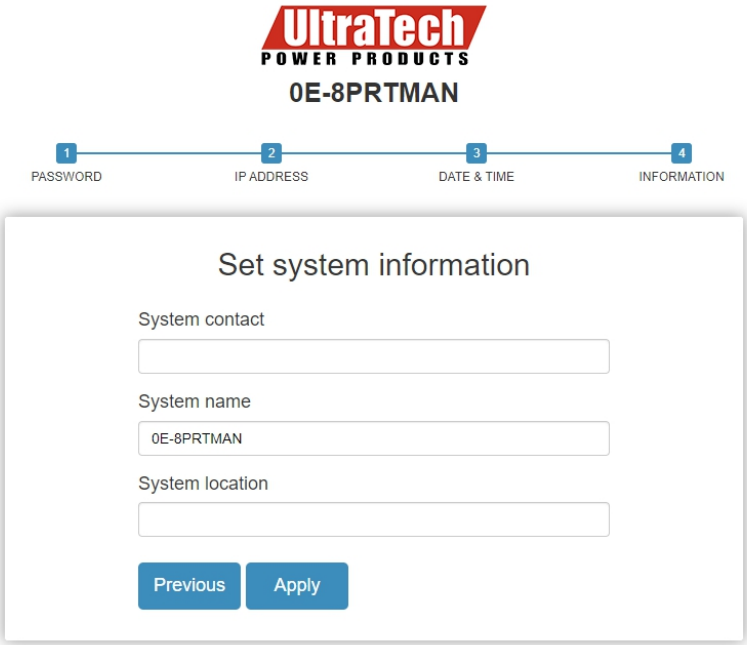


Figure 5: Set system information

Chapter 3 SYSTEM

PoE Managed switch software provides rich functionality for switches in your networks. This guide describes how to use Web-based management interface (Web UI) to configure managed switch software features.
The Web UI supports all frequently used web browsers listed below:

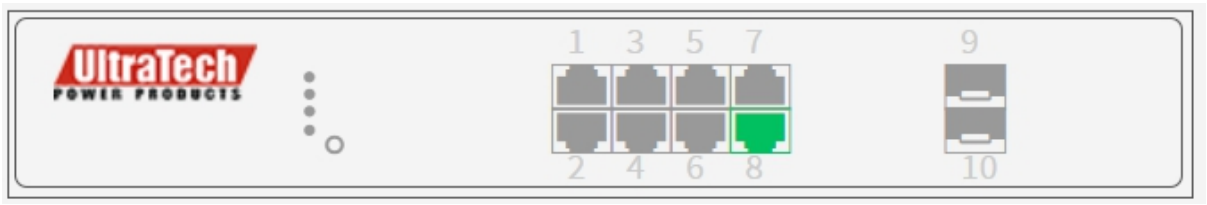


Figure 6: Port Information

In the Web UI, the left column shows the configuration menu. The top row shows the switch's current linking status described below.

- Orange : The LAN port is powered on and is connected with 10/100M linking speed powered device.
- Green : The LAN port is powered on and is connected with 1000M linking speed powered device
- Gray : The LAN port is NOT connected with any device.

On the top-right part, it shows useful functions for users to save the system configuration, log out the system. The rest of the screen area displays the configuration settings.

3-1 System Information

You can identify the system by configuring system name, location and the contact of the switch. The switch system's contact information is provided here.

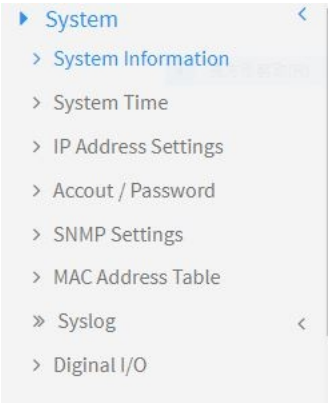


Figure 7: System

Web interface

To configure System Information in the web interface:

1. Click System -> System Information.

2. Input System Name, Location and Contact information in this page.
3. Click Apply.

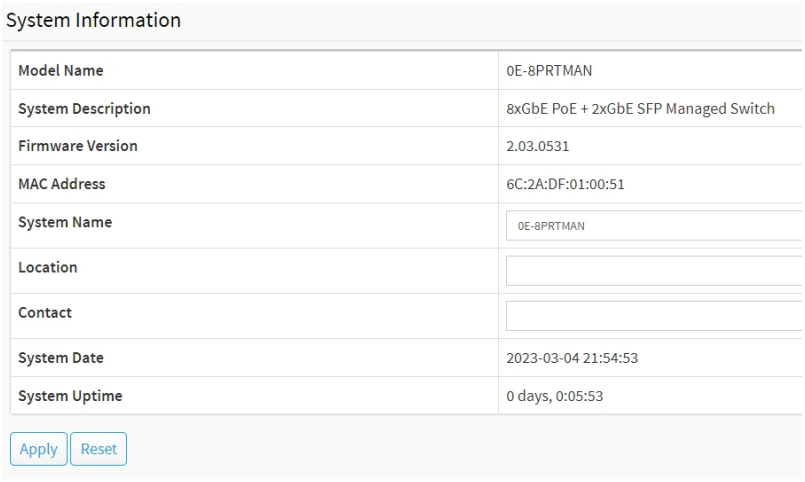


Figure 8: System Information

Parameter Description:

- **Description**

  Displays the system description.

- **Model Name**

  Displays the factory defined model name for identification purpose.

- **MAC Address**

  Base MAC address of the switch.

- **IP Address**

  The IP Address of this switch.

- **Subnet Mask**

  The Subnet Mask IP Address of this switch.

- **Default Gateway**

  The Gateway IP Address of this switch.

- **Firmware Version**

  The software version of this switch.

- **System Time**

  The current (GMT) system time and date. The system time is obtained through the Timing server running on the switch, if any.

- **Uptime**

  The period of time the device has been operated.

- **System name**

  An administratively assigned name for this managed node. By convention, this is the node's fully-qualified domain name. A domain name is a text string drawn from the alphabet (A-Z, a-z), digits (0-9), minus sign (-). No space characters are permitted as part of a name. The first character must be an alpha character. And the first or last character must not be a minus sign. The allowed string length is 0 to 128.

- **Location**

  The physical location of this node(e.g., telephone closet, 3rd floor). The allowed string length is 0 to 128, and the allowed content is the ASCII characters from 1 to 32.

- **Contact**

  The textual identification of the contact person for this managed node, together with information on how to contact this person. The allowed string length is 0 to 128, and the allowed content is

the ASCII characters from 32 to 126.

3-2 System Time

The switch provides manual and automatic ways to set the system time via NTP. Manual setting is simple and you just input “Year”, “Month”, “Day”, “Hour” , “Minute” and “Second” within the valid value range indicated in each item.

Web interface

To configure System Time in the web interface:

1. Click System -> System Time.
2. Specify the Time parameter.
3. Click Apply.

NOTE:
Each time when you click apply, it will set new date to system. If **Clock Source** is “Local Setting” and **Daylight Saving Time** is “On”, the **System Date** should be manual to “Standard Time” to avoid time configuration shift.

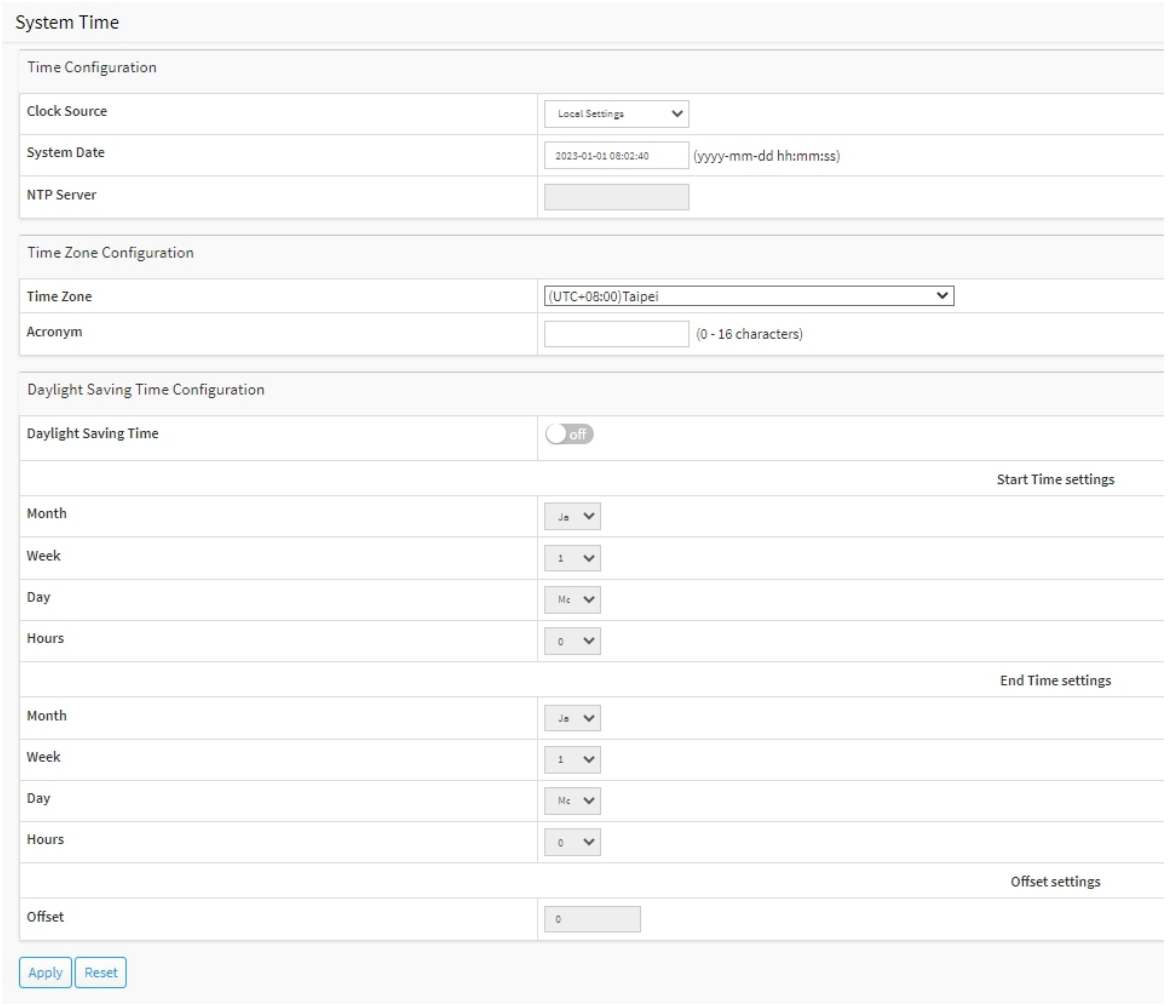


Figure 9: System Time

Parameter Description:

- **Time Configuration**

  You can input Year, Month, Day, Hour, Minute and Second manually, or by clicking "Copy Computer Time" button to get time through PC, and to enable/disable obtaining system time through the time server.

- **Time Zone**

  Lists various Time Zones worldwide. Select appropriate Time Zone from the drop down and click Apply to set.

- **Daylight Saving Time**

  To enable/disable daylight saving time function.

- **Start Time Settings**

  Month - Select the starting month.

  Day - Select the starting day.

  Hours - Select the starting hour.

- **End Time Settings**

  Month - Select the ending month.

  Day - Select the ending day.

  Hours - Select the ending hour.

- **Offset**

  The number of minutes to be added by Daylight Saving Time. (Range: 1 to 720 minutes)

3-3 IP Address Settings

The IPv4 address for the switch could be obtained via DHCP Server for VLAN 1. To manually configure an address, you need to change the switch's default settings to values that are compatible with your network. You may also need to establish a default gateway between the switch and management stations that exist on another network segment.

Web Interface

To configure an IP Settings in the web interface:

1. Click System -> IP Address Settings.
2. Enable or Disable the IPv4 DHCP Client.
3. Specify the IPv4 Address, Subnet Mask and Gateway.
4. Input IPv4 DNS Server if desired.
5. Click Apply.

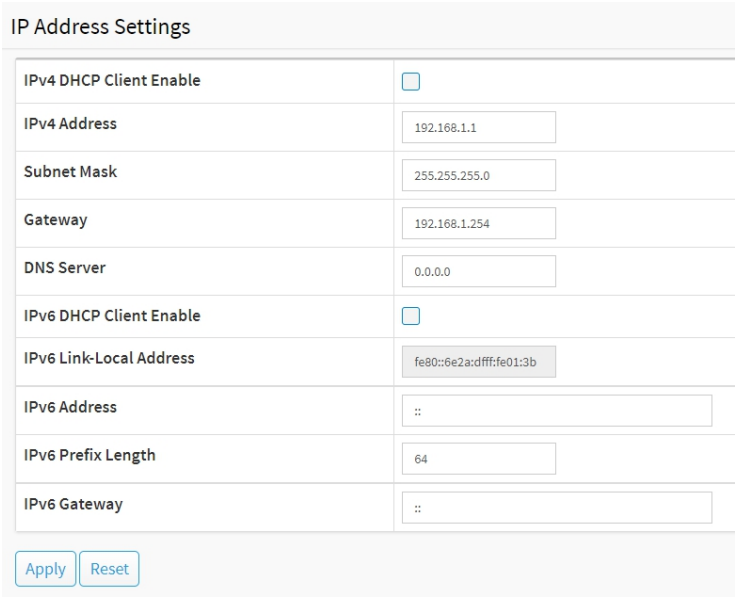


Figure 10: IP Address Setting

Parameter Description:

- **DHCP Client Enable**

  Enable the DHCP client by clicking this checkbox. If this option is enabled, the system will configure the IPv4 address and mask of the interface using the DHCP protocol. The DHCP client will announce the configured System Name as hostname to provide DNS lookup.

- **IPv4 Address**

  The IPv4 address of the interface in dotted decimal notation.

  If DHCP is enabled, this field is not used. The field may also be left blank if IPv4 operation on the interface is not desired.

- **Subnet Mask**

  User IP subnet mask of the entry.

- **Default Gateway**

  The IP address of the IP gateway. Valid format is dotted decimal notation, or a valid IPv6 notation. Gateway and Network must be in the same type.

- **DNS Server**

  This setting controls the DNS name resolution done by the switch.

3-4 Account / Password

This page provides an overview of the current users. Use this page to modify the user name and password.

Web Interface

To configure User Account in the web interface:

1. Click System -> Account/Password.
2. Specify the User Name.
3. Specify new password and confirm new password.
4. Click Apply.

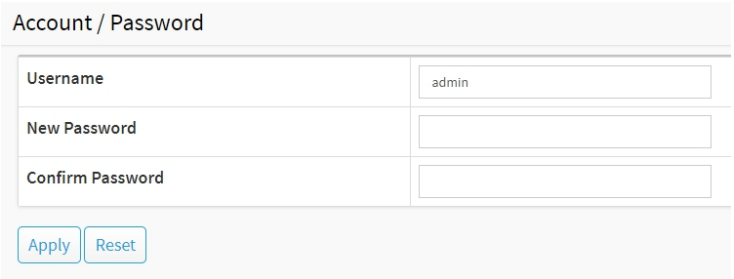


Figure 11: Account / Password

Parameter Description:

- **Username**

  The name identifying the user. The field can be input 32 characters.

- **New Password**

  To type the new password. The field can be input 32 characters.

- **Confirm Password**

  To type the new password again. You must type the same password again in the field.

Chapter 4 Port

The section describes to configure the Port detail parameters of the switch. Others you could use the Port configure to enable or disable the Port of the switch. Monitor the ports content or status in the function

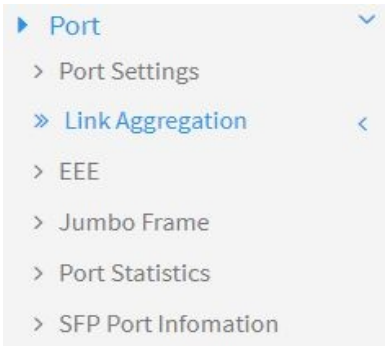


Figure 12: Port Setting

4-1 Port Setting

This page displays current port configuration. Ports can also be configured here.

Web Interface

To configure a Current Port Configuration in the web interface:

1. Click Port -> Port Setting.
2. Click the port number which you want to configure. (For example: Port 9)
3. Click Edit.
4. Specify the parameters you want to configure.
5. Click Apply.

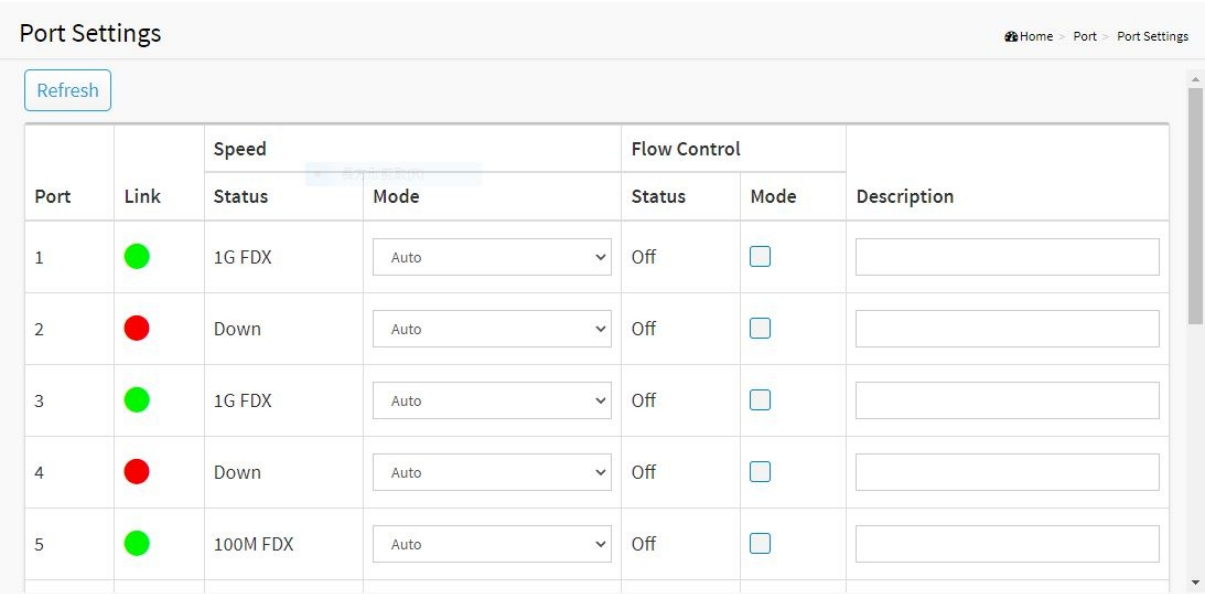


Figure 13: Port Setting

4-2 Link Aggregation

This page is used to configure port's LACP.

Web Interface

To configure a Current Port's LACP in the web interface:

1. Click Port -> Link Aggregation.
2. Specify Link Aggregation Group and the port's LACP method you want to configure. (For example: Port 9)
3. Click Apply.

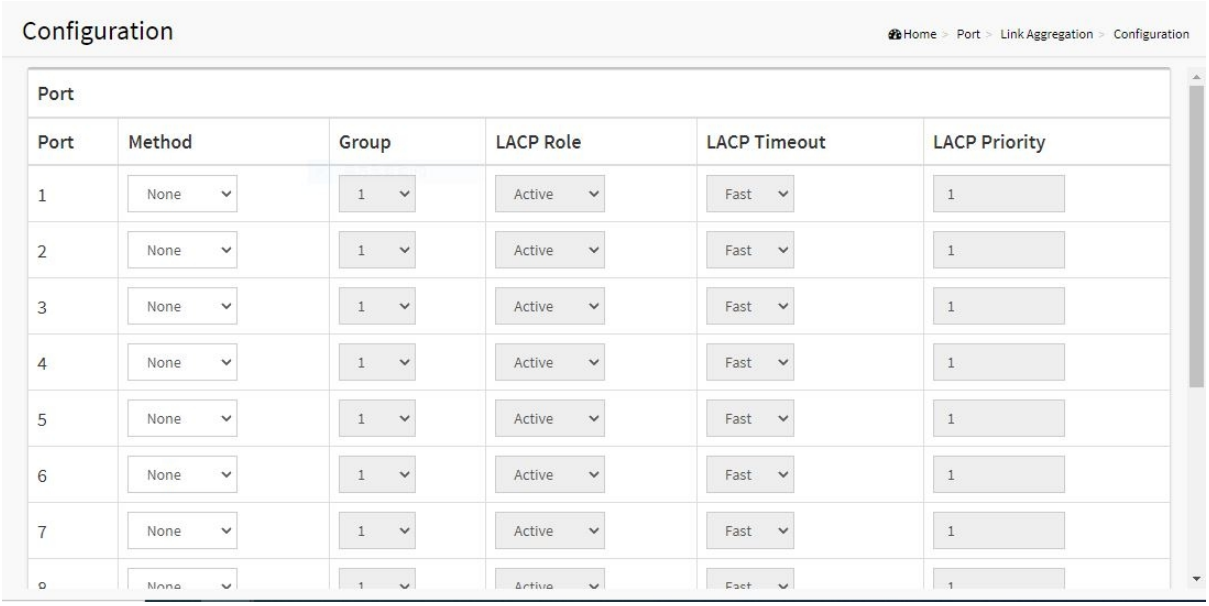


Figure 14: Link Aggregation

Parameter Description:

- **Method**

  Current port's LACP method.(None/LACP/Static)

4-3 EEE(Energy Efficient Ethernet)

This page is used to set current ports' energy configuration.

Web Interface

To configure a Current Port EEE Configuration in the web interface:

1. Click Port -> EEE.
2. Specify the parameters you want to configure.
3. Click Apply.

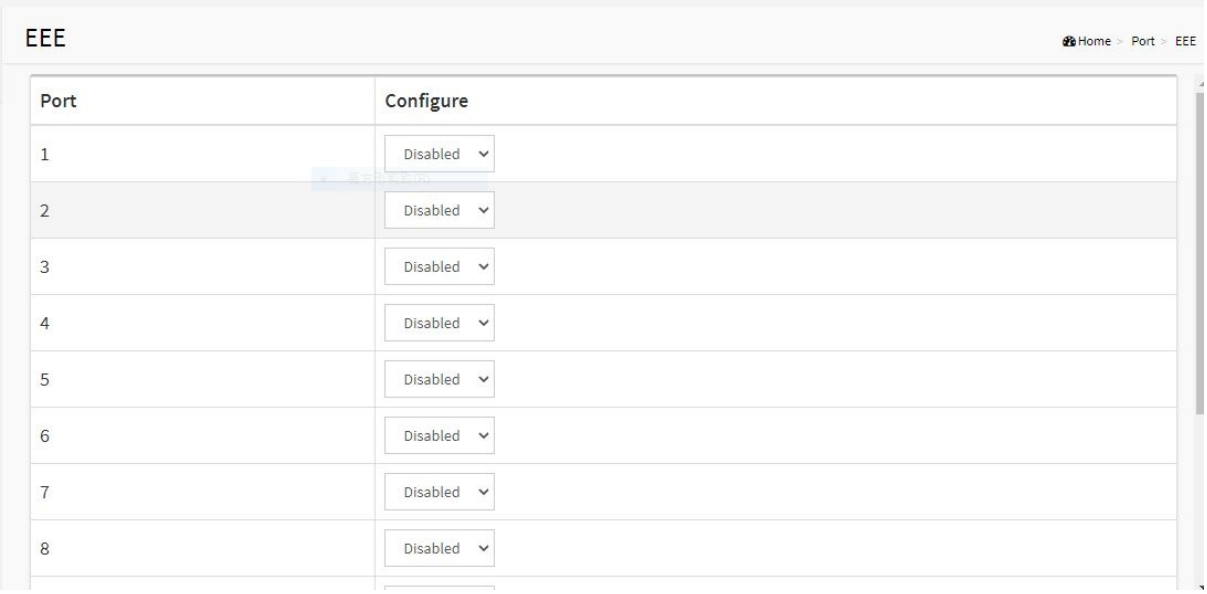


Figure 15: Link Aggregation

Parameter Description:

- **Configure**

  To enable/disable EEE function

4-4 Jumbo Frame

This page is used to set jumbo frame function.

Web Interface

To configure jumbo frame function in the web interface:

1. Click Port -> Jumbo Frame.
2. Specify the parameters you want to configure.
3. Click Apply.

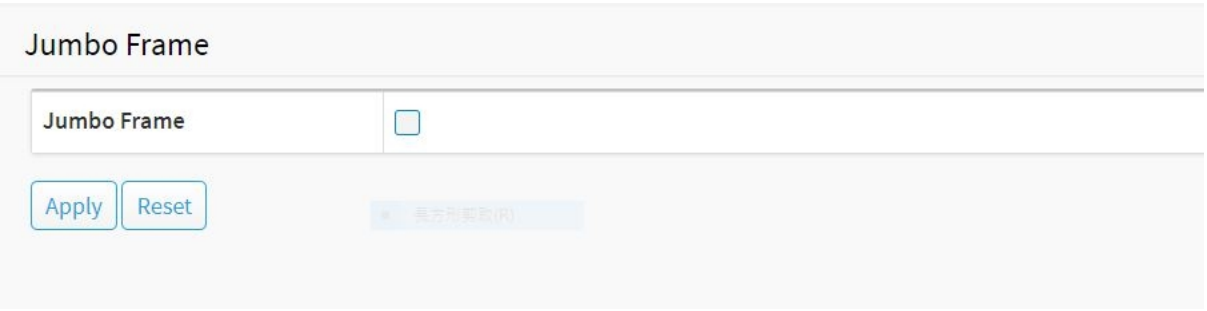


Figure 16: Jumbo Frame

Parameter Description:

- To enable/disable jumbo frame function.

4-5 Port Statistics

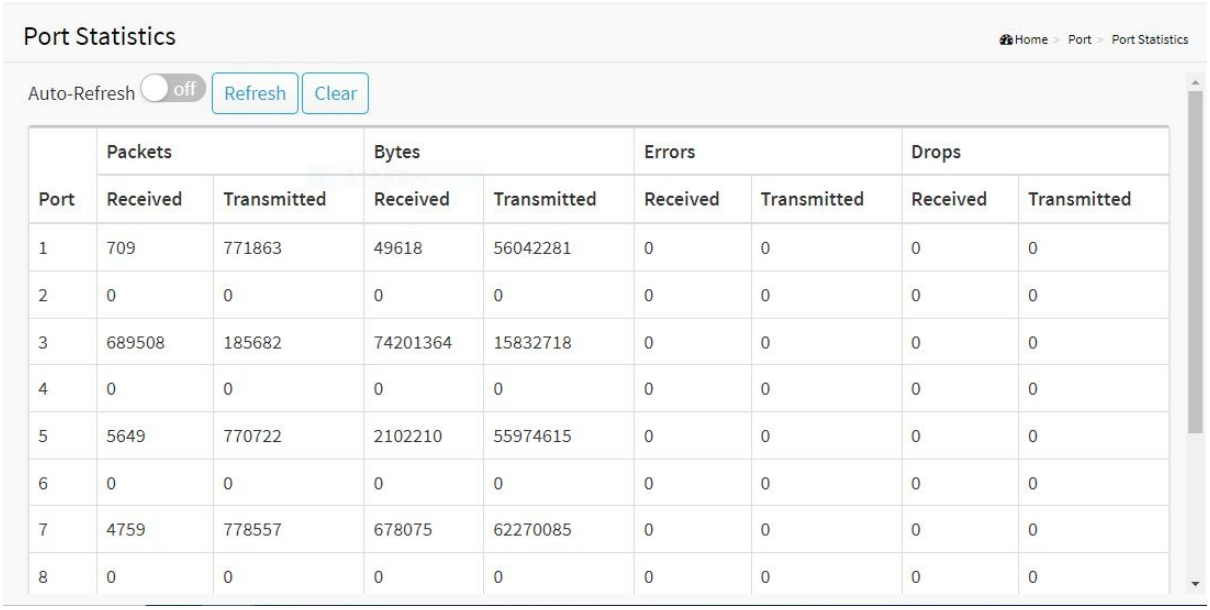
The Port Statistics page displays port summary and status information. This page displays

standard counters on network traffic from the Interfaces. The port counters would be display in four groups individually.

Web Interface

To display Port Statistics in the web interface:

1. Click Port -> Port Statistics.
2. Check Packets, Bytes , Error and Drops individually to view each port's statistics information.
3. Click “Clear” button will clear counter of current selected port.



Port	Packets		Bytes		Errors		Drops	
	Received	Transmitted	Received	Transmitted	Received	Transmitted	Received	Transmitted
1	709	771863	49618	56042281	0	0	0	0
2	0	0	0	0	0	0	0	0
3	689508	185682	74201364	15832718	0	0	0	0
4	0	0	0	0	0	0	0	0
5	5649	770722	2102210	55974615	0	0	0	0
6	0	0	0	0	0	0	0	0
7	4759	778557	678075	62270085	0	0	0	0
8	0	0	0	0	0	0	0	0

Figure 17: Port Statistics

Parameter Description:

- **Refresh[Button]**
  To refresh selected port information.
- **Clear[Button]**

  To clear counter of current selected port.

4-6 SFP Port Information

The section describes that switch could display the SFP module detail information which you connect it to the switch. The information includes: Connector type, Fiber type, wavelength, bit rate and Vendor OUI etc.

Web Interface

To display Port Statistics in the web interface:

4. Click Port -> SFP Port Information

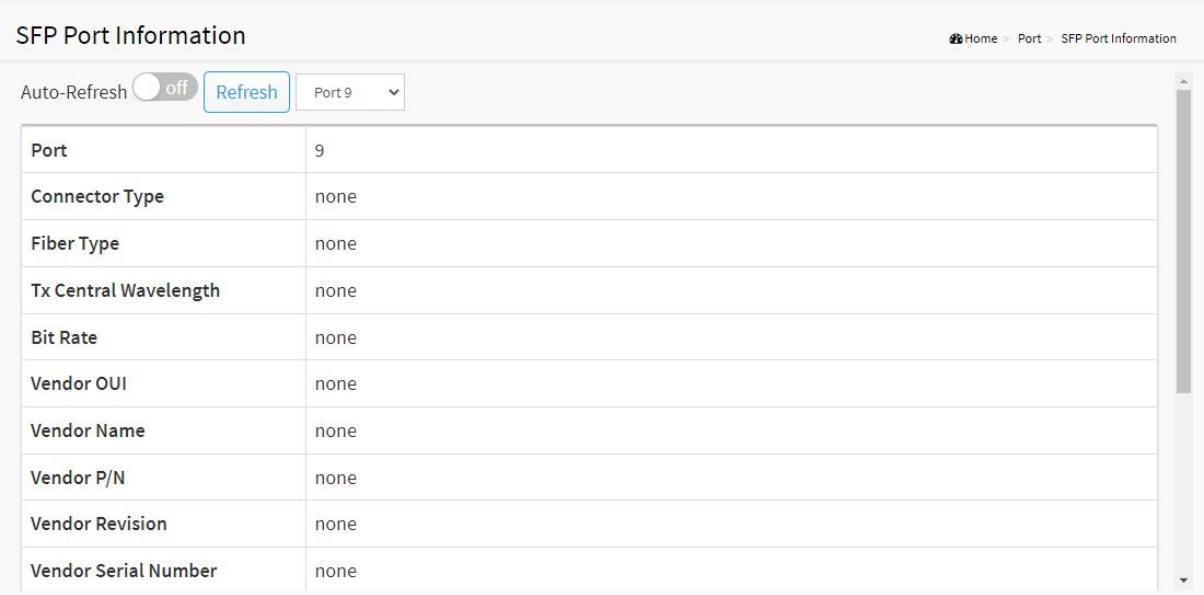


Figure 18: SFP Port Information

Parameter Description:

- **Refresh[Button]**
  To refresh selected port information.

Chapter 5 PoE Management

This chapter describes the PoE management including PoE Configuration, PoE Status, PoE Power Delay, PoE Auto Check and PoE Scheduling Profile.

5-1 PoE Configuration

This page displays current PoE ports' power ON/OFF status and schedule profile. It can also be configured here.

Web Interface

To configure a PoE port's power in the web interface:

1. Click PoE Management -> PoE Configuration.
2. Specify the parameters which you want to configure.
3. Click Apply.

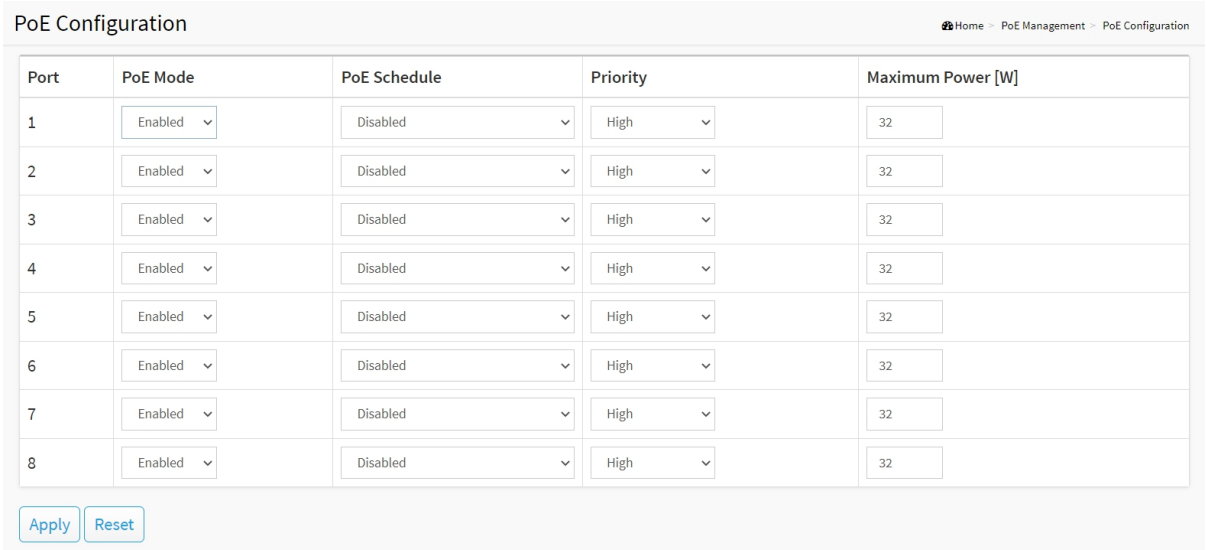


Figure 19: PoE Configuration

Parameter Description:

- **PoE Mode**

  To enable/disable port's power

- **PoE Schedule**

  To set port's schedule profile. (profile 1 to 10, disabled means no schedule profile)

- **Priority**

  To set port's priority.

- **Maximum Power(W)**

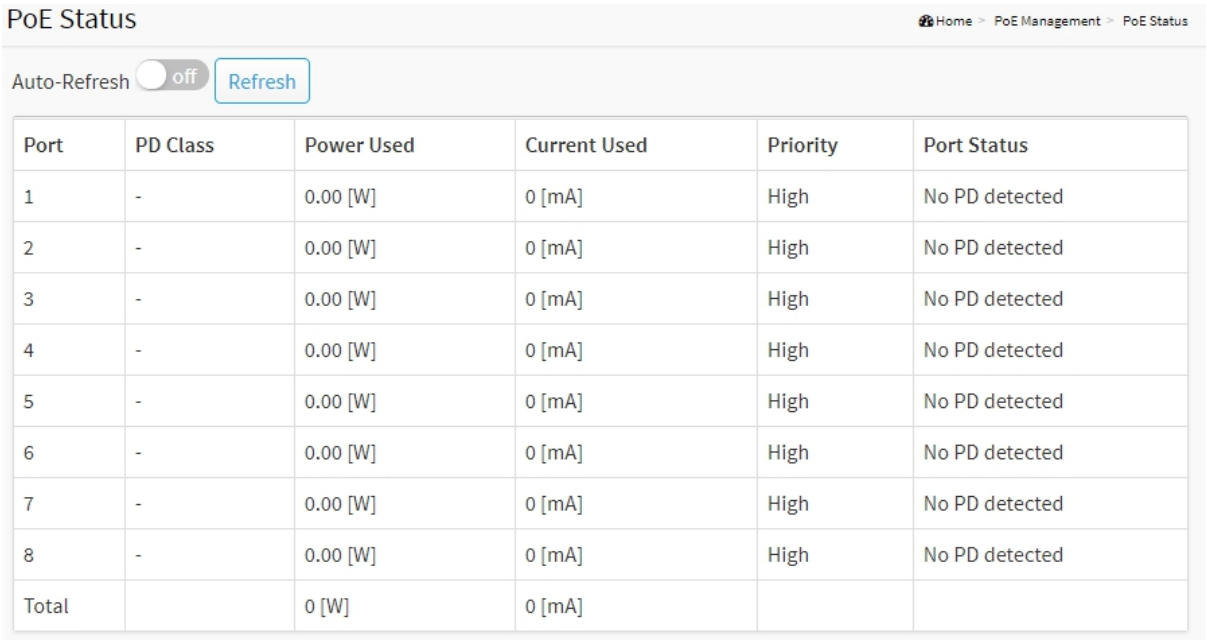
  To set port's power.

5-2 PoE Status

This page displays current ports' power status.

Web Interface

To display PoE port's power information in the web interface, click PoE Management -> PoE Status.



Port	PD Class	Power Used	Current Used	Priority	Port Status
1	-	0.00 [W]	0 [mA]	High	No PD detected
2	-	0.00 [W]	0 [mA]	High	No PD detected
3	-	0.00 [W]	0 [mA]	High	No PD detected
4	-	0.00 [W]	0 [mA]	High	No PD detected
5	-	0.00 [W]	0 [mA]	High	No PD detected
6	-	0.00 [W]	0 [mA]	High	No PD detected
7	-	0.00 [W]	0 [mA]	High	No PD detected
8	-	0.00 [W]	0 [mA]	High	No PD detected
Total		0 [W]	0 [mA]		

Figure 20: PoE Status

Parameter Description:

- **Auto Refresh**

  To refresh web page automatically every 10 seconds.

- **Port**

  The port number.

- **PD Class**

  The IEEE802.3af/at/bt defined power classification.

  Class0: 0.44~12.95 W

  Class1: 0.44~3.84 W

  Class2: 3.84W~6.49 W

  Class3: 6.49～12.95 W

  Class4: 12.95～25.5 W

- **Power Allocated**

  The port's PoE can used maximum

- **Power Used**

  The port's PoE used power.

- **Current Used**

  The port's PoE used current.

- **Priority**

The port's PoE priority.

- **Port Status**

  The port's PoE Status.

5-3 PoE Power Delay

This page displays current PoE ports' power delay function. It can also be configured here.

Web Interface

To configure a port power delay function in the web interface:

1. Click PoE Management -> PoE Power Delay.
2. Specify the parameters which you want to configure.
3. Click Apply.

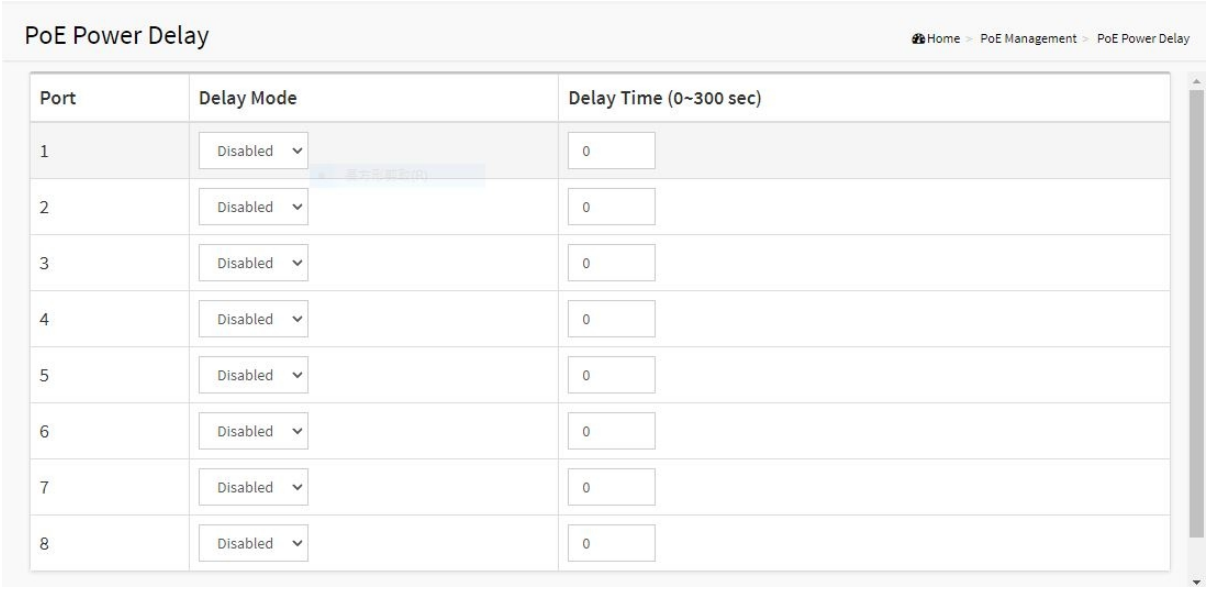


Figure 21: PoE Power Delay

Parameter Description:

- **Delay Mode**

  To enable/disable power delay function

- **Delay Time**

  To set port's power delay time. (0 ~ 300 seconds)

5-4 PoE Auto Checking

This page displays current PoE ports' power auto checking function. It can also be configured here.

Web Interface

To configure a port power auto checking function in the web interface:

1. Click PoE Management -> PoE Auto Checking.
2. Specify the parameters which you want to configure.

3. Click Apply.

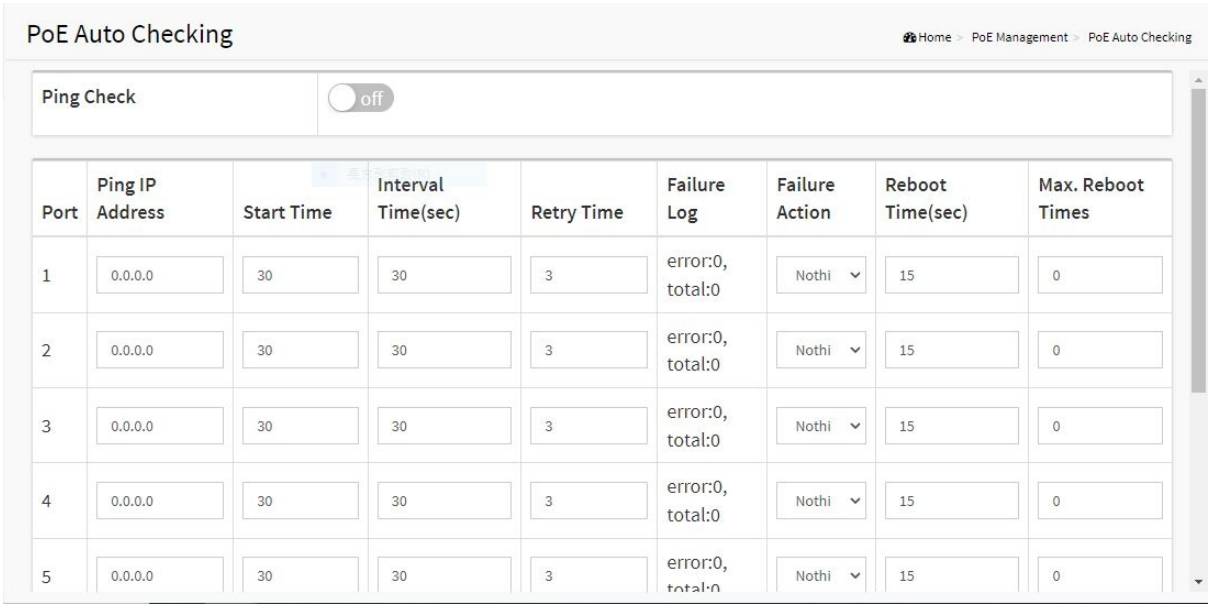


Figure 22: Power Auto Check

Parameter Description:

- **Ping IP Address**

  The PD's IP Address used to test its connectivity.

- **Start Time**

  After Startup Time, PoE auto checking function will be started. Default: 30, range: 30-60 seconds.

- **Interval Time**

  Device will send checking message to PD each interval time. Default: 30, range: 10-120 seconds.

- **Retry Time**

  When PoE port can't ping the PD, it will retry to send detection again. When reaching the retry time, it will trigger failure action. Default: 3, range: 1-5.

- **Failure Log**

  Failure loggings counter.

- **Failure Action**

  The action when reaching the retry time fail detection.

  Nothing: Keep Ping the remote PD but does nothing further.

  Reboot: Cut off the power of the PoE port, make PD rebooted.

- **Reboot Time**

  When PD has been rebooted, the PoE port restored power after the Reboot Time. Default: 15, range: 3-120 sec.

5-5 PoE Scheduling Profile

This page displays current PoE ports' power schedule profile function. It can also be configured here.

Web Interface

To configure power scheduling profile in the web interface:

1. Click PoE Management -> PoE Scheduling Profile.

2. Specify the parameters which you want to configure.
3. Click Apply.

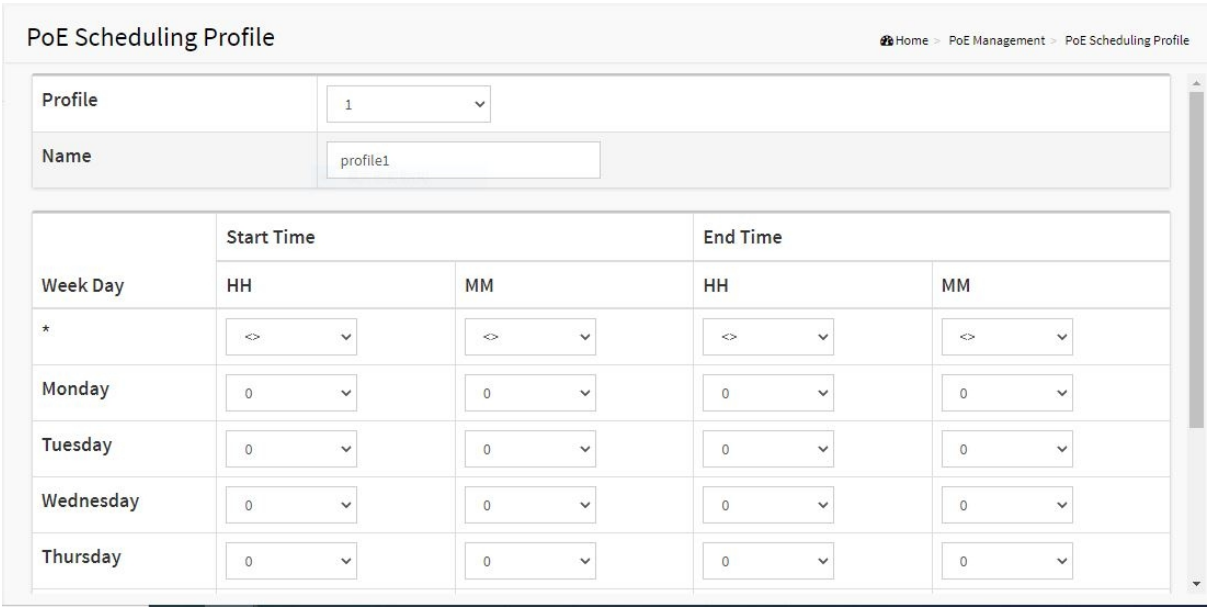


Figure 23: PoE Scheduling Profile

Parameter Description:

- **Profile**

  The profile number. (1~last)

- **Name**

  The profile name.

- **Start Time <HH>**

  The starting hour time.

- **Start Time <MM>**

  The starting minute time.

- **End Time <HH>**

  The ending hour time.

- **End Time <MM>**

  The ending minute time.

Chapter 6 VLAN

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

6-1 VLAN Configuration

To create new VLANs for management purpose. The management VLAN is used to establish an IP connection to the switch from a workstation connected to a port in the VLAN. By default, the active management VLAN is VLAN 1, but you can designate any VLAN as the management VLAN and only one management VLAN can be active at a time.

When you specify a new management VLAN, your HTTP connection to the old management VLAN is lost. For this reason, you should have a connection between your management station and a port in the new management VLAN or connect to the new management VLAN through a multi-VLAN route

Web Interface

To create new VLANs the web interface:

1. Click VLAN -> VLAN configuration
2. Input new VLANs.
3. Click Apply.

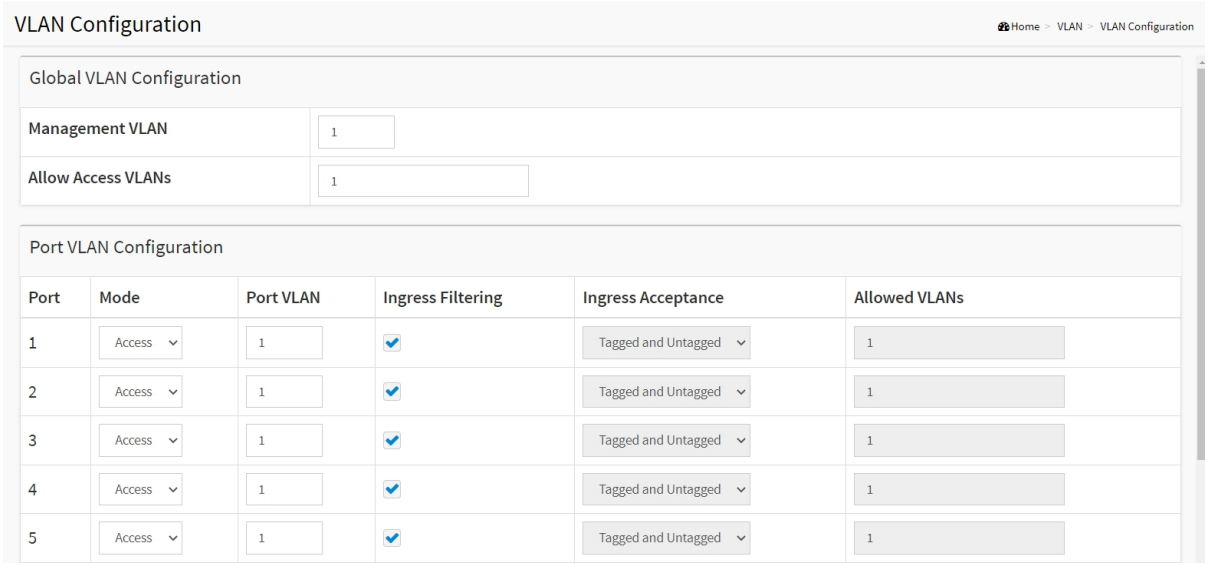


Figure 24: VLAN Configuration

Parameter Description:

- **Allow Access VLANs**

  The VLANs list you want to create. Enter the final VLAN list you want.

  e.g. 1 or 1,4,9,11 which means your system has VLAN 1,4,9,11.

6-2 VLAN Membership

This page provides an overview of membership status of VLANs. Users can set ports as untagged or tagged member of VLAN.

Web Interface

To configure VLAN membership configuration in the web interface:

1. Click VLAN -> VLAN Membership.
2. To see the VLAN member for the port(s).
3. Click Apply.

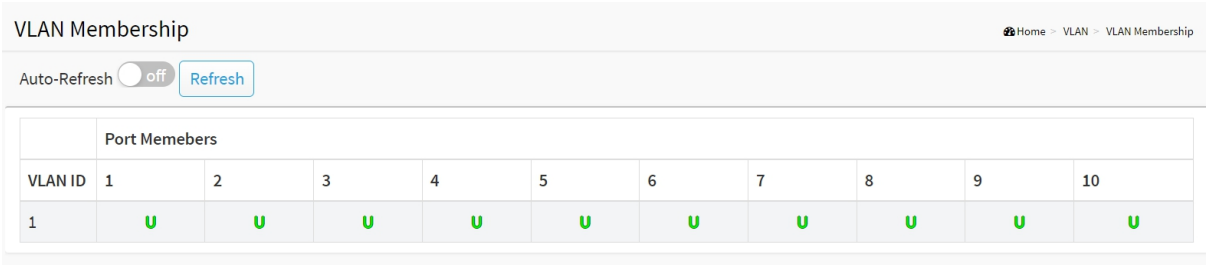


Figure 25: VLAN Member

Parameter Description:

- **VLAN ID**

  The VLAN ID list(s).

- **Port Members**

  The port status with VLAN setting.

Chapter 7 IGMP Snooping

The function is used to establish the multicast groups to forward the multicast packet to the member ports, and, in nature, avoids wasting the bandwidth while IP multicast packets are running over the network. This is because a switch that does not support IGMP or IGMP Snooping cannot tell the multicast packet from the broadcast packet, so it can only treat them all as the broadcast packet. Without IGMP Snooping, the multicast packet forwarding function is plain and nothing is different from broadcast packet.
A switch supported IGMP Snooping with the functions of query, report and leave, a type of packet exchanged between IP Multicast Router/Switch and IP Multicast Host, can update the information of the Multicast table when a member (port) joins or leaves an IP Multicast Destination Address. With this function, once a switch receives an IP multicast packet, it will forward the packet to the members who joined in a specified IP multicast group before.
The packets will be discarded by the IGMP Snooping if the user transmits multicast packets to the multicast group that had not been built up in advance. IGMP mode enables the switch to issue IGMP function that you enable IGMP proxy or snooping on the switch, which connects to a router closer to the root of the tree. This interface is the upstream interface. The router on the upstream interface should be running IGMP.

7-1 Property

This page sets the property of IGMP Snooping, including State, Immediate Leave and Unknown Multicast.

Web Interface

To configure the property of IGMP Snooping in the web interface:

1. Click IGMP Snooping -> Property.
2. Specify the parameters which you want to configure.
3. Click Apply.

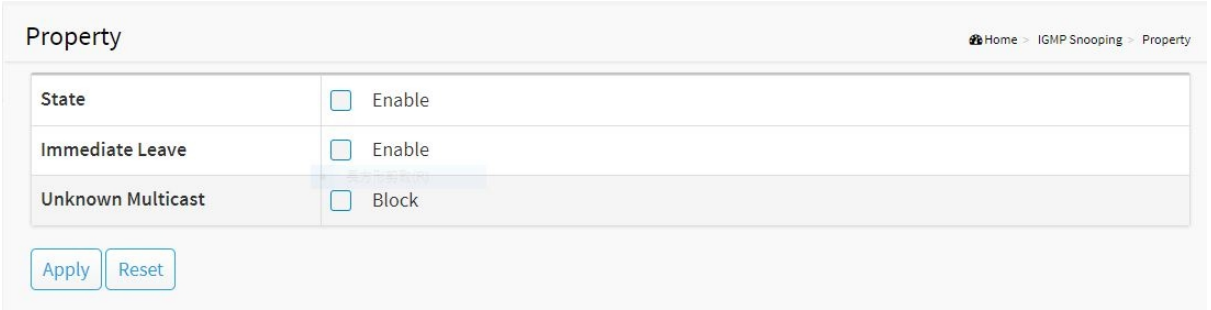


Figure 26: Property

Parameter Description:

- **State**

  To enable/disable IGMP Snooping function.

- **Immediate Leave**

If set enabled, the multicast traffic would be stopped as soon as an IGMP leave message received on a port

- **Unknown Multicast**

  If set blocked, the unknown multicast received would be dropped; Otherwise, the packets would be flooded

7-2 Group Address

This page displays the group address for all port members.

Web Interface

To view the group address in the web interface:

1. Click IGMP Snooping -> Group Address.
2. Click "Clear" to delete the entries.
3. Click "Refresh" to reload the entries.

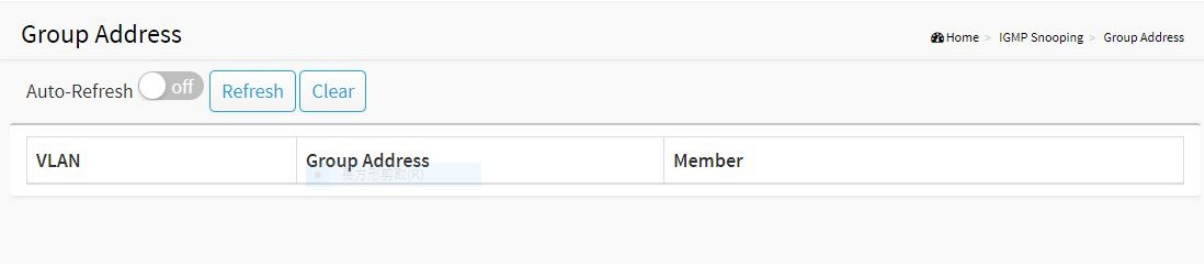


Figure 27: Group Address

Parameter Description:

- **VLAN**

  VLAN.

- **Group Address**

  Group Address of IGMP Snooping.

- **Member**

  IGMP Snooping Members.

- **Clear[Button]**

  To delete the entries.

- **Refresh[Button]**

  To reload the entries.

Chapter 8 LLDP

The switch supports the LLDP. For current information on your switch model, The Link Layer Discovery Protocol (LLDP) provides a standards-based method for enabling switches to advertise themselves to adjacent devices and to learn about adjacent LLDP devices. The Link Layer Discovery Protocol (LLDP) is a vendor-neutral Link Layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on a IEEE 802 local area network, principally wired Ethernet. The protocol is formally referred to by the IEEE as Station and Media Access Control Connectivity Discovery specified in standards document IEEE 802.1AB.

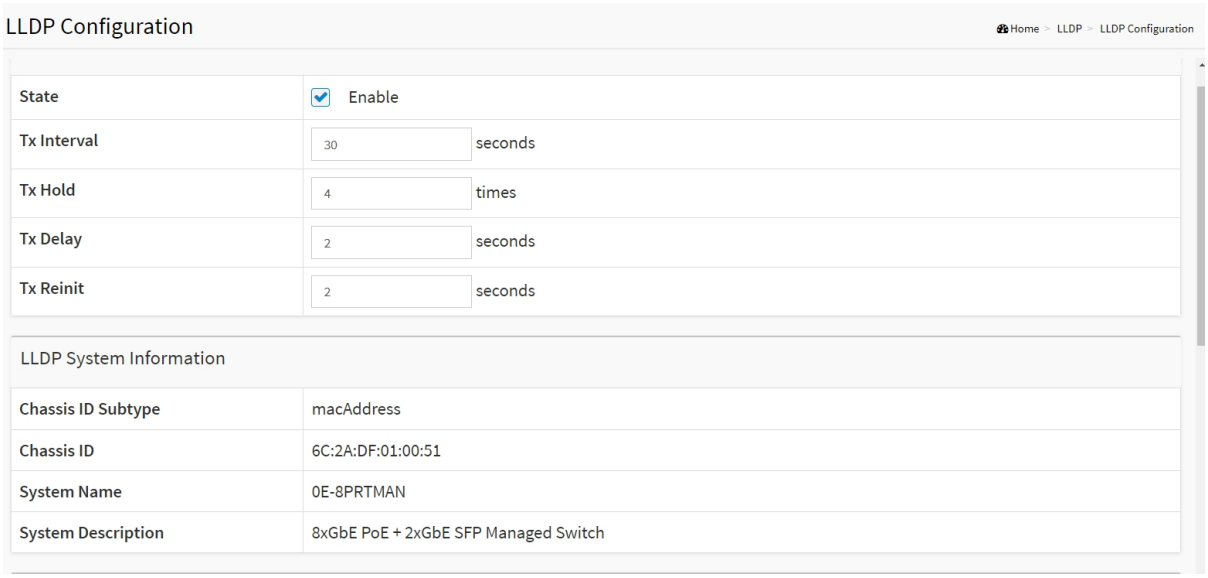
8-1 LLDP Configuration

This page is used to configure LLDP settings. You can per port to do the LLDP configuration and the detail parameters, the settings will take effect immediately. This page allows the user to inspect and configure the current LLDP port settings.

Web Interface

To configure the LLDP settings in the web interface:

1. Click LLDP -> LLDP Configuration.
2. Specify LLDP parameters you want to configure.
3. Click Apply.



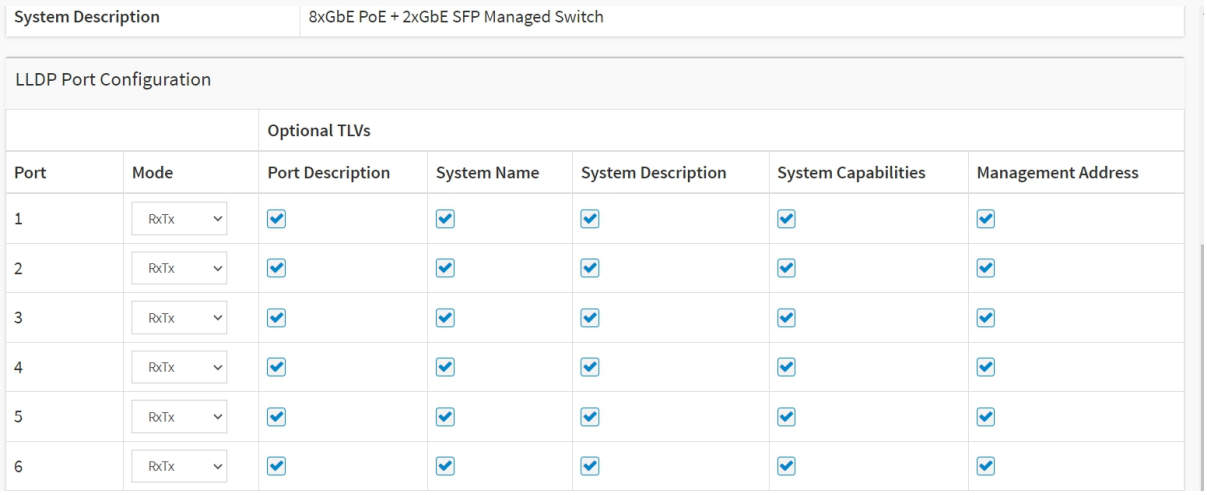


Figure 28: LLDP Configuration

Parameter Description:

- **State**

  To enable/disable LLDP function.

- **TX Hold**

  Specify the LLDP packet hold time interval as a multiple of the LLDP timer value. The range is 2 to 10, and the default value is 4.

- **TX Interval**

  Specify how often the software sends LLDP updates in seconds. The range is 5 to 32768 seconds. The default value is 30 seconds.

- **TX Reinit**

  Specify the minimum time in seconds an LLDP port waits before reinitializing LLDP transmission. The range is from 1 to 10 and the default value is 2 seconds.

- **TX Delay**

  Specify the delay in seconds between successive LLDP frame transmissions initiated by value or status changes in the LLDP local systems MIB. The range is from 1 up to 8192 seconds and the default transmission delay is 2 seconds.

- **Chassis ID Subtype**

  Type of chassis ID (for example, MAC address).

- **Chassis ID**

  Identifier of the chassis. Where the chassis ID subtype is a MAC address, the MAC address of the device is displayed.

- **System Name**

  The Name of the device.

- **System Description**

  The Description of the device.

- **LLDP Port Configuration:**

  Enable/Disable LLDP State for the ports.

8-2 LLDP Neighbor

This page is to display LLDP neighborhood status.

Web Interface

To display the LLDP neighborhood status in the web interface, click LLDP -> LLDP Neighbor.

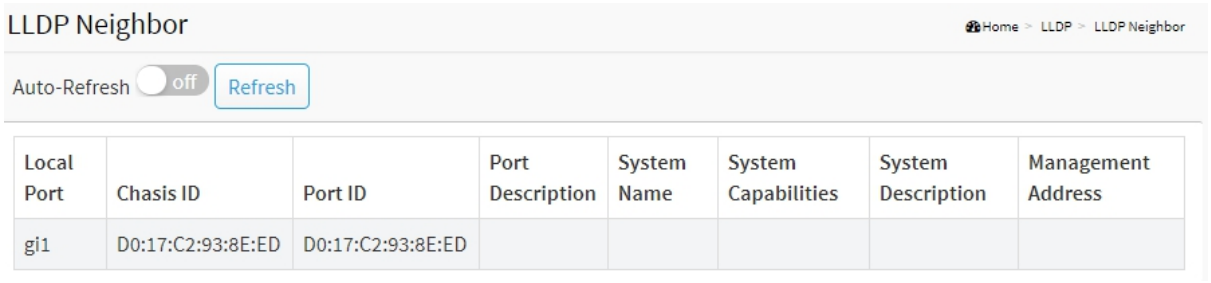


Figure 29: LLDP Information

Parameter Description:

- **Local Port**

  The normal port of the device.

- **Chassis ID**

  Identifier of the chassis. Where the chassis ID subtype is a MAC address, the MAC address of the device is displayed.

- **Port ID**

  Port identifier.

- **System Name**

  The Name of the device.

- **System Capabilities**

  Identifies the switch's primary capabilities (bridge, router).

- **System Description**

  The Description of the device.

- **Management Address**

  Specify the management address to be used in LLDP Management Address type, length, and value (TLV) messages. The Management Address TLV typically contains the IPv4 or IPv6 management addresses of the local system. Only out-of-band management addresses must be used for the management-address. Other remote managers can use this address to obtain information related to the local device.

Chapter 9 Loop Prevention

The chapter describes how to prevent loop situation.

9-1 Property

This page is used to configure the loop prevention.

Web Interface

To configure the loop prevention in the web interface:

1. Click Loop Prevention -> Property.
2. Specify the parameter you want to configure.
3. Click Apply.

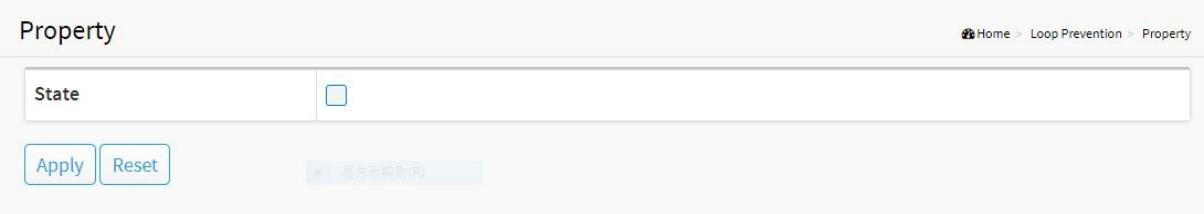


Figure 30: Property

Parameter description:

- **State**
- To enable/disable loop prevention function.

9-2 Status

This page is used to display the loop status of ports.

Web Interface

To view the loop status in the web interface, click Loop Prevention -> Status.

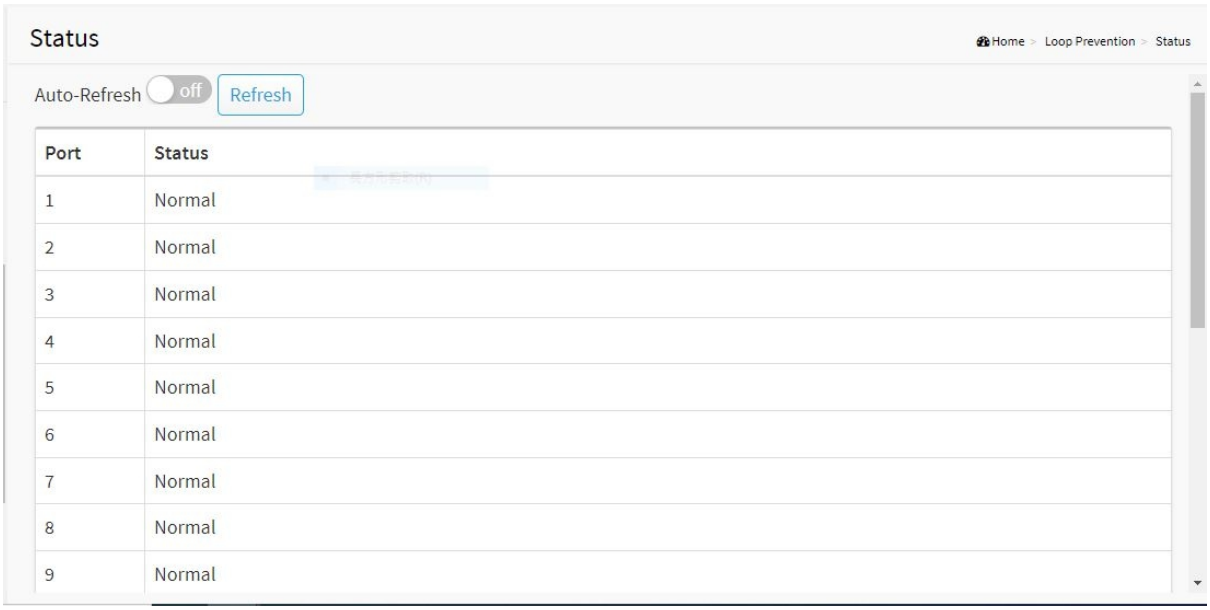


Figure 31: Status

Chapter 10 Security

This section shows you to configure the Port Security settings of the Switch. You can use the Port Security feature to restrict input to an interface by limiting and identifying MAC addresses.

10-1 Management

This page is used to configure the connect function.

Web Interface

To configure the IP filter function the web interface:

1. Click Security -> Management.
2. Specify the connection parameter you want to configure.
3. Click Apply.

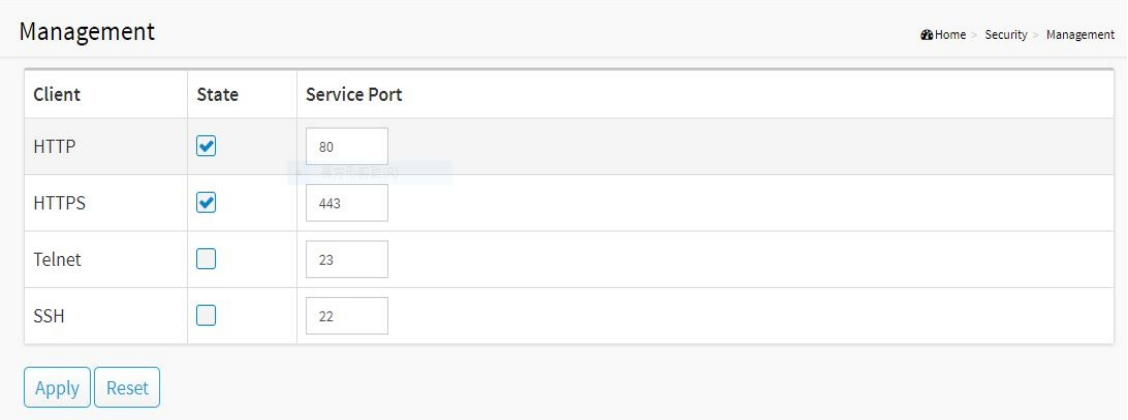


Figure 32: Management

10-2 Port Isolation

This page is used to configure the Port Isolation function.

Web Interface

To configure the port isolation in the web interface:

1. Click Security -> Port Isolation.
2. Specify the parameter you want to configure.
3. Click Apply.

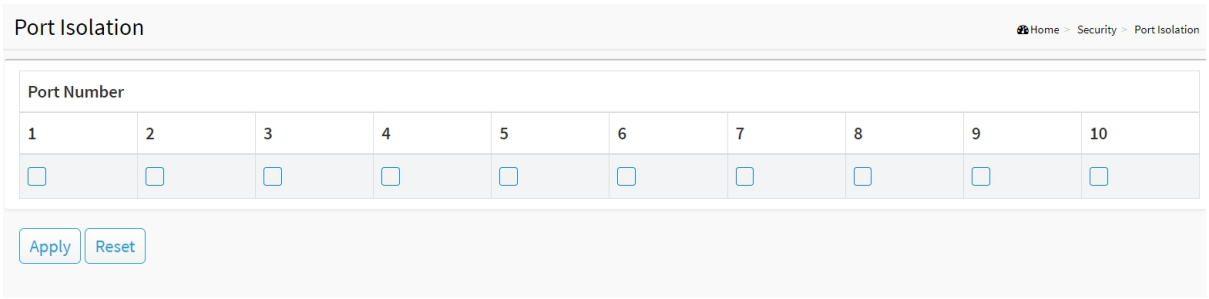


Figure 33: Port Isolation

Parameter Description:

- **Port Number**

  Select the port of the device to isolate.

10-3 Port Security

This page is used to configure the Port Security function.

Web Interface

To configure the port security in the web interface:

1. Click Security -> Port Security.
2. Specify the parameter you want to configure.
3. Click Apply.

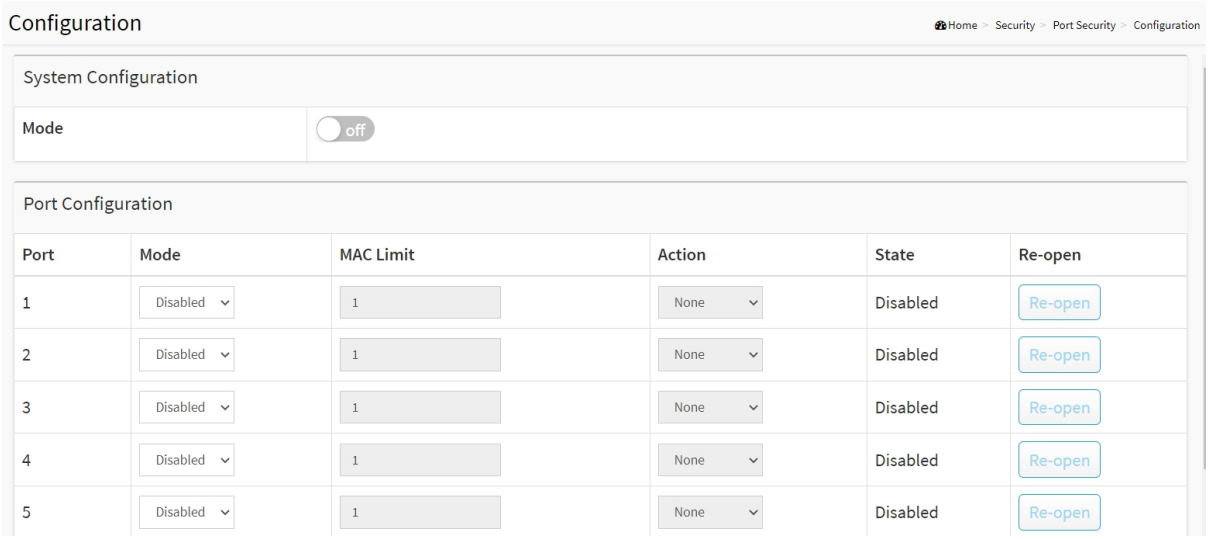


Figure 34: Port Security

Parameter Description:

- **Port**

  The normal port of the device.

- **Mode**

  The state of the function.

- **MAC Limit**

  The limit number of MAC address.

- **Action**

The state of the port

10-4 Storm Control

This page is used to configure the storm control function. A traffic storm occurs when packets flood the LAN, creating excessive traffic and degrading network performance. The traffic broadcast and multicast suppression (or storm control) feature prevents LAN ports from being disrupted by a broadcast, multicast and unicast traffic storm on physical interfaces.

Web Interface

To configure the storm control function in the web interface:

1. Click Security -> Storm Control.
2. Specify the parameter you want to configure.
3. Click Apply.

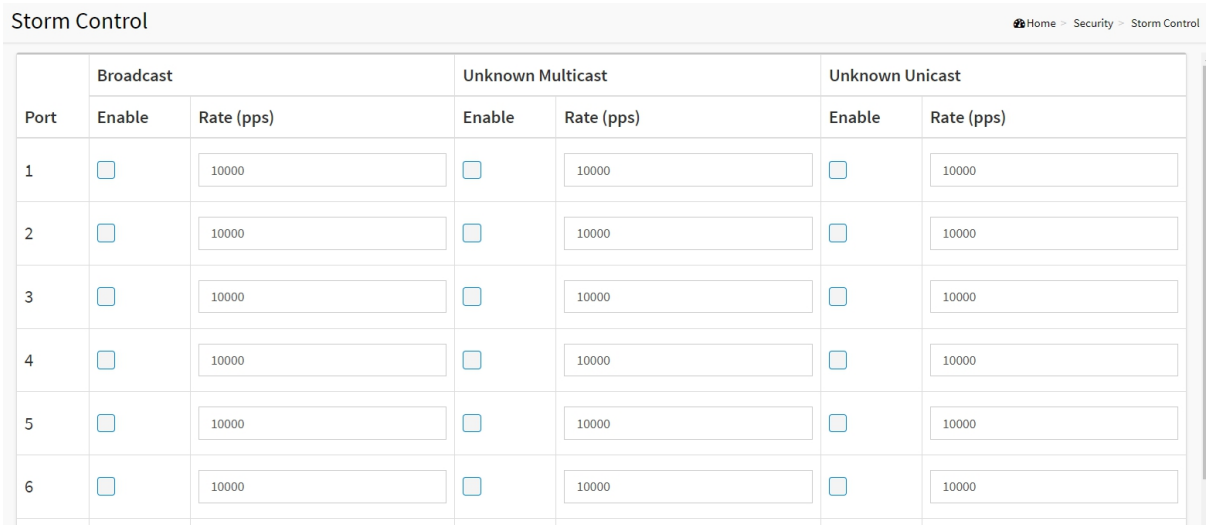


Figure 35: Storm Control

Parameter description:

- **Rate**

  The rate for controlling broadcast, multicast and unicast traffic storm on physical interfaces.

- **Enable**

  To enable/disable the function.

10-5 DoS Attack Prevention

This page is used to configure the DoS Attack Prevention function.

Web Interface

To configure the DoS Attack Prevention function in the web interface:

1. Click Security -> DoS Attack Prevention.
2. Specify the parameter you want to configure.
3. Click Apply.

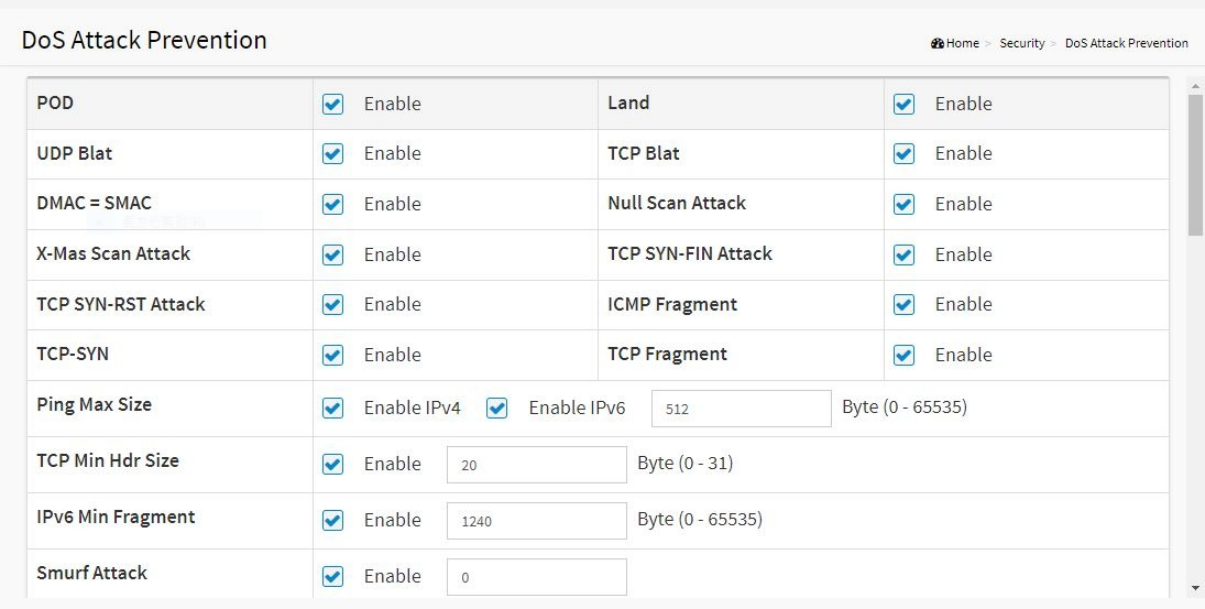


Figure 36: DoS Attack Prevention

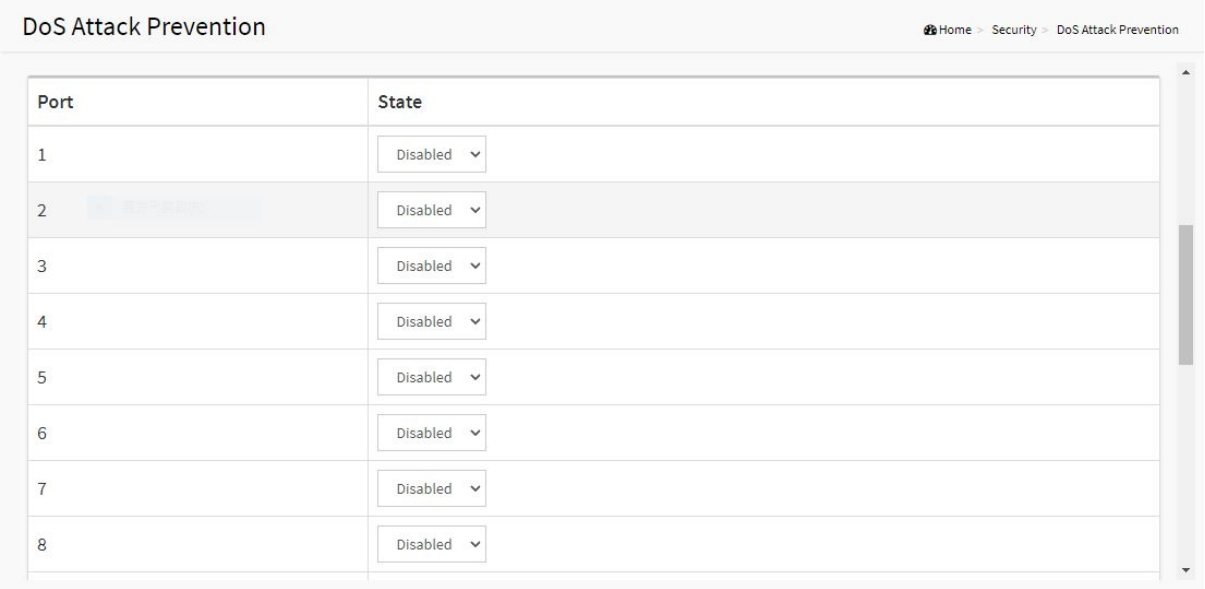


Figure 37: DoS Attack Prevention (Detail)

Parameter description:

- **Port**

  The normal port of the device.

- **State**

- To enable/disable the function.

Chapter 11 SNMP

Any Network Management System (NMS) running the Simple Network Management Protocol (SNMP) can manage the Managed devices equipped with SNMP agent, provided that the Management Information Base (MIB) is installed correctly on the managed devices. The SNMP is a protocol that is used to govern the transfer of information between SNMP manager and agent and traverses the Object Identity (OID) of the management Information Base (MIB), described in the form of SMI syntax. SNMP agent is running on the switch to response the request issued by SNMP manager.

Basically, it is passive except issuing the trap information. The switch supports a switch to turn on or off the SNMP agent. If you set the field SNMP “Enable”, SNMP agent will be started up. All supported MIB OIDs, including RMON MIB, can be accessed via SNMP manager. If the field SNMP is set “Disable”, SNMP agent will be de-activated, the related Community Name, Trap Host IP Address, Trap and all MIB counters will be ignored.

11-1 Configuration

This section describes how to configure SNMP System on the switch. This function is used to configure SNMP settings, community name, trap host and public traps as well as the throttle of SNMP. A SNMP manager must pass the authentication by identifying both community names, then it can access the MIB information of the target device. So, both parties must have the same community name. Once completing the setting, click <Apply> button, the setting takes effect.

Web Interface

To configure the configure SNMP System in the web interface:

1. Click Security, SNMP and configuration.
2. Evoke SNMP State to enable or disable the SNMP function.
3. Specify the Read Community, Write Community.
4. Click Apply.

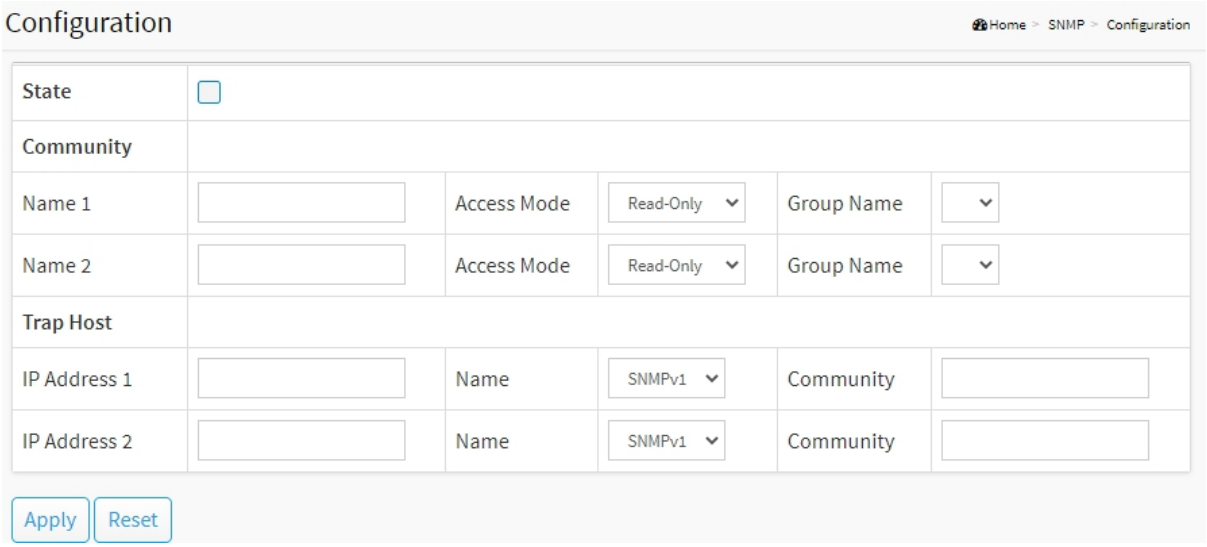


Figure 38: The SNMP Configuration

Parameter description:

- **Read Community :**

  Indicates the community read access string to permit access to SNMP agent. The allowed string length is 1 to 31, and the allowed content is the ASCII characters from 33 to 126.

  The field is applicable only when SNMP version is SNMPv1 or SNMPv2c. If SNMP version is SNMPv3, the community string will be associated with SNMPv3 communities table. It provides more flexibility to configure security name than a SNMPv1 or SNMPv2c community string. In addition to community string, a particular range of source addresses can be used to restrict source subnet.

- **Write Community :**

  Indicates the community write access string to permit access to SNMP agent. The allowed string length is 1 to 31, and the allowed content is the ASCII characters from 33 to 126.

  The field is applicable only when SNMP version is SNMPv1 or SNMPv2c. If SNMP version is SNMPv3, the community string will be associated with SNMPv3 communities table. It provides more flexibility to configure security name than a SNMPv1 or SNMPv2c community string. In addition to community string, a particular range of source addresses can be used to restrict source subnet.

Buttons

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

11-2 SNMPv3

11-2.1 Communities

The function is used to configure SNMPv3 communities. The Community is unique. To create a new community account, please check <Add new community> button, and enter the account information then check <Save>. Max Group Number: 6.

Web Interface

To configure the configure SNMP Communities in the web interface:

1. Click Security, SNMP, SNMPv3 and Communities.
2. Click Add new community.
3. Specify the SNMP communities parameters.
4. Click Apply.
5. If you want to modify or clear the setting then click Reset.

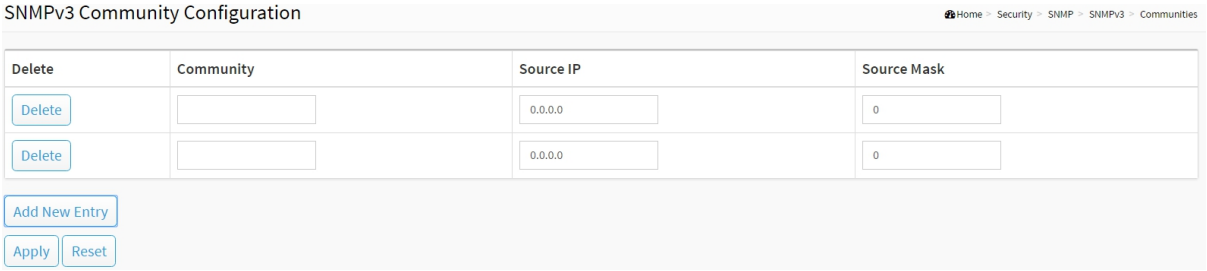


Figure 39: The SNMPv3 Communities Configuration

Parameter description:

- **Community**

  Indicates the community access string to permit access to SNMPv3 agent. The allowed string length is 1 to 32, and the allowed content is ASCII characters from 33 to 126. The community string will be treated as security name and map a SNMPv1 or SNMPv2c community string.

- **Source IP**

  Indicates the SNMP access source address. A particular range of source addresses can be used to restrict source subnet when combined with source mask.

- **Source Mask**

  Indicates the SNMP access source address mask

Buttons

- **Add New Entry :**

  Click to add new entry. Specify the name and configure the new entry. Click "Save".

- **Delete :**

  Check to delete the entry. It will be deleted during the next save.

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

11-2.2 Users

The function is used to configure SNMPv3 user. The Entry index key is UserName. To create a new UserName account, please check <Add new user> button, and enter the user information then check <Apply>. Max Group Number: 6.

Web Interface

To configure SNMP Users in the web interface:

1. Click Security, SNMP, SNMPv3 and Users.
2. Click Add new entry.
3. Specify the SNMPv3 Users parameter.
4. Click Apply.

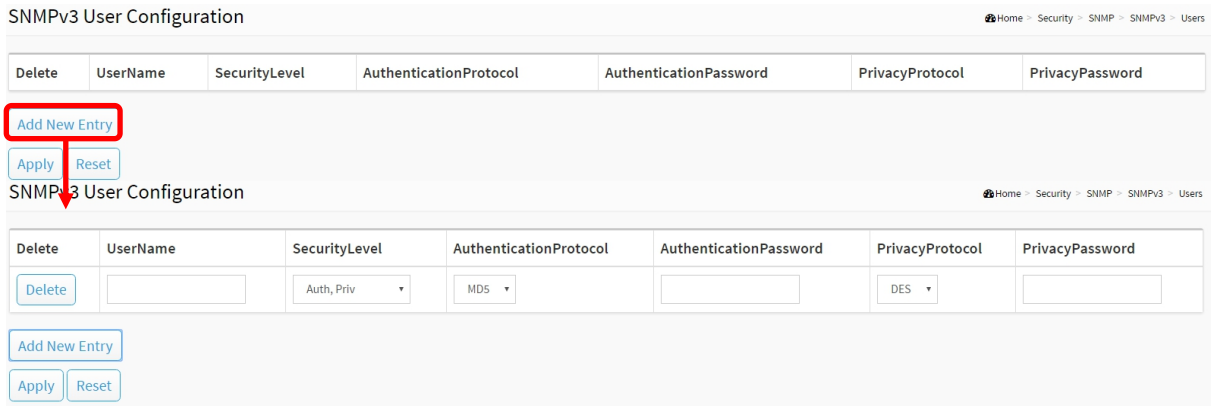


Figure 40: The SNMP Users Configuration

Parameter description:

- **User Name :**

  A string identifying the user name that this entry should belong to. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

- **Security Level :**

  Indicates the security model that this entry should belong to. Possible security models are:

  NoAuth, NoPriv: No authentication and no privacy.

  Auth, NoPriv: Authentication and no privacy.

  Auth, Priv: Authentication and privacy.

  The value of security level cannot be modified if entry already exists. That means it must first be ensured that the value is set correctly.

- **Authentication Protocol :**

  Indicates the authentication protocol that this entry should belong to. Possible authentication protocols are:

  MD5: An optional flag to indicate that this user uses MD5 authentication protocol.

  SHA: An optional flag to indicate that this user uses SHA authentication protocol.

  The value of security level cannot be modified if entry already exists. That means must first ensure that the value is set correctly.

- **Authentication Password :**

  A string identifying the authentication password phrase. For MD5 authentication protocol, the allowed string length is 8 to 39. For SHA authentication protocol, the allowed string length is 8 to 39. The allowed content is ASCII characters from 33 to 126.

- **Privacy Protocol :**

  Indicates the privacy protocol that this entry should belong to. Possible privacy protocols are:

  DES: An optional flag to indicate that this user uses DES authentication protocol.

  AES: An optional flag to indicate that this user uses AES authentication protocol.

- **Privacy Password :**

  A string identifying the privacy password phrase. The allowed string length is 8 to 31, and the allowed content is ASCII characters from 33 to 126.

Buttons

- **Add New Entry :**

  Click to add new entry. Specify the name and configure the new entry. Click "Apply".

- **Delete :**

Check to delete the entry. It will be deleted during the next save.

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

11-2.3 Groups

The function is used to configure SNMPv3 group. The Entry index key are Security Model and Security Name. To create a new group account, please check <Add new group> button, and enter the group information then check <Save>. Max Group Number:12.

Web Interface

To configure SNMP Groups in the web interface:

1. Click Security, SNMP, SNMPv3 and Groups.
2. Click Add new entry.
3. Specify the SNMP group parameter.
4. Click Apply.

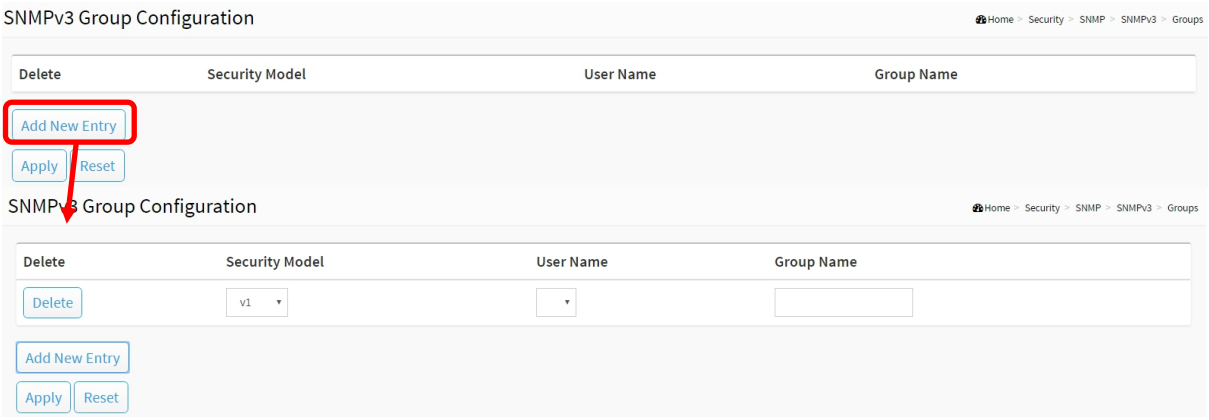


Figure 41: The SNMP Groups Configuration

Parameter description:

- **Security Model :**

  Indicates the security model that this entry should belong to. Possible security models are:

  v1: Reserved for SNMPv1.

  v2c: Reserved for SNMPv2c.

  usm: User-based Security Model (USM).

- **Security Name :**

  A string identifying the security name that this entry should belong to. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

- **Group Name :**

  A string identifying the group name that this entry should belong to. The allowed string length is 1 to 32, and the allowed content is ASCII characters from 33 to 126.

Buttons

- **Add New Entry :**

Click to add new entry. Specify the name and configure the new entry. Click "Apply".

- **Delete :**

  Check to delete the entry. It will be deleted during the next save.

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

11-2.4 Views

The function is used to configure SNMPv3 view. The Entry index keys are OID Subtree and View Name. To create a new view account, please check <Add new view> button, and enter the view information then click <Apply>. Max Group Number: 12.

Configure SNMPv3 view table on this page. The entry index keys are View Name and OID Subtree.

Web Interface

To configure SNMP views in the web interface:

1. Click Security, SNMP, SNMPv3 and Views.
2. Click Add new entry.
3. Specify the SNMP View parameters.
4. Click Apply.
5. If you want to modify or clear the setting then click Reset.

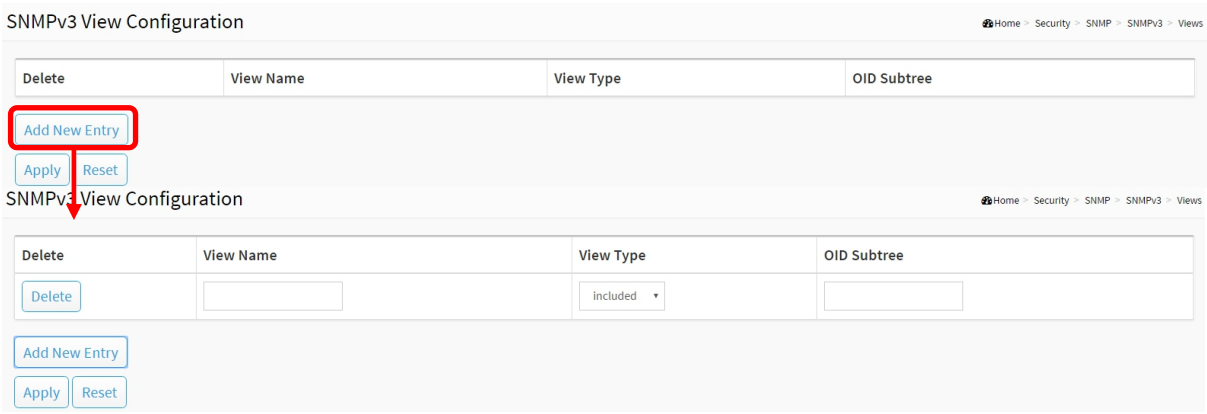


Figure 42: The SNMP Views Configuration

Parameter description:

- **View Name :**

  A string identifying the view name that this entry should belong to. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

- **View Type :**

  Indicates the view type that this entry should belong to. Possible view types are:

  Included: An optional flag to indicate that this view subtree should be included.

  Excluded: An optional flag to indicate that this view subtree should be excluded.

  In general, if a view entry's view type is 'excluded', there should be another view entry existing with view type as 'included' and it's OID subtree should overstep the 'excluded'

view entry.

- **OID Subtree :**

  The OID defining the root of the subtree to add to the named view. The allowed OID length is 1 to 128. The allowed string content is digital number or asterisk(*).

Buttons

- **Add New Entry :**

  Click to add new entry. Specify the name and configure the new entry. Click "Save".

- **Delete :**

  Check to delete the entry. It will be deleted during the next save.

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

11-2.5 Access

The function is used to configure SNMPv3 accesses. The Entry index key are Group Name, Security Model and Security level. To create a new access account, please check <Add new access> button, and enter the access information then check <Apply>. Max Group Number : 12.

Web Interface

To display the configure SNMP Access in the web interface:

1. Click Security, SNMP, SNMPv3 and Accesses.
2. Click Add new entry.
3. Specify the SNMP Access parameters.
4. Click Apply.
5. If you want to modify or clear the setting then click Reset.

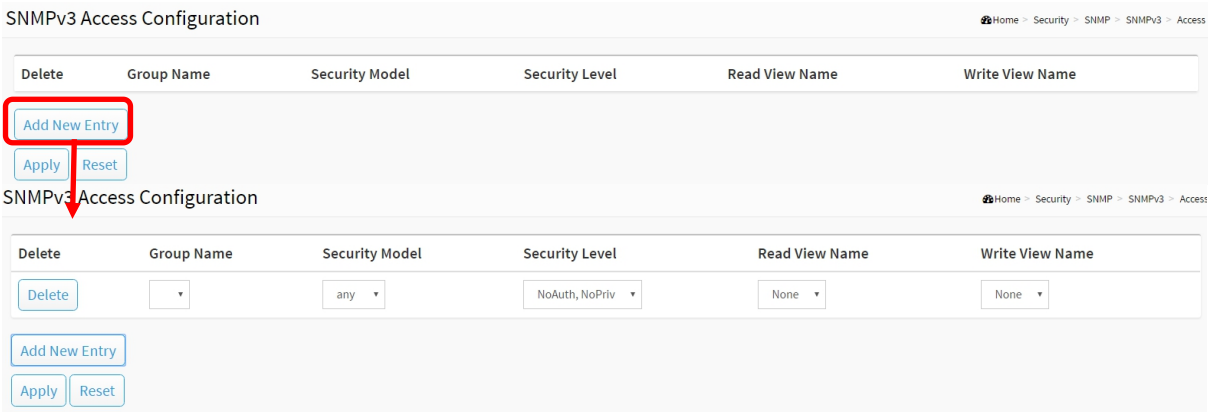


Figure 43: The SNMP Accesses Configuration

Parameter description:

- **Group Name :**

  A string identifying the group name that this entry should belong to. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

- **Security Model :**

Indicates the security model that this entry should belong to. Possible security models are:

Any: Any security model accepted(v1|v2c|usm).

v1: Reserved for SNMPv1.

v2c: Reserved for SNMPv2c.

usm: User-based Security Model (USM).

- **Security Level :**

  Indicates the security model that this entry should belong to. Possible security models are:

  NoAuth, NoPriv: No authentication and no privacy.

  Auth, NoPriv: Authentication and no privacy.

  Auth, Priv: Authentication and privacy.

- **Read View Name :**

  The name of the MIB view defining the MIB objects for which this request may request the current values. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

- **Write View Name :**

  The name of the MIB view defining the MIB objects for which this request may potentially set new values. The allowed string length is 1 to 31, and the allowed content is ASCII characters from 33 to 126.

Buttons

- **Add New Entry :**

  Click to add new entry. Specify the name and configure the new entry. Click "Apply".

- **Delete :**

  Check to delete the entry. It will be deleted during the next save.

- **Apply :**

  Click to save changes.

- **Reset :**

  Click to undo any changes made locally and revert to previously saved values.

Chapter 12 Event Notification

12-1 SMTP Settings

Configure SMTP (Simple Mail Transfer Protocol) on this page. Simple Mail Transfer Protocol is the message-exchange standard for the Internet.
The Switch is to be configured as a client of SMTP while the server is a remote device that will receive messages from the switch that alarm events occurred.
Please go to SMTP Setting user interface help page to see the full setting description.

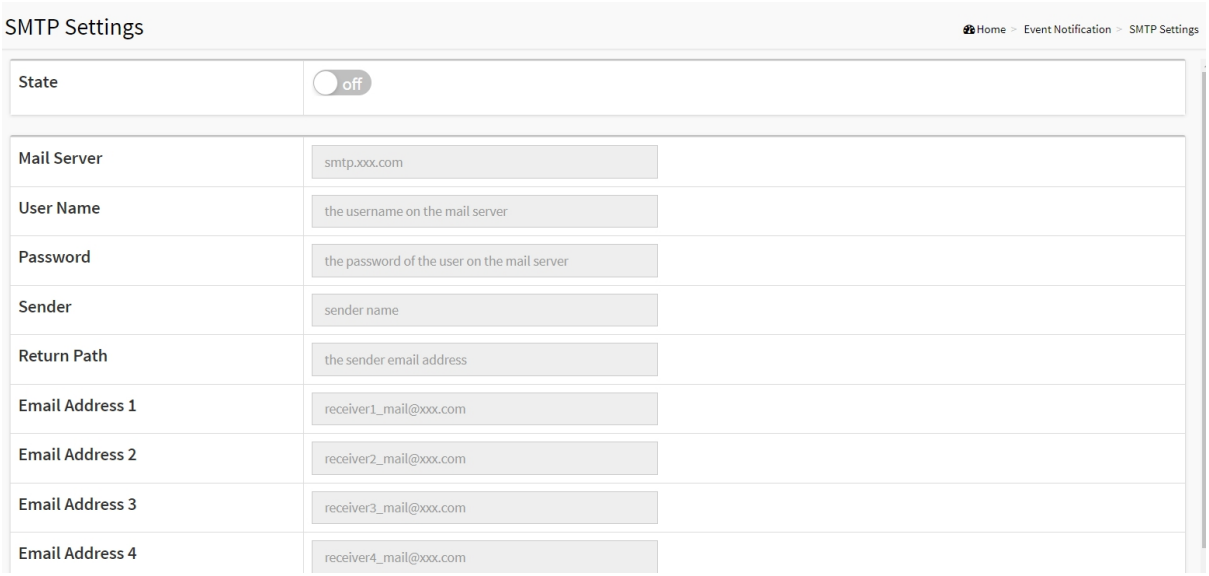


Figure 44: SMTP Settings

12-2 Syslog

12-2.1 Syslog Configuration

The Syslog Configuration is a standard for logging program messages. It allows separation of the software that generates messages from the system that stores them and the software that reports and analyzes them. It can be used as well a generalized informational, analysis and debugging messages. It is supported by a wide variety of devices and receivers across multiple platforms.

Web Interface

To configure the SysLog Settings in the web interface:

1. Click System -> Syslog Configuration.
2. Specify Mode and Server 1(or Server 2) parameters.
3. Click Apply.

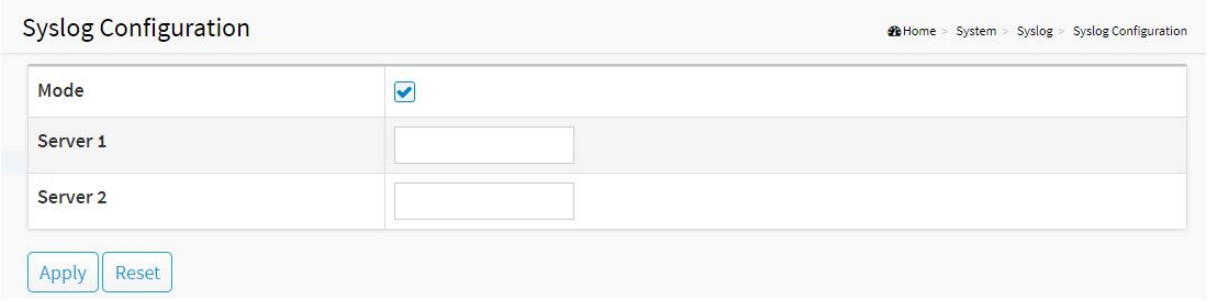


Figure 45: Syslog Configuration

Parameter Description:

- **Mode**
  To enable/disable Syslog function
- **Server1(or Server2)**
  SysLog Server. (IPv4 format)

12-2.2 View Log

To display Log, click System -> SysLog -> View Log

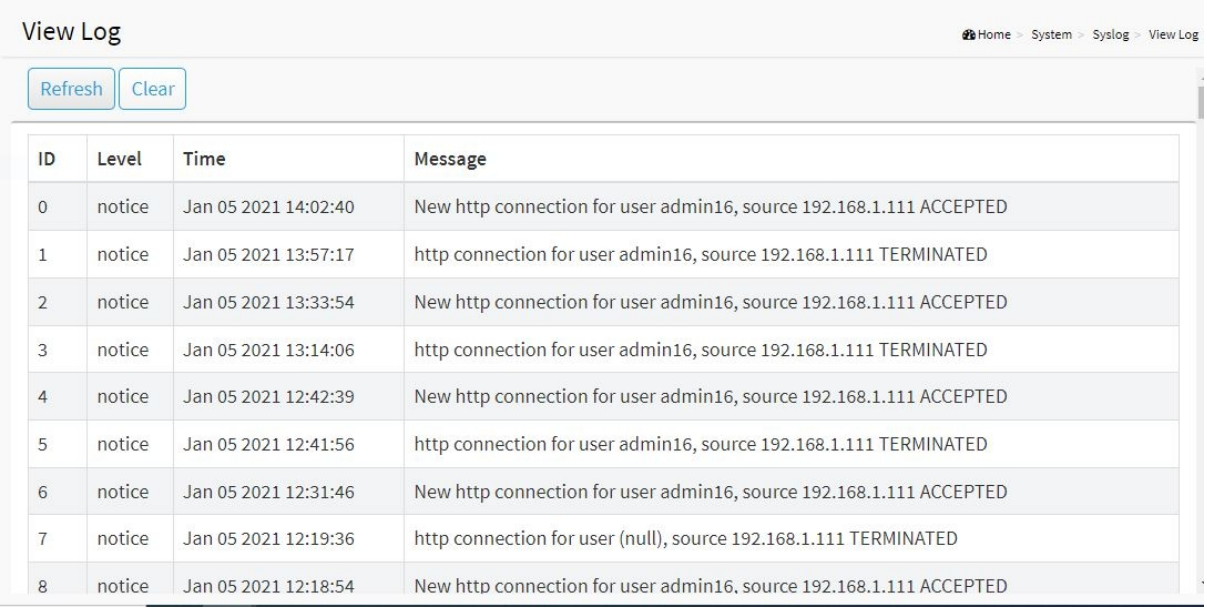


Figure 46: View log

Parameter Description:

- **Level**
  The log event category
- **Time**
  The log event occurs time
- **Message**
  The log event content
- **Refresh[Button]**
  To reload log events
- **Clear[Button]**
  To clear log events

12-3 Event Configuration

This page displays event configurations for Syslog , SNMP trap and SMTP.

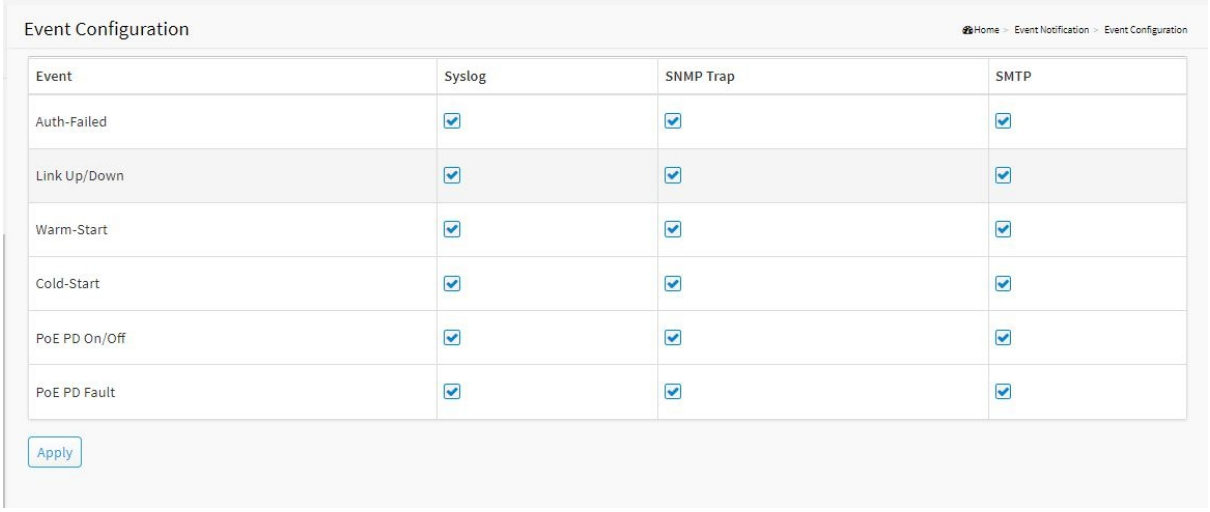


Figure 47: Event Configuration

Chapter 13 Quality of Service

Quality of Service refers to traffic prioritization and resource reservation control mechanisms rather than the achieved service quality. Quality of Service is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow.

Quality of Service is particularly important for the transport of traffic with special requirements. In particular, developers have introduced Voice over IP technology to allow computer networks to become as useful as telephone networks for audio conversations, as well as supporting new applications with even stricter network performance requirements.

13-1 Global Settings

This page is used to configure the QoS mode, including CoS/802.1p, DSCP ,IP Precedence and 802.1p /DSCP.

Web Interface

To configure the QoS mode in the web interface:

1. Click Quality of Service -> Global Setting
2. Specify the parameter you want to configure.
3. Click Apply.

Parameter Description:

- **CoS/802**

  Traffic is mapped to queues based on the VPT field in the VLAN tag, or based on the per-port default CoS/802.1p value (if there is no VLAN tag on the incoming packet), the actual mapping of the VPT to queue can be configured on the CoS/802.1p to Queue page.

- **DSCP**

  All IP traffic is mapped to queues based on the DSCP field in the IP header. The actual mapping of the DSCP to queue can be configured on the DSCP to Queue page. If traffic is not IP traffic, it is mapped to the best effort queue.

- **IP Precedence**

  Traffic is mapped to queues based on the IP precedence. The actual mapping of the IP precedence to queue can be configured on the IP Precedence to Queue page.

- **802.1p /DSCP**

  Differentiated Services Code Point (DSCP) is a priority level that prioritizes the network traffic based on the DSCP queue mapping on the DSCP Settings page.

Figure 48: Global Setting

13-2 Port Settings

Web Interface

To configure the logical port for the setting in the web interface:

1. Click Quality of Service -> Port Setting.
2. Specify the parameter you want to configure.
3. Click Apply.

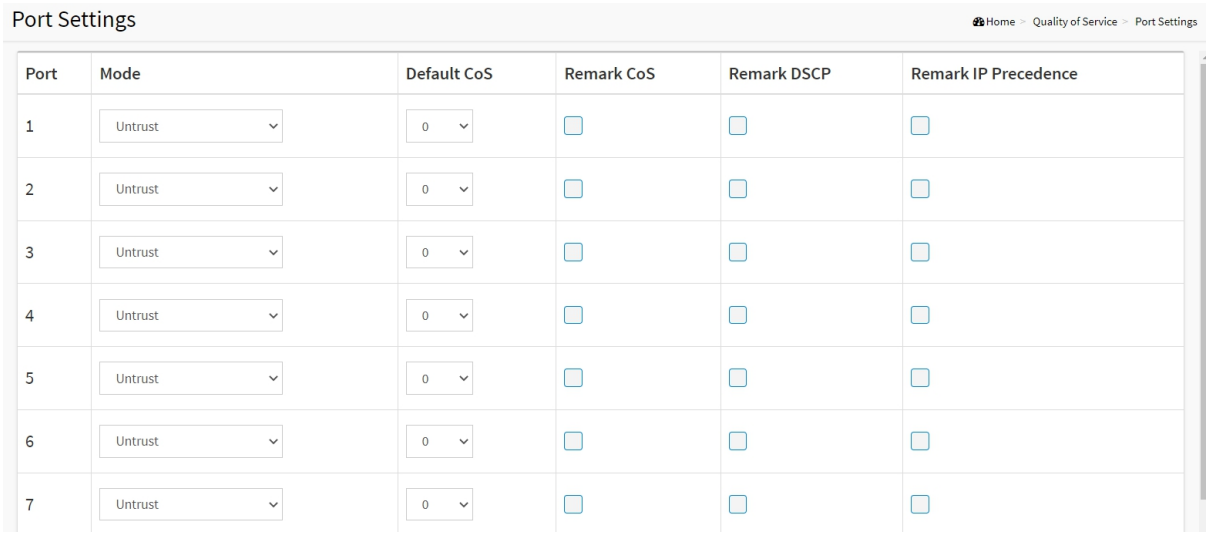


Figure 49: Port Setting

Parameter Description:

- **Mode**

  Untrust:

  All ingress traffic on the port is mapped to the best effort queue and no classification/prioritization takes place.

  Trust:

  Port prioritize ingress traffic is based on the system wide configured trusted mode, which is either CoS/802.1p trusted mode, IP Precedence trusted mode or DSCP trusted mode.

- **Default CoS**
  FIFO, Low, Normal, Medium and High. Select the default CoS value to be assigned for incoming untagged packets. The range is 0 to 7.
- **Source CoS**

The CoS value is determined based on C-Tag or S-Tag for incoming tagged packets.

- **Remark CoS**
  Click the checkbox to remark the CoS/802.1p priority for egress traffic on this port.
- **Remark DSCP**
  Click the checkbox to remark the DSCP value for egress traffic on this port.
- **Remark IP Precedence**
  Click the checkbox to remark the IP precedence for egress traffic on this port.

13-3 Port Policing

Web Interface

To configure the logical port for the setting in the web interface:

4. Click Quality of Service -> Port Policing.
5. Specify the parameter you want to configure.
6. Click Apply.

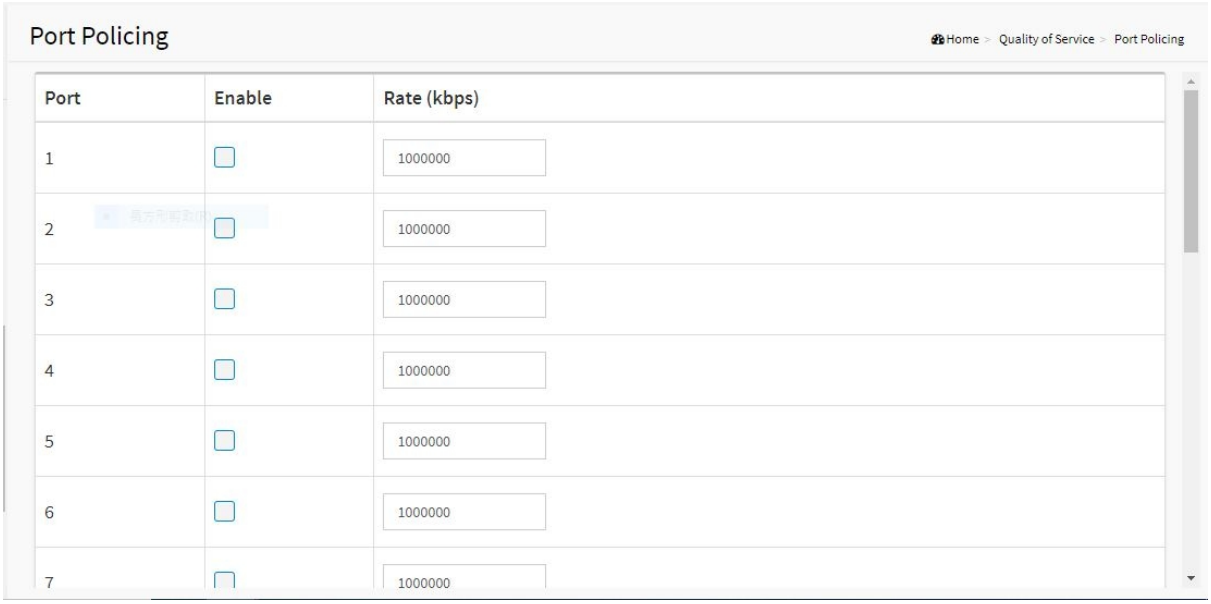


Figure 50: Port Policing

Parameter Description:

- **Enable**

  To evoke which Port you need to enable the QoS Ingress Port Policers function.

- **Rate(kbps)**
  To set the Rate limit value for this port, the default is 1000000.

13-4 Port Shaper

Web Interface

To configure the logical port for the setting in the web interface:

7. Click Quality of Service -> Port Shaper.
8. Specify the parameter you want to configure.
9. Click Apply.

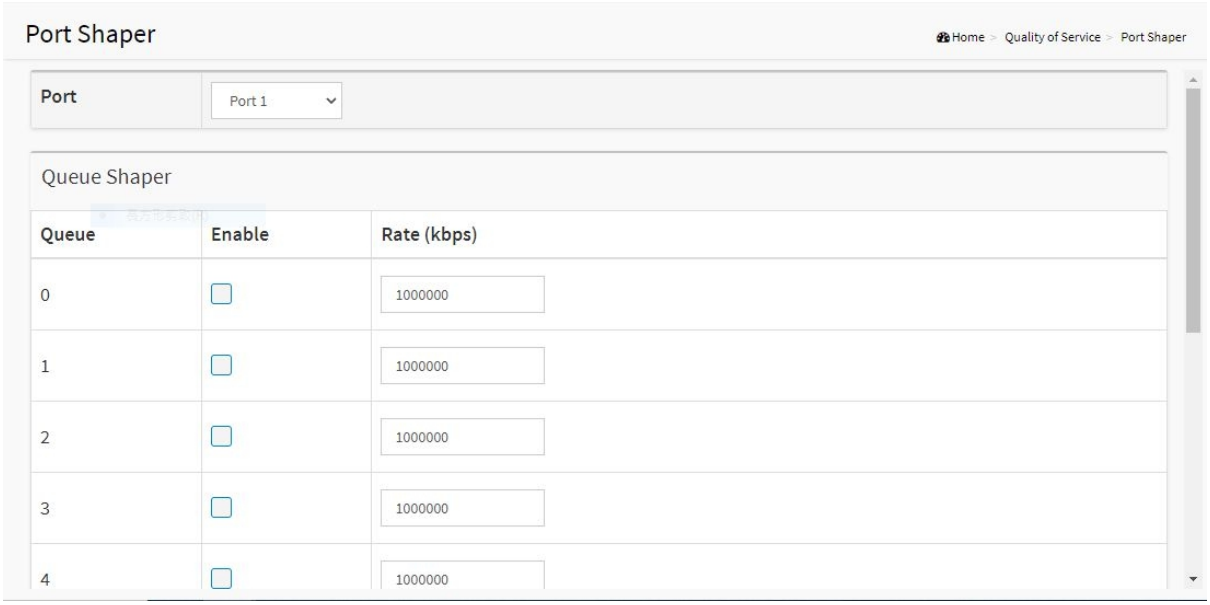


Figure 51: Port Shaper

Parameter Description:

- **Enable**

  Controls whether the queue shaper is enabled for this queue on this switch port.

- **Rate(kbps)**
  Controls the rate for the queue shaper. The default value is 1000000.

13-5 Port Scheduler

Web Interface

To configure the logical port for the setting in the web interface:

10. Click Quality of Service -> Port Scheduler.
11. Specify the parameter you want to configure.
12. Click Apply.

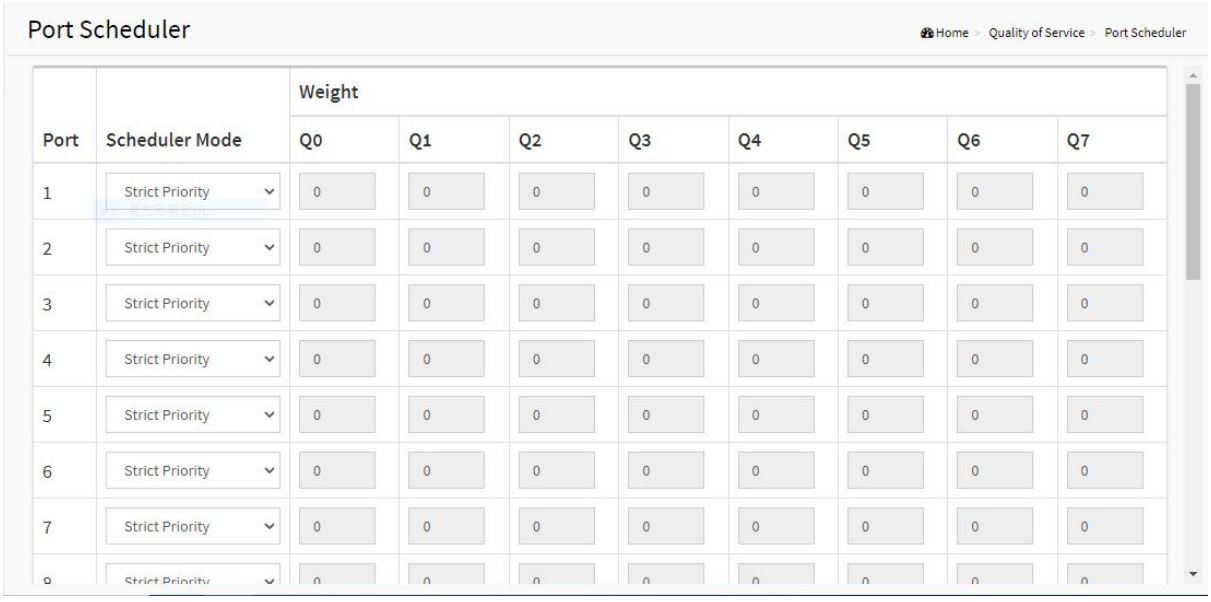


Figure 52: Port Scheduler

Parameter Description:

- **Scheduler Mode**

  Controls whether the queue shaper is enabled for this queue on this switch port. Controls whether the scheduler mode is "Strict Priority", "WRR" or "WFQ" on this switch port.

- **Weight**

  Controls the rate for the queue shaper. The default value is 1000000. Controls the weight for this queue. The default value is "0". This value is restricted to 0-127. This parameter is only shown if "Scheduler Mode" is set to "Weighted".

13-6 CoS/802.1p Mapping

This page is used to configure the Class of Service (CoS) which prioritizes the network traffic based on the CoS queue mapping on the CoS Settings.

Web Interface

To configure the CoS in the web interface:

13. Click Quality of Service -> CoS/802.1p Mapping.
14. Specify the parameter you want to configure.
15. Click Apply.

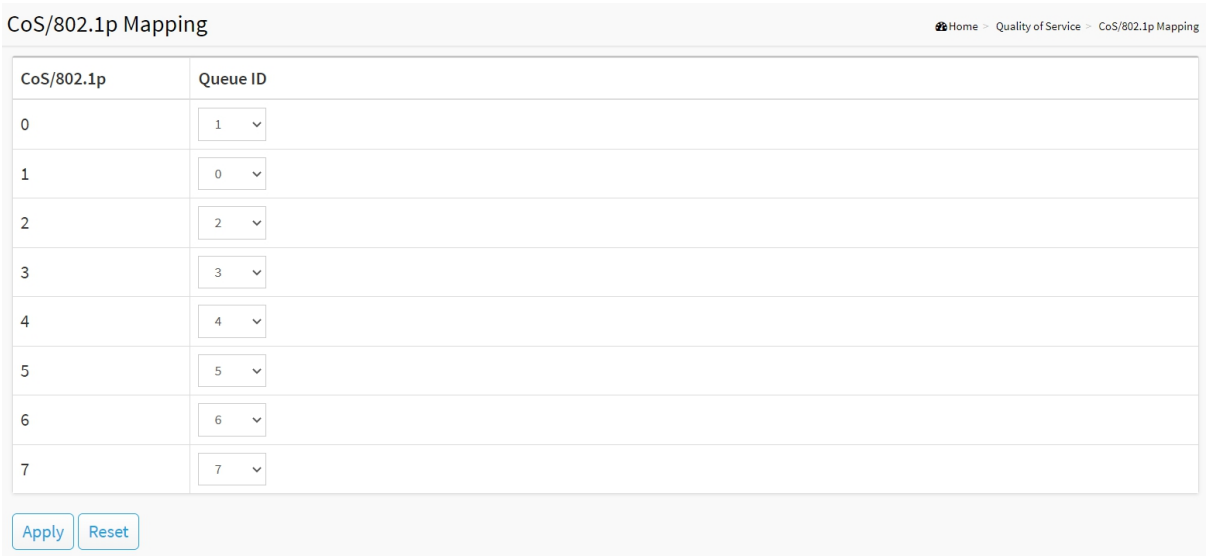


Figure 53: CoS/802.1p Mapping

Parameter Description:

- **Queue ID**

  Select the egress queue to which the 802.1p priority is mapped. Eight egress queues are supported, where Queue 7 is the highest priority egress queue and Queue 0 is the lowest priority egress queue.

13-7 CoS/802.1p Remarking

This page is use the Queues to CoS/802.1p page to remark the CoS/802.1p priority for egress traffic from each queue.

Web Interface

To configure the rate limit function in the web interface:

1. Click Quality of Service -> CoS/802.1p remarking

2. Specify the parameter you want to configure.
3. Click Apply.

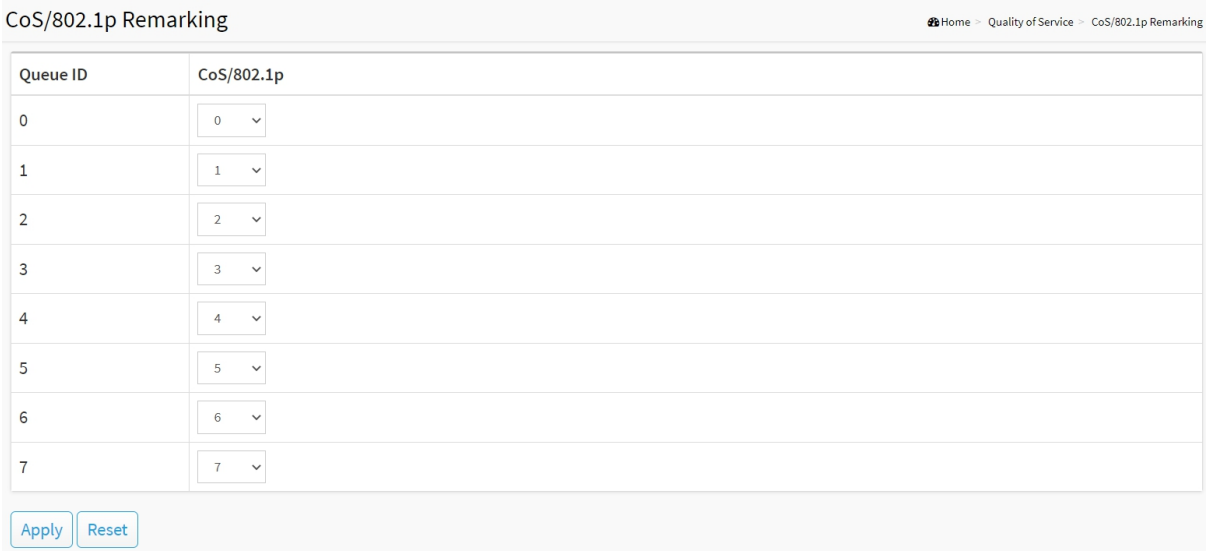


Figure 54 :CoS/802.1p Remarking

Parameter Description:

- **Queue ID**

  Displays the Queue ID, where Queue 7 is the highest priority egress queue and Queue 0 is the lowest priority egress queue.

- **CoS/802.1p**

  For each output queue, select the CoS/802.1p priority to which egress traffic from the queue is remarked.

Chapter 14 Spanning Tree

The Spanning Tree Protocol (STP) can be used to detect and disable network loops, and to provide backup links between switches, bridges or routers. This allows the switch to interact with other bridging devices (that is, an STP-compliant switch, bridge or router) in your network to ensure that only one route exists between any two stations on the network, and provide backup links which automatically take over when a primary link goes down.
STP - STP uses a distributed algorithm to select a bridging device (STP- compliant switch, bridge or router) that serves as the root of the spanning tree network. It selects a root port on each bridging device (except for the root device) which incurs the lowest path cost when forwarding a packet from that device to the root device. Then it selects a designated bridging device from each LAN which incurs the lowest path cost when forwarding a packet from that LAN to the root device. All ports connected to designated bridging devices are assigned as designated ports. After determining the lowest cost spanning tree, it enables all root ports and designated ports, and disables all other ports. Network packets are therefore only forwarded between root ports and designated ports, eliminating any possible network loops.

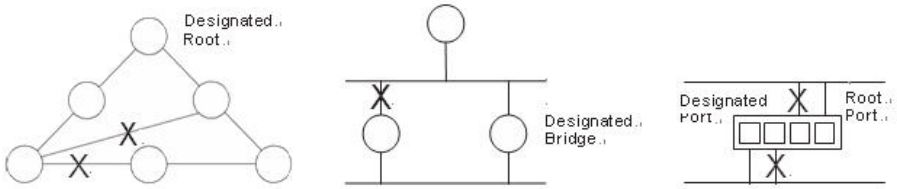


Figure 55: The Spanning Tree Protocol

Once a stable network topology has been established, all bridges listen for Hello BPDUs (Bridge Protocol Data Units) transmitted from the Root Bridge. If a bridge does not get a Hello BPDU after a predefined interval (Maximum Age), the bridge assumes that the link to the Root Bridge is down. This bridge will then initiate negotiations with other bridges to reconfigure the network to reestablish a valid network topology.

14-1 State

The section describes that you can select enable spanning tree protocol or not, and you can select what protocol version you want.

Web Interface

To configure the Spanning Tree Protocol version in the web interface:

1. Click Spanning Tree -> State.
2. To enable/disable the Spanning Tree Protocol.
3. Select the Spanning Tree Protocol version.
4. Click Apply.

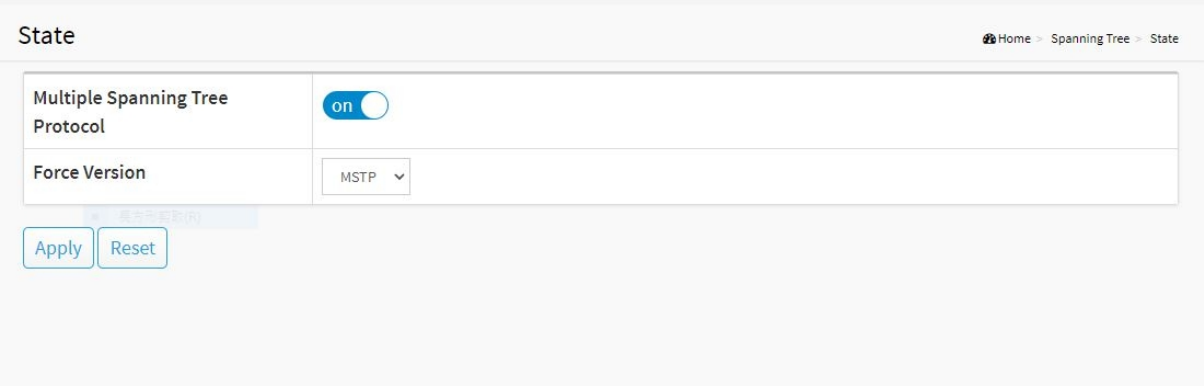


Figure 56: State

Parameter Description:

- **Multiple Spanning Tree Protocol**

  To enable/disable spanning tree protocol.

- **Force Version**

  The Spanning Tree protocol version, including STP, RSTP and MSTP.

14-2 Region Config

The section describes how to configure the basic identification of a MSTP bridge. Bridges participating in a common MST region must have the same Region Name and Revision Level.

Web Interface

To configure the Region Config in the web interface:

1. Click Spanning Tree -> Region Configuration
2. Specify the Region Name and Revision Level.
3. Click Apply.

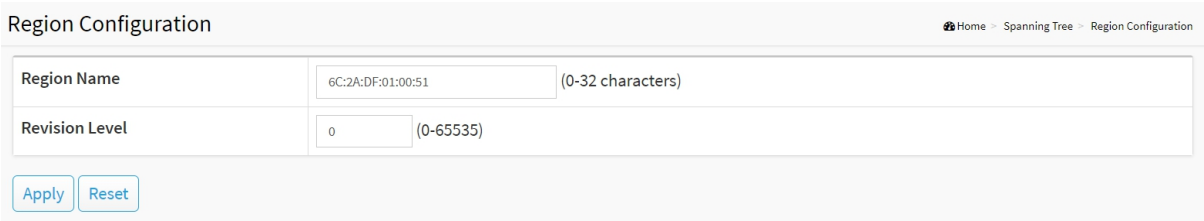


Figure 57: Region Config

Parameter Description:

- **Region Name**

  The name identifying the VLAN to MSTI mapping. Bridges must share the name and revision (see below), as well as the VLAN-to-MSTI mapping configuration in order to share spanning trees for MSTI's (Intra-region). The name is at most 32 characters.

- **Revision Level**

  The revision of the MSTI configuration named above. This must be an integer between 0 and 65535.

14-3 Instance View

The section describes how to configure the basic identification of a MSTP bridge. Bridges participating in a common MST region must have the same Region Name and Revision Level.

The section providing an MST instance table which include information(vlan membership of a MSTI) of all spanning instances provisioned in the particular MST region which the bridge belongs to. Through this table, additional MSTP configuration data can be applied and MSTP status can be retrieved.

Web Interface

To configure the MSTP Instance in the web interface:

1. Click Spanning Tree -> Instance View.
2. Click Add VLAN.
3. Specify the Instance ID and Vlan Mapping.
4. Click Instance Config, Port Config, Instance Status and Port Status to see the detail.
5. If you want to cancel the setting, click Delete.

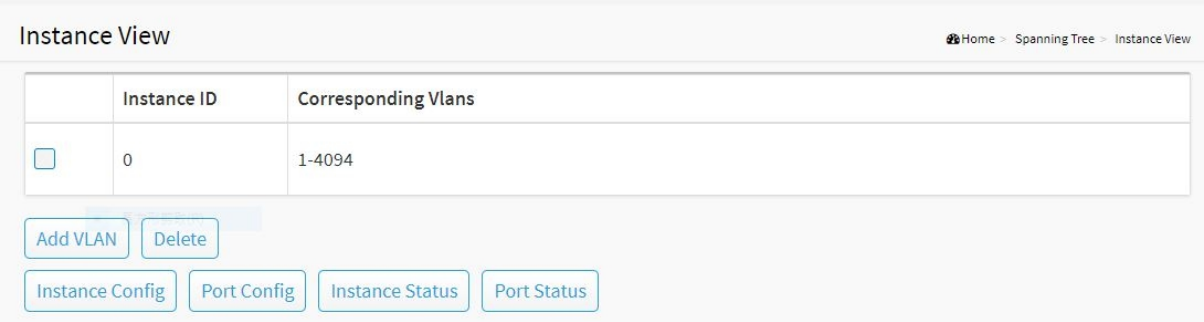


Figure 58: MSTP Instance Config

Parameter Description:

- **Instance ID**

  Every spanning tree instance need to have a unique instance ID within 1~15. Instance 0 (CIST) always exists and cannot be deleted. Additional spanning instances (MSTIs) can be added or deleted. At least one vlan must be provisioned for an MSTI to declare the need for the MSTI to be existent.

- **Corresponding VLANs**

  1-4094.

  Multiple vlans can belong to an MSTI. All vlans that are not provisioned through this will be automatically assigned to Instance 0(CIST).

- **Add VLAN[Button]**

  To add an MSTI and provide its vlan members for a specific MSTI, you can add up to 15.

- **Delete[Button]**

  To delete an MSTI.

- **Instance Config[Button]**

  To provision spanning tree performance parameters per instance.

- **Port Config[Button]**

  To provision spanning tree performance parameters per instance per port.

- **Instance Status[Button]**

  To show the status report of a particular spanning tree instance.

- **Port Status[Button]**

To show the status report of all ports regarding a specific spanning tree instance.

Add VLAN

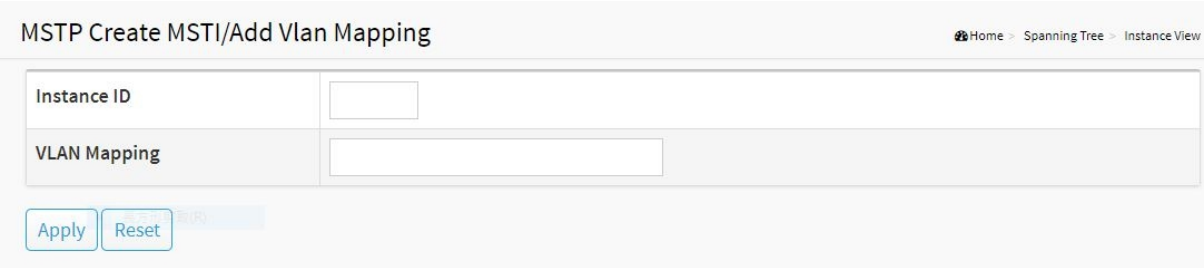


Figure 59: Add VLAN

Parameter Description:

- **Instance ID**

  The Range is 1-15

- **Vlan Mapping**

  The list of VLANs mapped to the MSTI. The VLANs can be given as a single (xx, xx must be between 1 and 4094) VLAN, or a range (xx-yy), each of which must be separated with comma and/or space. A VLAN can only be mapped to one MSTI. An unused MSTI should just be left empty. (I.e. not having any VLANs mapped to it.) Example: 2,5,20-40.

Instance Config (ID=0)

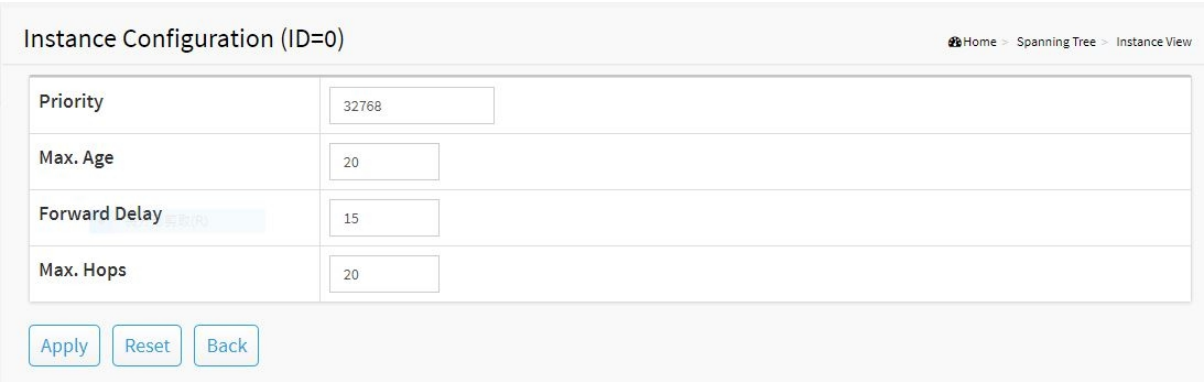


Figure 60: Instance Config (ID 0)

Parameter Description:

- **Priority**

  The priority parameter used in the CIST(Common and Internal Spanning Tree) connection.

  0 / 4096 / 8192 / 12288 / 16384 / 20480 / 24576 / 28672 / 32768 / 36864 / 40960 / 45056 / 49152 / 53248 / 57344 / 61440

- **MAX. Age**

  Range: 6-40 sec

  The max age timer controls the maximum length of time that passes before a bridge port saves its configuration BPDU information. This time is 20 sec by default, but you can tune the time to be between 6 and 40 sec.

- **Forward Delay**

  Range: 4-30 sec

  It is the same definition as in the RSTP protocol. The forward delay is the time that is spent in the listening and learning state. This time is equal to 15 sec by default, but you can tune the time to be between 4 and 30 sec.

- **MAX. Hops**

  Range: 1-40 sec

  It's a new parameter for the multiple spanning tree protocol. It is used in the internal spanning tree instances. "CIST Remaining Hops" or "MSTI Remaining Hops" in the Spanning tree protocol message would decreased by one when the message is propagated to the neighboring bridge. If the Remaining Hops in a message is zero, the message (BPDU) would be regarded as invalid. Max Hops is used to specify the initial value of the Remaining Hops for Regional Root Bridge (Either CIST Regional Root or MSTI Regional Root)

Port Config (ID=0)

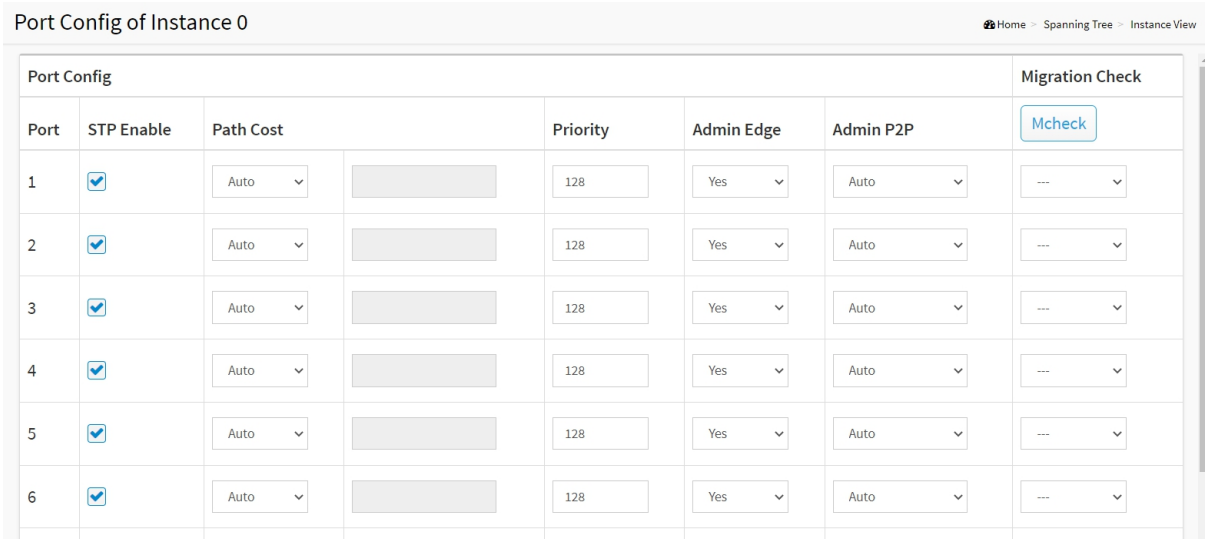


Figure 61: Port Config (ID 0)

Parameter Description:

- **Port**

  The logical port for the settings contained in the same row.

- **Path Cost**

  Range: 0-200000000

  It is the same definition as in the RSTP specification. But in MSTP, this parameter can be respectively applied to ports of CIST and ports of any MSTI.

- **Priority**

  0 / 16 / 32 / 48 / 64 / 80 / 96 / 112 / 128 / 144 / 160 / 176 / 192 / 208 / 224 / 240

  It is the same definition as in the RSTP specification. But in MSTP, this parameter can be respectively applied to ports of CIST and ports of any MSTI.

- **Admin Edge**

  Yes / No

  It is the same definition as in the RSTP specification for the CIST ports.

- **Admin P2P**

  Auto / True / False

  It is the same definition as in the RSTP specification for the CIST ports.

- **MCheck**

  It is the same definition as in the RSTP specification for the CIST ports.

Instance Status (ID=0)

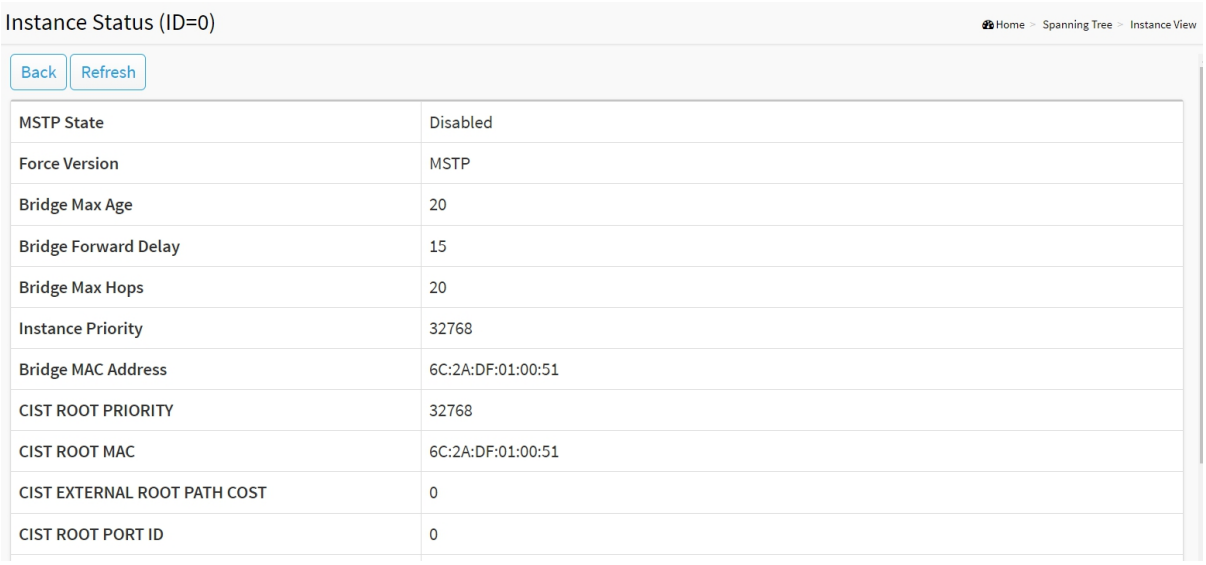


Figure 62: Instance Status (ID 0)

Parameter Description:

- **MSTP State**

  MSTP protocol is Enable or Disable.

- **Force Version**

  It shows the current spanning tree protocol version configured.

- **Bridge Max Age**

  It shows the Max Age setting of the bridge itself.

- **Bridge Forward Delay**

  It shows the Forward Delay setting of the bridge itself.

- **Bridge Max Hops**

  It shows the Max Hops setting of the bridge itself.

- **Instance Priority**

  Spanning tree priority value for a specific tree instance(CIST or MSTI)

- **Bridge Mac Address**

  The Mac Address of the bridge itself.

- **CIST ROOT PRIORITY**

  Spanning tree priority value of the CIST root bridge

- **CIST ROOT MAC**

  Mac Address of the CIST root bridge

- **CIST EXTERNAL ROOT PATH COST**

  Root path cost value from the point of view of the bridge's MST region.

- **CIST ROOT PORT ID**

  The port ID of the bridge's root port. In MSTP, peer port of a root port may reside in different MST region or in the same MST region. The first case indicates that the root port's owner is the CIST regional root bridge.

- **CIST REGIONAL ROOT PRIORITY**

  Spanning tree priority value of the CIST regional root bridge. Note that CIST Regional Root bridge is different from CIST Root bridge. One exception is that when a bridge belonging to an MST region happens to be the root bridge of the CST(Common Spanning Tree). An MST Region in the CST can be regarded as a common RSTP bridge. The IST(Internal Spanning Tree) and MSTIs are transparent to bridges outside this region.

- **CIST REGIONAL ROOT MAC**

Mac Address of the CIST regional root bridge.

- **CIST INTERNAL ROOT PATH COST**

  Root path cost value from the point of view of the bridges inside the IST.

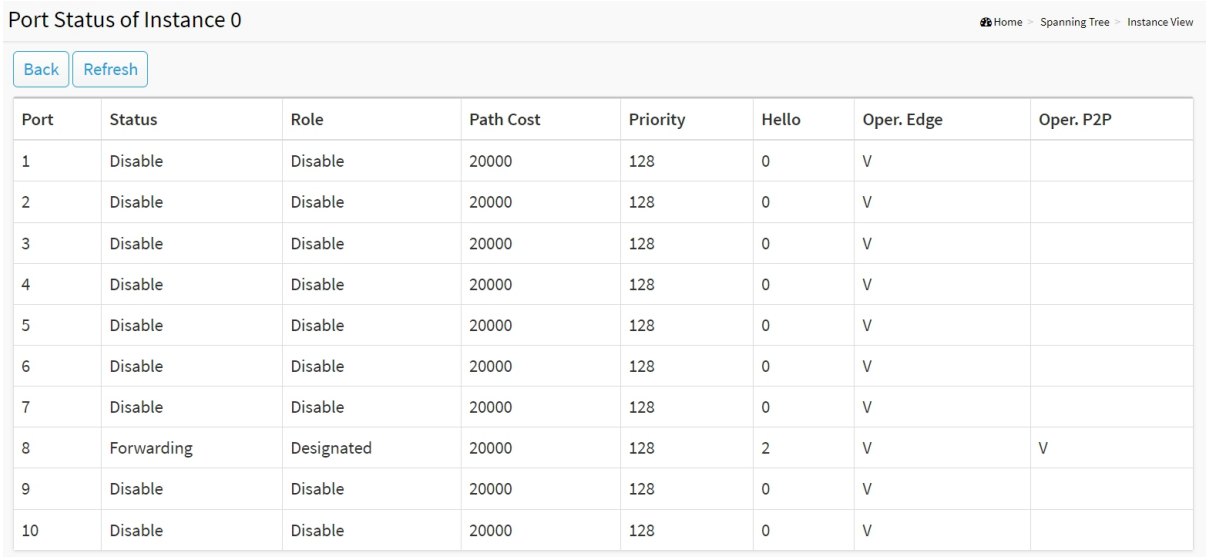
- **CIST CURRENT MAX AGE**

  Max Age of the CIST Root bridge.

- **CIST CURRENT FORWARD DELAY**

  Forward Delay of the CIST Root bridge.

Port Status (ID=0)



Port	Status	Role	Path Cost	Priority	Hello	Oper. Edge	Oper. P2P
1	Disable	Disable	20000	128	0	V	
2	Disable	Disable	20000	128	0	V	
3	Disable	Disable	20000	128	0	V	
4	Disable	Disable	20000	128	0	V	
5	Disable	Disable	20000	128	0	V	
6	Disable	Disable	20000	128	0	V	
7	Disable	Disable	20000	128	0	V	
8	Forwarding	Designated	20000	128	2	V	V
9	Disable	Disable	20000	128	0	V	
10	Disable	Disable	20000	128	0	V	

Figure 63: Port Status (ID 0)

Parameter Description:

- **Port No**

  The port number to which the configuration applies.

- **Status**

  The forwarding status. Same definition as of the RSTP specification.

  Possible values are “FORWARDING”, “LEARNING”, “DISCARDING”

- **Role**

  The role that a port plays in the spanning tree topology.

  Possible values are “disable”(disable port) , ”alternate”(alternate port) , “backup”(backup port) , “ROOT”(root port) , “DSGN”(designated port) , “MSTR”(master port). The last 3 are possible port roles for a port to transit to FORWARDING state

- **Path Cost**

  Display currently resolved port path cost value for each port in a particular spanning tree instance.

- **Priority**

  Display port priority value for each port in a particular spanning tree instance.

- **Hello**

  Per port Hello Time display. It takes the following form:

  Current Hello Time/Hello Time Setting

- **Oper. Edge**

  Whether or not a port is an Edge Port in reality.

- **Oper. P2P**

  Whether or not a port is a Point-to-Point Port in reality.

Chapter 15 MAC Address Table

The MAC address table page displays all MAC address entries on the switch including static MAC address created by administrator or auto learned from hardware.

Web Interface

To display MAC Address Table page, click System -> MAC Address Table

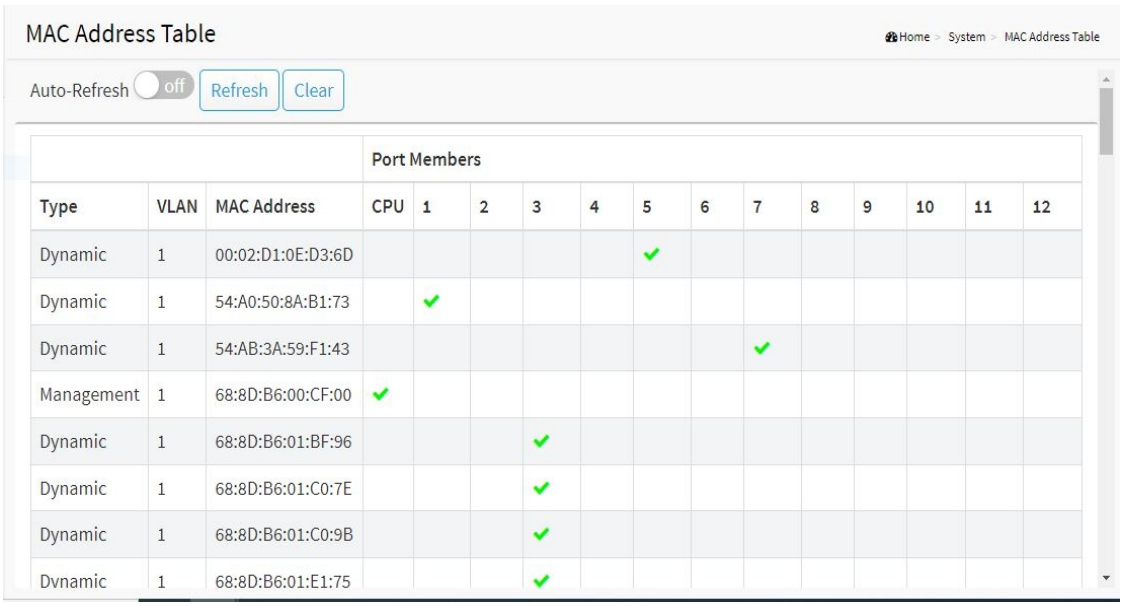


Figure 64: MAC Address Table

Parameter Description:

- **VLAN**

  VLAN ID of the MAC address

- **MAC Address**

  MAC address

- **Type**

  Type of MAC address

  . Management: DUT's base MAC address for management purpose

  . SecureStatic: Manually configured by administrator for port security function.

  . SecureDynamic: Dynamically learned by hardware associated with port security. It will be aged out.

  . Dynamic: Dynamically learned by hardware, and it will be aged out.

- **Port**

  Type of Port

  . CPU: DUT's CPU port for management purpose

  . Other: Normal switch port

- **Clear Dynamic[Button]**

  To clear all dynamic entries.

- **Refresh[Button]**

  To retrieve latest MAC address entries shown on this page.

Chapter 16 DHCP

The section describes how to configure and display the DHCP Snooping parameters of the switch. The DHCP Snooping can prevent attackers from adding their own DHCP servers to the network.

16-1 DHCP Server

This page is used to configure the DHCP Server, including State, Start IP/End IP addresses and Client Lease Time. DHCP Server will allocate these IP addresses to DHCP clients. And deliver configuration parameters to DHCP clients.

Web Interface

To configure the DHCP Server in the web interface:

1. Click DHCP -> DHCP Server.
2. Specify the parameter you want to configure.
3. Click Apply.

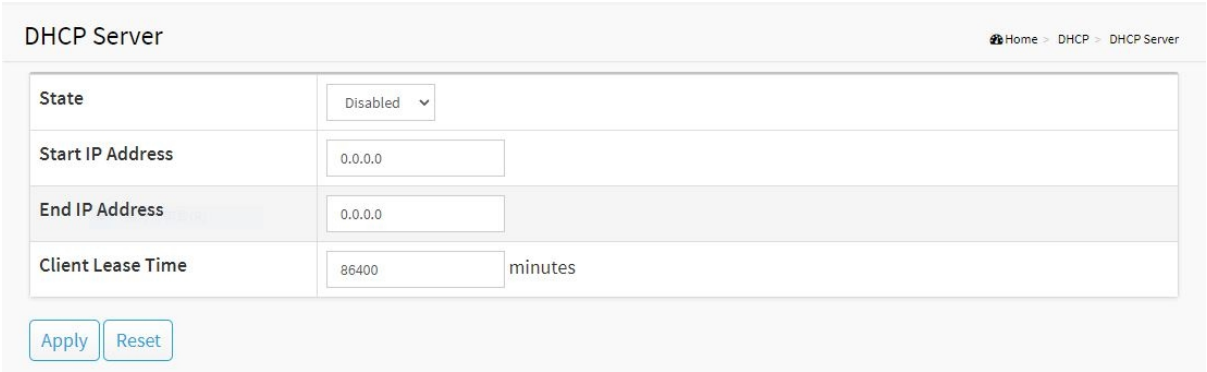


Figure 65: DHCP Server

Parameter description:

- **State**

  To enable/disable DHCP Server function.

- **Start IP Address and End IP Address**

  Define the IP range. The Start IP Address must be smaller than or equal to the End IP Address.

- **Client Lease Time**

  Range: 1 - 14400000, 0: infinite

  Display the lease time of the pool.

Chapter 17 Diagnostics

This chapter provides a set of basic system diagnosis, including Mirroring, Ping and LAN Cable Diagnostics.

17-1 Mirroring

This page is used to configure the ports' mirror function. You can mirror traffic from any source port to a target port for real-time analysis. You can then attach a logic analyzer or RMON probe to the target port and study the traffic crossing the source port in a completely unobtrusive manner.

Mirror Configuration is to monitor the traffic of the network. For example, we assume that Port A and Port B are Monitoring Port and Monitored Port respectively, thus, the traffic received by Port B will be copied to Port A for monitoring.

Web Interface

To configure port mirroring in the web interface:

1. Click Diagnostics -> Mirroring.
2. Click the Enable checkbox.
3. Select Monitor Destination Port. (Mirror Port)
4. Specify the state of Monitor Source Port.
5. Click Apply.

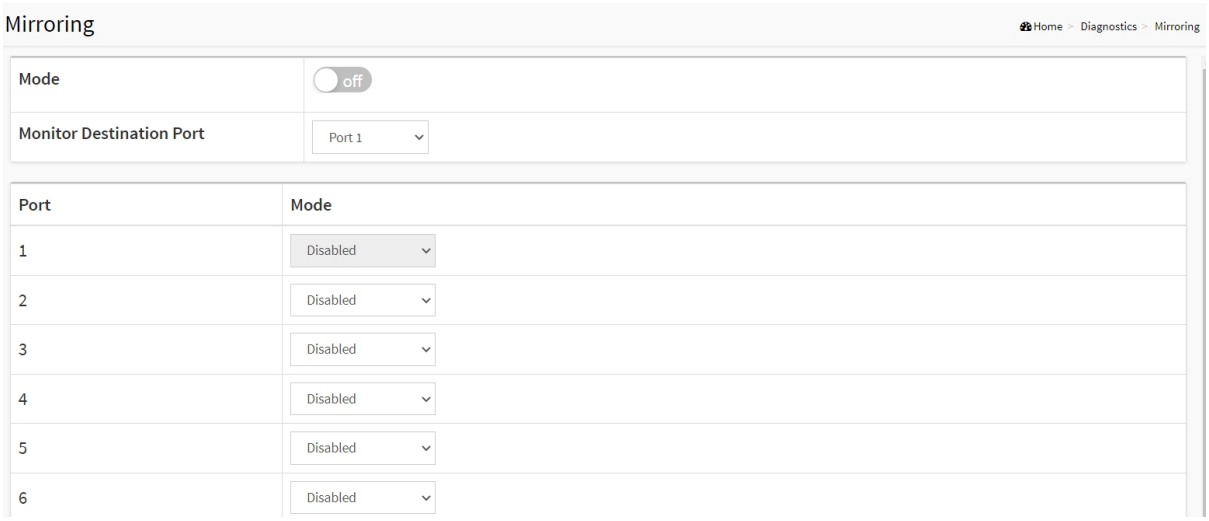


Figure 66: Mirroring

Parameter Description:

- **Mode**

  To enable/disable port mirroring function.

- **Monitor Destination Port**

Port to output the mirrored traffic. Also known as the mirror port. Frames from ports that have either source (rx) or destination (tx) mirroring enabled are mirrored on this port.

- **Monitor Source Port State**

  To enable/disable source port mirroring function:

  - Disabled: neither frames transmitted nor frames received are mirrored.

  - Enabled: Frames received and frames transmitted are mirrored on the mirror port.

17-2 Ping

This section allows you to issue ICMP Echo packets to troubleshoot Ipv4 connectivity issues.

Web Interface

To configure a PING in the web interface:

1. Click Diagnostics -> Ping.
2. Specify IP Address and Ping Count..
3. Click Ping to start.
4. Click Stop to stop.

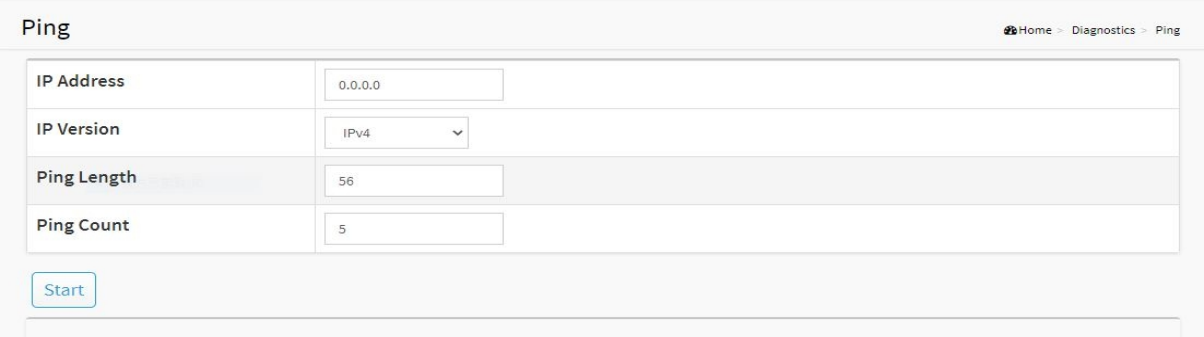


Figure 67: Ping

Parameter Description:

- **IP Address**

  To specify the target IP Address of the Ping.

- **IP Version**

  To select the IP Version.

- **Ping Length**
  The payload size of the ICMP packet. Values range from 1 bytes to 1452 bytes.

- **Ping Count**
  The count of the ICMP packet. Values range from 1 time to 60 times.

17-3 LAN Cable Diagnostics

This section shows how to run LAN Cable Diagnostics for copper ports.

Web Interface

To configure a LAN Cable Diagnostics Configuration in the web interface:

1. Click Diagnostics -> Cable Diagnostics.
2. Specify Port which you want to check.
3. Click Cable Test.

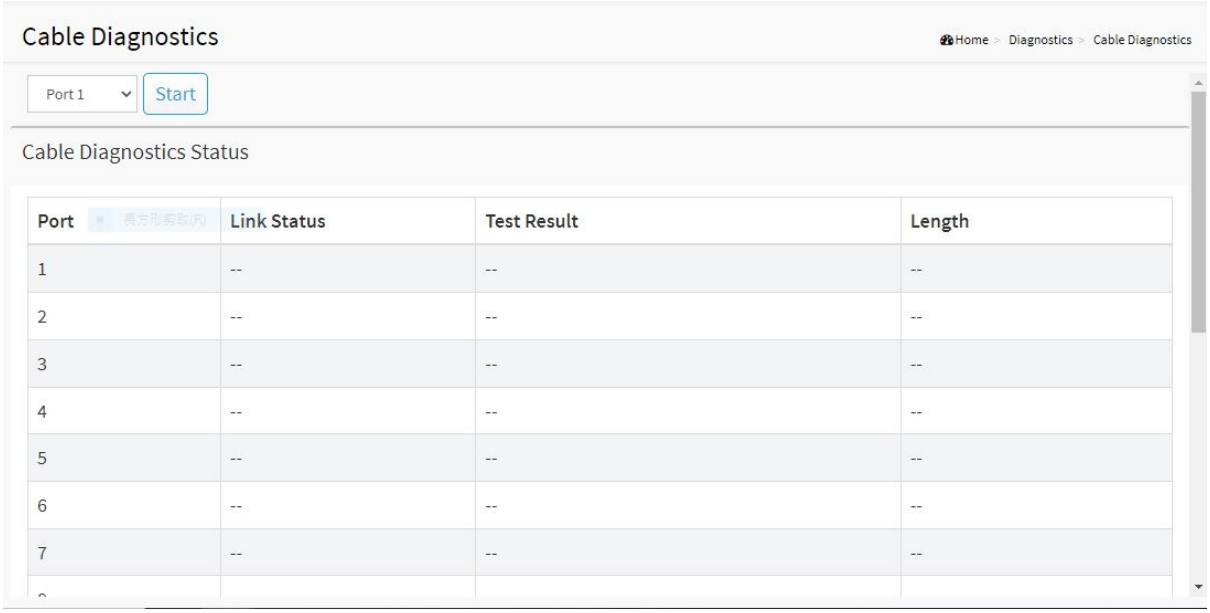


Figure 68: LAN Cable Diagnostics

Parameter Description:

- **Port**

  The port where you are requesting Cable Diagnostics.

- **Result**

  The status of copper test. It include:

  . OK: Correctly terminated pair

  . Short Cable: A short circuit was detected on the twisted pair.

  . Open Cable: Opening pair. One scenario is the cable doesn't plug to the link partner.

  . Impedance mismatch: The normal impedance should be 100Ω, impedance mismatch is detected if the impedance measured is not in the range 70Ω~130Ω.

  . Line Drive: The high impedance is detected. One scenario is the cable plug to a power down link partner.

- **Length**

  Distance in meter from the port to the location on the cable where the fault was discovered.

Chapter 18 Maintenance

This chapter provides the maintenance of the system. These includes Configuration Import/Export, Restart Device, Reset to default and Firmware Upgrade.

18-1 Configuration

18-1.1 Backup / Restore

This section describes how to import or export the Switch Configuration for maintenance needs. Any current configuration files will be exported as text format, and the configuration files on the switch can be backed up and saved on the station running the web browser.

It is possible to transfer any of the files on the switch to the web browser. Select the configuration file for uploading, as the file must be backup before uploading.

Web Interface

To import or export the current device's configuration in the web interface:

1. Click Maintenance -> Configuration -> Backup / Restore
2. For upload configuration, select the file you want to backup and restore.
3. For backup, click Backup to save the configuration file.

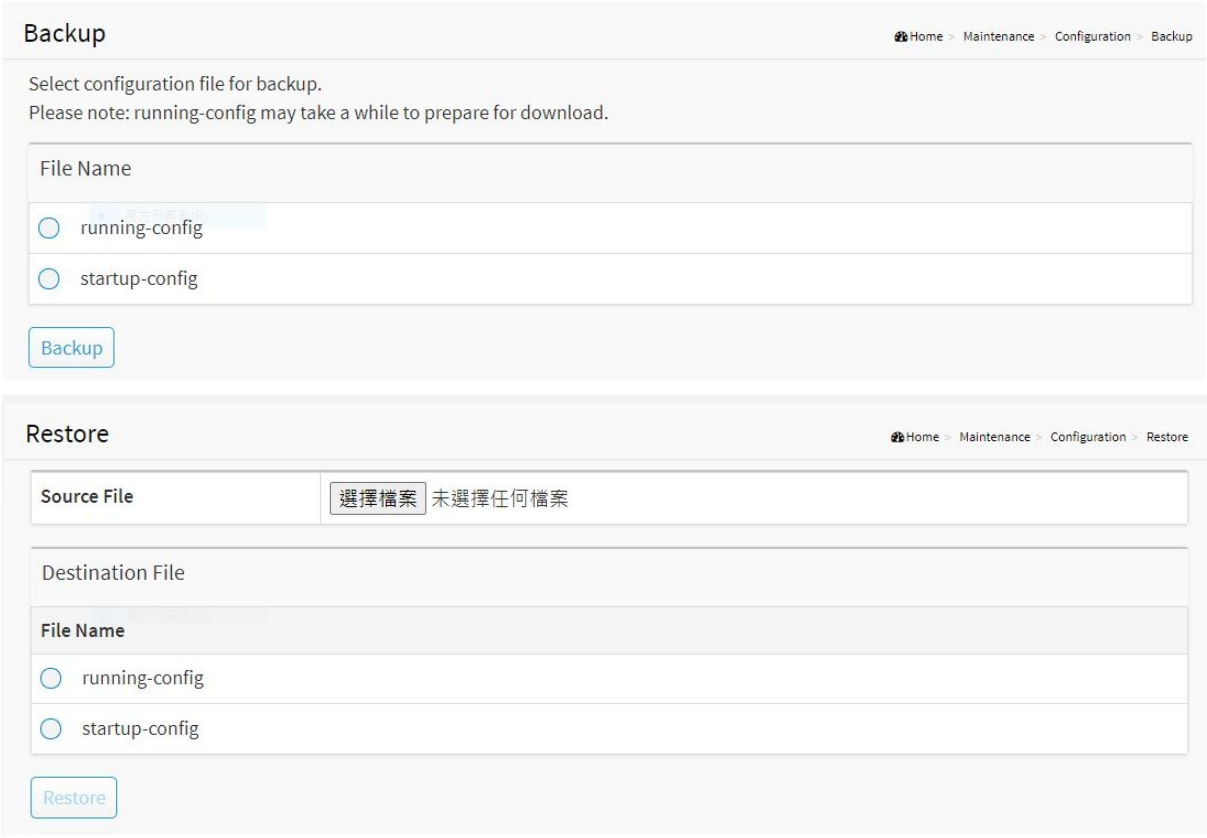


Figure 69: Backup / Restore

Parameter Description:

- **Backup[Button]**

  Set port enable/disable.

- **Restore[Button]**

  Set port enable/disable.

18-2 Restart Device

This section describes how to restart the device for any maintenance needs. Any configuration files or scripts that you saved in the switch should still be available afterwards.

Web Interface

To Restart Device in the web interface:

1. Click Maintenance -> Restart Device.
2. Click Yes.

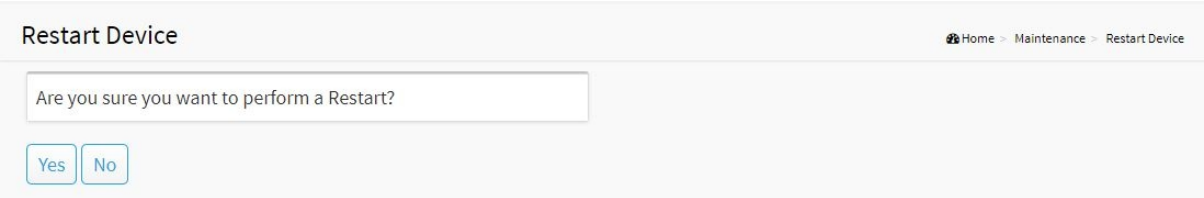


Figure 70: Restart Device

Parameter Description:

- **Yes[Button]**

  To restart device

18-3 Reset Default

This section describes how to restore the Switch configuration to factory default value.

Web Interface

To restore to factory default value in the web interface:

1. Click Maintenance -> Reset Default.
2. Click Yes.

Figure 67: Reset Default

Parameter Description:

- **Yes[Button]**

  To reset the device to factory default value.

18-4 Firmware Upgrade

To display firmware upgrade page, you can click ‘Maintenance -> Firmware Upgrade’. This page allows user to upgrade firmware image through HTTP.

Web Interface

To update firmware of the device in the web interface:

1. Click Maintenance -> Firmware -> Firmware Upgrade.
2. Choose the firmware you want to upgrade.
3. Click Upload.

Figure 68: Firmware Upgrade

Parameter Description:

- **Firmware File**
  The firmware version which currently runs on this device
- **Upload[Button]**

  Click to perform firmware upgrading.

  Don't turn off the device during the firmware upgrading.

18-5 Firmware Selection

To display firmware upgrade page, you can click ‘Maintenance -> Firmware -> Firmware Selection’. This page allows user to select firmware image through UI.

Web Interface

To update firmware of the device in the web interface:

4. Click Maintenance -> Firmware -> Firmware Selection.
5. Choose the firmware version you want to use.
6. Click Activate.

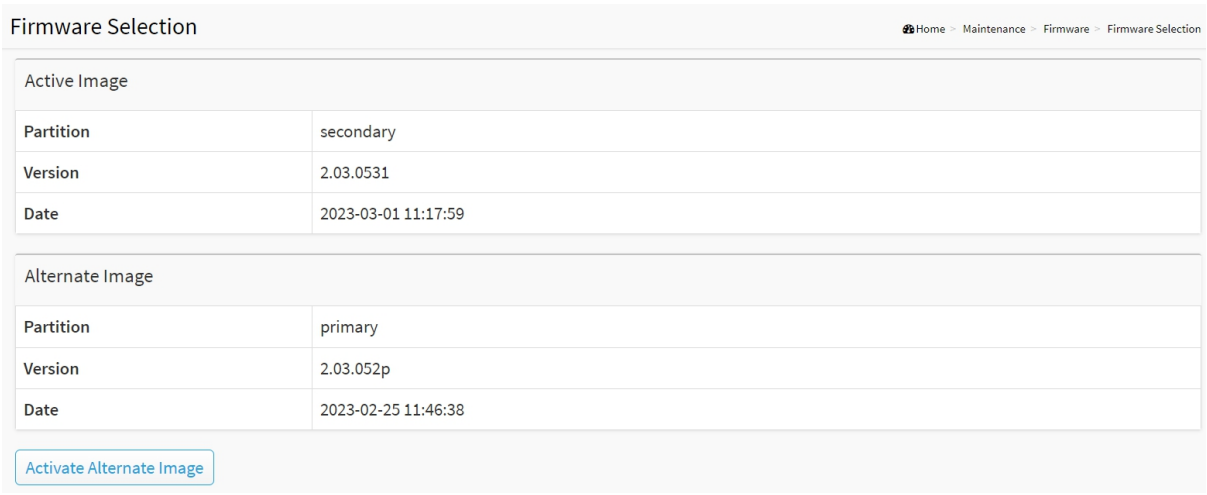


Figure 69: Firmware Upgrade

Parameter Description:

- **Activate Alternate Image[Button]**
  The firmware version which would like to activate on this device.
- **Reset[Button]**

  Reset the setting.

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ABOUT THIS GUIDE

PURPOSE This guide gives specific information on how to operate CLI to manage this switch.

AUDIENCE The guide is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of general switch functions, Internet Protocol (IP), and SSH Protocol.

Revision History

Release	Date	Revision
Initial Release	**2021/02/04**	**A1**
Revision	**2022/01/03**	**A2**
Revision	**2023/01/13**	**A3**

Content

Chapter 1 CLI Management

The following description is the brief of the network connection.

-- Attach the RJ45 serial port on the switch's front panel which used to connect to the switch for telnet configuration

-- At "Com Port Properties" Menu, configure the parameters as below: (see the next section)

Baud rate	115200
Stop bits	1
Data bits	8
Parity	N
Flow control	none

1-1 Login

The command-line interface (CLI) is a text-based interface. User can access the CLI through either a direct serial connection to the device or a Telnet session (Default IP address: **192.168.1.1**). The default uaser and password to login into the Managed Switch are listed below:

Username: **admin**

Password: **admin**

After you login successfully, the prompt will be shown as “<sys_name>**#**“ . See the following figures. It means you behave as an administrator and have the privilege for setting the Managed Switch. If log as not the administrator, the prompt will be shown as “<sys_name>>”, it means you behave as a guest and are only allowed for setting the system under the administrator. Each CLI command has its privilege

```
Username: admin
Password: admin
0E-8PRTMAN#
```

1-2 Commands of CLI

The CLI is divided into serveral modes. If a user has enouth privilege to run a particular command, the user has to run the command in the correct mode. To see the commands of the mode, please input "**?**" after the system prompt, then all commands will be listed in the screen. The command modes are listed as belows:

Command Modes

MODE	**PROMPT**	**COMMAND FUNCTION IN THIS MODE**
exec	<sys_name>#	Display current configuration, diagnostics, maintenance
config	<sys_name>(config)#	Configure features other than those below
config-if	<sys_name>(config-interface)#	Configure ports
config-if-range	<sys_name>(config-if-range)#	Configure a range of ports
config-vlan	<sys_name>(config-vlan)#	Configure static vlan

Commands reside in the corresponding modes could run only in that mode. If a user wants to run a particular command, the user has to change to the appropriate mode. The command modes are organized as a tree, and users start to in enable mode. The following table explains how to change from one mode to another.

Change Between Command Modes

MODE	**ENTER MODE**	**LEAVE MODE**
exec	--	--
config	Configure terminal	exit
config-interfcae	Interface <port-type> <port-number>	exit
config-interfcae-range	Interface range <port-type> <port-type-list>	exit
config-vlan	vlan <vlan_list>	exit

1-3 Global Commands of CLI

```
0E-8PRTMAN# ?
  clear              Reset functions
  clock              Manage the system clock
  configure          Configuration Mode
  copy               Copy from one file to another
  debug              Debug Options
  delete             Delete a file from the flash file system
  disable            Turn off privileged mode command
  end                End current mode and change to enable mode
  exit               Exit current mode and down to previous mode
  no                 Negate command
  ping               Send ICMP ECHO_REQUEST to network hosts
  reboot             Halt and perform a cold restart
  restore-defaults   Restore to default
  save               Save running configuration to flash
  show               Show running system information
  ssl                Setup SSL host keys
  terminal           Terminal configuration
  traceroute         Trace route to network hosts
```

Chapter 2 CLEAR of CLI

Table : CLEAR Commands

Command	Function
interfaces	Interface status and configuration
ip	IP information
lacp	LACP Configuration
line	To identify a specific line for configuration
lldp	Reset lldp information
logging	Log Configuration
mac	MAC configuration
port-security	Port Security
power	Power-over-Ethernet Configuration
spanning-tree	Spanning-tree configuration

2-1 interfaces

Clear interface status and configuration.

Syntax

clear interfaces GigabitEthernet <port_list> counters

clear interfaces LAG <lag_list> counters

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

0E-8PRTMAN# clear interfaces GigabitEthernet 1-3,6 counters

0E-8PRTMAN# clear interfaces LAG 2-4,6 counters

0E-8PRTMAN#

2-2 ip

Clear IP information.

Syntax

clear ip igmp snooping groups {<cr>|<dynamic>|<static>}

clear ip igmp snooping statistics

Parameter

groups	IPv4 multicast groups	
	<cr>	
	dynamic	dynamic groups
	static	static groups
statistics	Clear IGMP snooping statistics	

Example

0E-8PRTMAN# clear ip igmp snooping statistics

0E-8PRTMAN# clear ip igmp snooping groups static

0E-8PRTMAN# clear ip igmp snooping groups dynamic

0E-8PRTMAN#

2-3 lacp

Clear LACP Configuration.

Syntax

Clear lacp counters

Parameter

counters	LAG number

Example

```
0E-8PRTMAN# clear lacp counters
0E-8PRTMAN#
```

2-4 line

Clear a specific line for configuration.

Syntax

clear line telnet

Parameter

telnet	Telnet daemon configuration

Example

0E-8PRTMAN# clear line telnet

0E-8PRTMAN#

2-5 lldp

Clear lldp information.

Syntax

clear lldp global statistics

clear lldp interfaces GigabitEthernet <port_list> statistics

clear lldp interfaces LAG <lag_list> statistics

Parameter

global	Clear LLDP statistics		
	statistics		
interfaces	Clear LLDP statistics for specified ports		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

0E-8PRTMAN# clear lldp global statistics

0E-8PRTMAN# clear lldp interfaces GigabitEthernet 1-3,6 statistics

0E-8PRTMAN# clear lldp interfaces LAG 1-3,6 statistics

0E-8PRTMAN#

2-6 logging

Clear log configuration.

Syntax

clear logging {<buffered>|<file>}

Parameter

buffered	Buffered logging
file	File logging

Example

0E-8PRTMAN# clear logging buffered

0E-8PRTMAN# clear logging file

0E-8PRTMAN#

2-7 mac

Clear MAC configuration.

Syntax

clear mac address-table dynamic

clear mac address-table dynamic interface GigabitEthernet <port_list>

clear mac address-table dynamic interface LAG <lag_list>

clear mac address-table dynamic vlan <vlan_id>

Parameter

interface	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
vlan	VLAN configuration		
	<vlan_id>	VLAN ID (1-4094)	

Example

clear mac address-table dynamic

0E-8PRTMAN# clear mac address-table dynamic interfaces GigabitEthernet 1-3,6

0E-8PRTMAN# clear mac address-table dynamic interfaces LAG 1-3,6

0E-8PRTMAN# clear mac address-table dynamic vlan 2

0E-8PRTMAN#

2-8 port-security

Clear port security configuration.

Syntax

clear port-security all {<cr>|<address>|<interface>}

clear port-security configured {<cr>|<address>|<interface>}

clear port-security dynamic {<cr>|<address>|<interface>}

clear port-security sticky {<cr>|<address>|<interface>}

Parameter

all	All secure mac addresses
configured	Configured secure mac addresses
dynamic	Secure MAC address auto-learned by hardware
sticky	Secure MAC address either auto-learned or configured

Example

0E-8PRTMAN# clear port-security all

0E-8PRTMAN# clear port-security all address 68:8D:B6:00:00:01

0E-8PRTMAN# clear port-security all interface GigabitEthernet 1

0E-8PRTMAN#

2-9 power

Clear power-over-ethernet configuration.

Syntax

clear power inline interfaces GigabitEthernet <port_list> statistics

Parameter

<port_list>	Port List X-Y,Z

Example

0E-8PRTMAN# clear power inline interfaces GigabitEthernet 3-6 statistics

0E-8PRTMAN#

2-10 spanning-tree

clear spanning-tree statistics

Syntax

clear spanning-tree interfaces GigabitEthernet <port_list> statistics

clear spanning-tree interfaces LAG <lag_list> statistics

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

0E-8PRTMAN# clear spanning-tree interfaces GigabitEthernet 1-3,6 statistics

0E-8PRTMAN# clear spanning-tree interfaces LAG 1-3,6 statistics

0E-8PRTMAN#

Chapter 3 CLOCK of CLI

Manage the system clock.

Syntax

clock set <HH:MM:SS> <month> <day> <year>

Parameter

set	Manually set the system clock	
	< HH:MM:SS >	Current time in hours (24 Hour format), minutes, and seconds.
	<month>	jan Month January feb Month February mar Month March apr Month April may Month May jun Month June jul Month July aug Month August sep Month September oct Month October nov Month November dec Month December
	<day>	Current day in the month.Current year
	<year>	<2000-2035>

Example

0E-8PRTMAN# clock set 16:54:00 jan 7 2022

0E-8PRTMAN#

Chapter 4 CONFIGURE Commands of CLI

Table : CONFIGURE Commands

Command	Function
boot	Booting Operations
clock	Manage the system clock
custom	Custom Module configuration
dos	DoS information
do	To run exec commands in current mode
end	End current mode and change to enable mode
errdisable	Error Disable
exit	Exit current mode and down to previous mode
hostname	Set system's network name
interface	Select an interface to configure
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
no	Negate command
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration
smtp	SMTP Configuration

snmp	SNMP information
spanning-tree	Spanning-tree configuration
system	System information
username	Local User
vlan	VLAN configuration

4-1 configure

Configure from the terminal.

Syntax

configure

Example

0E-8PRTMAN# configure

0E-8PRTMAN(config)#

4-1.1 boot

To select booting image.

Syntax

boot system {<image0>|<image1>}

Parameter

image0	Runtime image 0
Image1	Runtime image 1

Example

0E-8PRTMAN(config)# boot system image0

0E-8PRTMAN(config)#

4-1.2 clock

To manage the system clock.

Syntax

clock {<source>|<summer-time>|<timezone>}

Parameter

source	Configure an external time source for the system clock
summer-time	Configure the system to automatically switch to summer time (daylight saving time)
timezone	Set the time zone for display purposes

Example

0E-8PRTMAN(config)# clock source local

0E-8PRTMAN(config)# clock source ntp

0E-8PRTMAN(config)#

4-1.3 custom

To configure custom module.

Syntax

custom enable

Parameter

Example

0E-8PRTMAN(config)# custom enable

0E-8PRTMAN(config)#

4-1.4 dos

To configure DoS.

Syntax

dos {<daeqsa-deny>|<icmp-frag-pkts-deny>|<icmpv4-ping-max-check>|<icmpv6-ping-max-check>|

<ipv6-min-frag-size-check>|<land-deny>|<nullscan-deny>|<pod-deny>|<smurf-deny>|

<syn-sportl1024-deny>|<synfin-deny>|<synrst-deny>|<tcp-frag-off-min-check>|<tcpblat-deny>|

<tcphdr-min-check>|<udpblat-deny>|<udpblat-deny>}

dos icmp-ping-max-length <0-65535>

dos ipv6-min-frag-size-length <0-65535>

dos smurf-netmask <0-32>

dos tcphdr-min-length <0-31>

Parameter

daeqsa-deny	Destination MAC equals to source MAC
icmp-frag-pkts-deny	Fragmented ICMP packets
icmp-ping-max-length	DoS information
icmpv4-ping-max-check	Check ICMPv4 ping maximum packets size
icmpv6-ping-max-check	Check ICMPv6 ping maximum packets size
ipv6-min-frag-size-check	Check minimum size of IPv6 fragments
ipv6-min-frag-size-length	DoS information
land-deny	Source IP equals to destination IP
nullscan-deny	NULL Scan Attacks
pod-deny	Ping of Death Attacks
smurf-deny	Smurf Attacks
smurf-netmask	DoS information
syn-sportl1024-deny	SYN packets with sport less than 1024
synfin-deny	SYN and FIN bits set in the packet
synrst-deny	SYNC and RST bits set in the packet
tcp-frag-off-min-check	TCP fragment packet with offset equals to one
tcpblat-deny	Source TCP port equals to destination TCP port
tcphdr-min-check	Check minimum TCP header
tcphdr-min-length	DoS information
udpblat-deny	Source UDP port equals to destination UDP port
xma-deny	Xmascan: sequence number is zero and the FIN, URG and PSH bits are set

Example

```
0E-8PRTMAN(config)# dos xma-deny
0E-8PRTMAN(config)#
```

4-1.5 do

To run exec commands in current mode.

Syntax

do <command for exec mode>

Parameter

Example

```
0E-8PRTMAN(config)# do show users
    Username          Protocol              Location
--------------- ------------ ----------------------
          admin          console          0.0.0.0
0E-8PRTMAN(config)#
```

4-1.6 end

End current mode and change to enable mode.

Syntax

end

Example

```
0E-8PRTMAN(config)# end
0E-8PRTMAN#
```

4-1.7 errdisable

Error Disable.

Syntax

errdisable recovery cause {<acl>|<all>|<arp-inspection>|<bpduguard>|<broadcast-flood>|
<dhcp-rate-limit>|<psecure-violation>|<selfloop>|
<unicast-flood>|<unknown-multicast-flood>}

errdisable recovery interval <interval_time>

Parameter

cause	Error Disabled caused reason	
	acl	Enable timer to recover from acl causes
	all	Enable timer to recover from all causes
	arp-inspection	Enable timer to recover from arp rate limit causes
	bpduguard	Enable timer to recover from bpdu guard causes
	broadcast-flood	Enable timer to recover from broadcast flood causes
	dhcp-rate-limit	Enable timer to recover from dhcp rate limit causes
	psecure-violation	Enable timer to recover from port security causes
	selfloop	Enable timer to recover from selfloop causes
	unicast-flood	Enable timer to recover from unicast flood causes
	unknown-multicast-flood	Enable timer to recover from unknown multicast flood
interval	Recovery interval	
	<interval_time>	Interval with the number of seconds (30-86400)

Example

```
0E-8PRTMAN(config)# errdisable recovery cause unknown-multicast-flood
0E-8PRTMAN(config)#
```

4-1.8 exit

Exit current mode and down to previous mode.

Syntax

exit

Example

```
0E-8PRTMAN(config)# exit
0E-8PRTMAN#
```

4-1.9 hostname

To set system's network name.

Syntax

hostname <system_network_name>

Parameter

system_network_name	System network name (1-32 words)

Example

0E-8PRTMAN(config)# hostname 0E-8PRTMAN

0E-8PRTMAN(config)#

4-1.10 interface

Select an interface to configure.

Syntax

interface GigabitEthernet <port_number>

interface LAG <lag_id>

interface range GigabitEthernet <port_list>

interface range LAG <lag_list>

Parameter

GigabitEthernet	Gigabit ethernet interface to configure			
	<port_number>	Port number		
LAG	IEEE 802.3 Link Aggregation interface			
	<lag_id>	LAG id		
range	Interface range command			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			back-pressure	Enable back-pressure

			custom	Custom Module configuration
			description	Interface specific description
			dos	DoS information
			do	To run exec commands in current mode
			duplex	Configure duplex operation
			eee	EEE configuration
			end	End current mode and change to enable mode
			exit	Exit from current mode
			flowcontrol	Configure flow-control mode
			ip	IP information
			lacp	LACP Configuration
			lag	Link Aggregation Group Configuration
			lldp	LLDP interface subcommands
			mac	MAC configuration
			no	Negate command
			port-security	Port Security
			power	Power-over-Ethernet Configuration
			protected	Configure an interface to be a protected port
			qos	QoS configuration
			rate-limit	Rate limit configuration of the specified incoming traffic
			shutdown	Shutdown the selected interface
			spanning-tree	Spanning-tree configuration
			speed	Configure speed operation
			storm-control	Storm control configuration
			switchport	Set switching mode characteristics
	LAG	IEEE 802.3 Link Aggregation interface		
		<lag_list>	LAG List X-Y,Z	
			back-pressure	Enable back-pressure
			custom	Custom Module configuration
			description	Interface specific description
			dos	DoS information
			do	To run exec commands in current mode
			duplex	Configure duplex operation
			end	End current mode and change to enable

				mode
			exit	Exit from current mode
			flowcontrol	Configure flow-control mode
			ip	IP information
			mac	MAC configuration
			no	Negate command
			protected	Configure an interface to be a protected port
			qos	QoS configuration
			shutdown	Shutdown the selected interface
			spanning-tree	Spanning-tree configuration
			speed	Configure speed operation
			switchport	Set switching mode characteristics

Example

0E-8PRTMAN(config)# interface GigabitEthernet 1

0E-8PRTMAN(config-if)#

4-1.10.1 back-pressure

Back-pressure configuration.

Syntax

back-pressure

no back-pressure

Example

0E-8PRTMAN(config-if)# back-pressure

0E-8PRTMAN(config-if)# no back-pressure

0E-8PRTMAN(config-if)#

4-1.10.2 custom

Per port custom module configuration

Syntax

custom enable

no custom enable

Parameter

custom enable	Enable per port custom function
no custom enable	Disable per port custom function

Example

0E-8PRTMAN(config-if)# custom enable
0E-8PRTMAN(config-if)# no custom enable
0E-8PRTMAN(config-if)#

4-1.10.3 description

Interface specific description

Syntax

description <WORD>

no description

Parameter

WORD	Description string (1-63 words)

Example

0E-8PRTMAN(config-if)# description desc_word

0E-8PRTMAN(config-if)# no description

0E-8PRTMAN(config-if)#

4-1.10.4 dos

Per port DoS-related function configuration

Syntax

dos

no dos

Parameter

dos	Enable per port DoS function
no dos	Disable per port DoS function

Example

0E-8PRTMAN(config-if)# dos

0E-8PRTMAN(config-if)# no dos

0E-8PRTMAN(config-if)#

4-1.10.5 do

To run exec commands in current mode

Syntax

do <sequence>

Parameter

sequence	Exec Command

Example

```
0E-8PRTMAN(config-if)# do show info
System Name          : 0E-8PRTMAN
System Location    :
System Contact     :
MAC Address          : 38:73:EA:A0:58:77
IP Address           : 192.168.11.199
Subnet Mask          : 255.255.255.0
Loader Version     : 2.0.0.1
Loader Date          : Jan 11 2022 - 13:46:46
Firmware Version : 2.0.1.3_vk
Firmware Date       : Jan 11 2022 - 13:52:13
System Object ID : 1.3.6.1.4.1.27282.3.2.10
System Up Time     : 0 days, 0 hours, 40 mins, 3 secs
0E-8PRTMAN(config-if)#
```

4-1.10.6 duplex

Per Port duplex configuration

Syntax

Duplex {<auto>|<full>|<half>}

Parameter

auto	Enable auto duplex configuration
full	Force full duplex operation
half	Force half duplex operation

Example

0E-8PRTMAN(config-if)# duplex auto

0E-8PRTMAN(config-if)#

4-1.10.7 eee

Per port EEE configuration

Syntax

eee

no eee

Parameter

eee	Enable per port EEE function
no eee	Disable per port EEE function

Example

0E-8PRTMAN(config-if)# eee

0E-8PRTMAN(config-if)# no eee

0E-8PRTMAN(config-if)#

4-1.10.8 end

End current mode and change to enable mode

Syntax

end

Example

0E-8PRTMAN(config-if)# end

0E-8PRTMAN#

4-1.10.9 exit

Exit from current mode

Syntax

exit

Example

0E-8PRTMAN(config-if)# exit

0E-8PRTMAN(config)#

4-1.10.10 flowcontrol

Per port flow control configuration

Syntax

flowcontrol {<auto>|<off>|<on>}

Parameter

auto	Enable per port auto mode flow control
off	Disable per port flow control function
on	Force on per port flow control function

Example

0E-8PRTMAN(config-if)# flowcontrol auto

0E-8PRTMAN(config-if)#

4-1.10.11 ip

Per port IP information.

Syntax

ip igmp filter <1-128>

ip igmp max-groups <0-256>

ip igmp max-groups action {<deny>|<replace>}

Parameter

filter	IPv4 filter	
	<1-128>	IPv4 filter profile index
max-groups	IGMP snooping max group number 0~256	
	deny	IGMP max-group action deny
	replace	IGMP max-group action replace

Example

0E-8PRTMAN(config-if)# ip igmp filter 1

0E-8PRTMAN(config-if)#

4-1.10.12 lacp

Per port LACP-related function configuration

Syntax

lacp priority <1-65535>

lacp timeout {<fast>|<slow>}

no lacp priority

no lacp timeout

Parameter

priority	IEEE 802.3 link aggregation port priority	
	<1-65535>	Port-priority value
timeout	IEEE 802.3 link aggregation port timeout	
	fast	Long timeout value
	slow	Short timeout value

Example

0E-8PRTMAN(config-if)# lacp timeout slow

0E-8PRTMAN(config-if)#

4-1.10.13 lag

Per port llnk aggregation group configuration.

Syntax

lag <lag-id> lacp {<active>|<passive}

lag <lag-id> mode static

no lag

Parameter

<lag-id>	configure port as LAG <lag-id> member port		
	mode	Set LAG mode	
		static	Enable Static Only
	lacp	LACP Configuration	
		active	active mode
		passive	passive mode

Example

0E-8PRTMAN(config-if)# lag 1 lacp active

0E-8PRTMAN(config-if)#

4-1.10.14 lldp

Per port LLDP function configuration

Syntax

lldp rx

lldp tlv-select {<TLV>|pvid {<enable>|<disable>}|vlan-name {add <VLAN-LIST>|remove <VLAN-LIST>}}

lldp tx

no lldp rx

no tlv-select

no tlv-select pvid

no lldp tx

Parameter

rx	Enable LLDP reception on interface			
tlv-select	Selection of LLDP TLVs to send			
	TLV	LLDP optional TLV, pick from: port-desc, sys-name, sys-desc, sys-cap, mac-phy, lag, max-frame-size, management-addr		
	pvid	disable	Disable Tx optional-TLV 802.1 PVID	
		enable	Enable Tx optional-TLV 802.1 PVID	
	vlan-name	Add/remove VLAN for advertise		
		add	<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095
		remove	<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095
tx	Enable LLDP transmission on interface			

Example

```
0E-8PRTMAN(config-if)# lldp tx
0E-8PRTMAN(config-if)#
```

4-1.10.15 mac

Per port mac address table configuration

Syntax

mac address-table learn {<auto>|<disable>|<secure>}

Parameter

auto	Learning is done automatically
disable	No learning

secure	Only static MAC entries are learned, all other frames are dropped.

Example

```
0E-8PRTMAN(config-if)# mac address-table learn secure
0E-8PRTMAN(config-if)#
```

4-1.10.16 no

Negate command

Table : configure – no Commands

Command	Function
back-pressure	Enable back-pressure
custom	Custom Module configuration
description	Interface specific description
dos	DoS information
eee	EEE configuration
flowcontrol	Configure flow-control mode
ip	IP information
lacp	LACP Configuration
Lag	Link Aggregation Group Configuration
lldp	Lldp configuration
port-security	Port Security
power	Power-over-Ethernet Configuration
protected	Configure an interface to be a protected port
qos	QoS configuration
rate-limit	Rate limit configuration of the specified incoming traffic
shutdown	Shutdown the selected interface
spanning-tree	Spanning-tree configuration
storm-control	Storm control configuration
switchport	Set switching mode characteristics

4-1.10.17 port-security

Per port port-security function configuration.

Syntax

port-security {<cr>|<address-limit>|<mac-address>|<violation>}

no port-security {<cr>|<address-limit>|<mac-address>|<violation>}

Parameter

address-limit	MAC address limitation
mac_address	Sticky MAC address
violation	Action to be taken when limitation is reached

Example

0E-8PRTMAN(config-if)# port-security

0E-8PRTMAN(config-if)#

4-1.10.18 power

Per port power over ethernet (PoE) configuration.

Syntax

power inline auto

power inline auto-check {<action>|<interval>|<ip>|<reboot-max>|<reboot-time>|<retry>|<start-time>}

power inline delay initial {<cr>|<0-300>}

power inline bt

power inline poh

power inline force

power inline limit <0-30000>

power inline never

power inline priority {<critical>|<high>|<low>}

power inline schedule <schedule_profile_number>

no power inline {<delay>|<limit>|<schedule>}

Parameter

auto	Turns on the device discovery protocol and applies power to the device.		
auto_check	Auto check funtion		
	action	ilpower port auto check action	
	interval	ilpower port auto check interval	
	ip	ilpower port auto check ip	
	reboot-max	ilpower port auto check maximum reboot times	
	reboot-time	ilpower port auto check reboot time	
	retry	ilpower port auto check retry times	
	start-time	ilpower port auto check start time	
delay	**initial**	Initial power enable	
		<0-300>	Specifies the port power delay time in seconds
force	The switch port will power up the linked PD without any detect/negotiate mechanism		
bt	BT Mode		
poh	POH Mode		
limit	The port limit of the interface from the point of view of inline power management		
	<0-30000>	Specify the port limit in milliwatt	
never	Turns off the device discovery protocol and stops supplying power to the device		
priority	ilpower port priority		
	critical	Specifies that the powered device operation is critical	
	high	Specifies that the powered device operation is high	
	low	Specifies that the powered device operation is low	
schedule	Schedule Profile Configuration		
	<1-10>	Schedule Profile number	

Example

0E-8PRTMAN(config-if)# power inline schedule 1

0E-8PRTMAN(config-if)#

4-1.10.19 protected

Per port protected function configuration.

Syntax

protected

no protected

Example

0E-8PRTMAN(config-if)# protected
0E-8PRTMAN(config-if)#

4-1.10.20 qos

Per port QoS-related configuration

Syntax

qos {<cos>|<queue>|<remark>|<schedule>|<trust>}

Parameter

cos	Configure the default CoS value for a port. Use the no form of the command to return to the default setting.
queue	Queue configuration
remark	Configure remarking state of each port
schedule	QoS scheduling algorithm
trust	Configure each port to trust state while the system is in basic mode. Use the no form of the command to disable trust state on each port

Example

0E-8PRTMAN(config-if)# qos schedule wfq
0E-8PRTMAN(config-if)#

4-1.10.21 rate-limit

Per port rate limit configuration

Syntax

rate-limit egress <16-1000000>

rate-limit egress queue <queue_id> <16-1000000>

rate-limit ingress <16-1000000>

no rate-limit egress queue <queue_id>

no rate-limit ingress

Parameter

<table>
<tr><td rowspan="6">egress</td><td colspan="4">Rate limit args egress configuration</td></tr>
<tr><td><16-1000000></td><td colspan="3">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
<tr><td rowspan="4">queue</td><td colspan="3">queue configuration</td></tr>
<tr><td rowspan="3"><queue_id></td><td colspan="2">queue id</td></tr>
<tr><td rowspan="2"><16-1000000></td><td rowspan="2">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
<tr></tr>
<tr><td rowspan="2">ingress</td><td colspan="4">Rate limit args ingress configuration</td></tr>
<tr><td><16-1000000></td><td colspan="3">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
</table>

Example

```
0E-8PRTMAN(config-if)# rate-limit ingress 16000
0E-8PRTMAN(config-if)#
```

4-1.10.22 shutdown

Shutdown the selected interface

Syntax

shutdown

no shutdown

Parameter

shutdown	shutdown the interface
no shutdown	turn on the interface

Example

```
0E-8PRTMAN(config-if)# shutdown
0E-8PRTMAN(config-if)#
```

4-1.10.23 spanning-tree

Per port spanning tree configuration

Syntax

spanning-tree

spanning-tree bpdu-filter

spanning-tree bpdu-guard

spanning-tree cost <0-200000000>

spanning-tree edge

spanning-tree link-type {<point-to-point>|<shared>}

spanning-tree mcheck

spanning-tree mst <0-15> **cost** <0-200000000>

spanning-tree mst <0-15> **port-priority** <0-240>

spanning-tree port-priority <0-240>

Parameter

bpdu-filter	Sets the BPDU-Filter for specified port	
bpdu-guard	Sets the BPDU-Guard for specified port	
cost	Change an interface's spanning tree path cost	
	<0-200000000>	The value of external path cost (0 = Auto)
edge	Sets the edge-port for specified port	

link-type	Specify a link type for spanning tree protocol use			
	<point-to-point>	Consider the interface as point-to-point		
	<shared>	Consider the interface as shared		
mcheck	Set the mcheck for specified port to migrate			
mst	Sets spanning-tree parameters of instance			
	<0-15>	Instance ID (0~15)		
		cost	Sets the internal path cost for specified instance	
			<0-200000000>	The value of internal path cost (0 = Auto)
		port-priority	Sets the priority for specified instance	
			<0-240>	Priority (0~240)
port-priority	Sets the priority for specified instance			
	<0-240>	Priority (0~240)		

Example

0E-8PRTMAN(config-if)# spanning-tree link-type point-to-point

0E-8PRTMAN(config-if)#

4-1.10.24 speed

Per port speed configuration

Syntax

speed {10|100|1000|auto}

Parameter

Example

0E-8PRTMAN(config-if)# speed 1000

0E-8PRTMAN(config-if)#

4-1.10.25 storm-control

Per port storm-control configuration

Syntax

storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

no storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

Parameter

action	Storm control action after exceed threshold
broadcast	Broadcast storm control
unknown-multicast	Unknown-multicast storm control
unknown-unicast	Unknown-unicast storm control

Example

0E-8PRTMAN(config-if)# storm-control

0E-8PRTMAN(config-if)#

4-1.10.26 switchport

Set per port switching mode characteristics.

Syntax

switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

no switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

Parameter

access	Vlan aware port
default-vlan	Default VLAN
forbidden	Forbidden VLAN
hybrid	Configure switchport in hybrid mode
mode	VLAN mode
trunk	Vlan aware port

Example

0E-8PRTMAN(config-if)# switchport mode access

0E-8PRTMAN(config-if)#

4-1.11 ip

Internet Protocol.

Syntax

ip address <ipv4_addr> {<cr>|mask <ipv4_mask>}

ip default-gateway <ipv4_addr>

ip dhcp

ip dhcp server

ip dhcp server dhcp-range <pool_start_ipv4_addr> <pool_end_ipv4_addr>

ip dhcp server lease-time <0-864000000>

ip dns <ipv4_addr>

ip http

ip http port <1-65535>

ip http session-timeout <0-65535>

ip https

ip https port <1-65535>

ip https session-timeout <0-65535>

ip igmp profile <1-128>

ip igmp snooping {<cr>|<forward-method>|<report-suppression>|<unknown-multicast>|<version>|<vlan>}

Parameter

address	IPv4 Address					
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)				
		mask	A.B.C.D			
default-gateway	Set default gateway IP address					
	A.B.C.D	Default gateway IP address				
dhcp	DHCP configuration					
	server	dhcp server configuration				
		dhcp-range	IPv4 range			
			A.B.C.D	IPv4 start address	A.B.C.D	IPv4 end address
		lease-time	lease time			
			<0-864000000>	0-864000000 seconds (0: infinite)		
dns	DNS					
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)				
http	HTTP server configuration					
	port	Configure port				
		<1-65535>	port number			
	session-timeout	Session timeout configuration				
		<0-65535>	Timeout after specified minutes (0 means no timeout)			
https	HTTPS server configuration					
	port	Configure port				
		<1-65535>	port number			
	session-timeout	Session timeout configuration				
		<0-65535>	Timeout after specified minutes (0 means no timeout)			
igmp	IGMP Configuration					
	profile	IGMP profile				
		<1-128>	Profile index			
	snooping	IGMP Snooping Configuration				
		forward-method	Forward method			
			dip	DIP method		
			mac	MAC method		
		report-suppression	IGMP v1/v2 report suppression			
		unknown-multicast	Unknown multicast			
			action	Action on receiving unknown multicast packets		
				drop	Drop the packets	
				flood	Flood the packets	
				router-port	Forward to router ports	

	version	IGMP Snooping Operation Version		
		2	IGMP Operation Version is v2	
		3	IGMP Operation Version is v3	
	vlan	VLAN configuration		
		VLAN-LIST	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094	
			forbidden-port	IPv4 forbidden port configuration
			forbidden-router-port	Forbidden mrouter port configuration
			immediate-leave	IGMP snooping immediate-leave function
			last-member-query-count	Last Member Query Count
			last-member-query-interval	Last Member Query Interval
			querier	IGMP snooping querier function
			query-interval	Query Interval
			response-time	Response Time
			robustness-variable	Robustness Variable
			router	IGMP snooping router
			static-group	Static group configuration
			static-port	IPv4 static port configuration
			static-router-port	Static mrouter port configuration
ssh	SSH daemon configuration			
	port	Configure port		
		<1-65535>	port number	
telnet	Telnet daemon configuration			
	port	Configure port		
		<1-65535>	port number	

Example

```
0E-8PRTMAN(config)# ip address 192.168.11.1
0E-8PRTMAN(config)# ip dhcp server dhcp-range 192.168.11.100 192.168.11.200
0E-8PRTMAN(config)# ip dhcp server
0E-8PRTMAN(config)# ip dns_address 8.8.8.8
0E-8PRTMAN(config)#
```

4-1.12 ipv6

IPv6 configuration commands.

Syntax

Ipv6

ipv6 address <ipv6_address> prefix <0-128>

ipv6 default-gateway <ipv6_address>

ipv6 dhcp

Parameter

address	Set IPv6 address and prefix			
	<ipv6_addr>	**prefix**	prefix length	
			<0-128>	lengh value
autoconfig	Enable Ipv6 auto-configuration			
default-gateway	Set IPv6 gateway			
	<ipv6_addr>	IPv6 gateway		
dhcp	Set IPv6 DHCP Client			

Example

0E-8PRTMAN(config)# ipv6 address FC00:: prefix 8

0E-8PRTMAN(config)#

4-1.13 jumbo-frame

Jumbo frame configuration.

Syntax

jumbo-frame {<cr>|<1518-10000>}

Example

0E-8PRTMAN(config)# jumbo-frame

0E-8PRTMAN(config)#

4-1.14 lacp

Lacp system configuration.

Syntax

lacp sys-priority <1-65535>

Parameter

sys-priority	LACP priority for the system	
	<1-65535>	Priority value

Example

0E-8PRTMAN(config)# lacp sys-priority 1

0E-8PRTMAN(config)#

4-1.15 lag

Link aggregation group configuration.

Syntax

lacp load-balance {<src-dst-mac>|<src-dst-mac-ip>}

Parameter

load-balance	Configure load balancing policy of the trunk	
	src-dst-mac	LAG load balancing is based on source and destination MAC address
	src-dst-mac-ip	LAG load balancing is based on source and destination of

		MAC and IP address

Example

0E-8PRTMAN(config)# lag load-balance src-dst-mac

0E-8PRTMAN(config)#

4-1.16 line

To identify a specific line for configuration.

Syntax

line {<console>|<ssh>|<telnet>}

Parameter

console	Console terminal line
ssh	Virtual terminal for secured remote console access (SSH)
telnet	Virtual terminal for remote console access (Telnet)

Example

0E-8PRTMAN(config)# line console

0E-8PRTMAN(config)#

4-1.17 lldp

LLDP configuration.

Syntax

lldp holdtime-multiplier <2-10>

lldp lldpdu {<filtering>|<bridging>|<flooding>}

lldp reinit-delay <1-10>

lldp tx-delay <1-8192>

lldp tx-interval <5-32767>

Parameter

holdtime-multiplier	Configuration of multiplier used for calculating the LLDP discovery packet hold time	
	<2-10>	Multiplier used for calculating the LLDP discovery packet hold time
lldpdu	Configure the action on LLDPDU upon disabled LLDP	
	bridging	Bridging LLDP PDU to VLAN member ports
	filtering	Drop LLDP PDU
	flooding	Flooding LLDP PDU to all ports (VLAN unawared)
reinit-delay	Delay (in sec) for LLDP initialization on any interface	
	<1-10>	Specify the delay (in secs) for LLDP to initialize
tx-delay	Delay between successive LLDP frame transmission	
	<1-8192>	LLDP Tx-delay time in seconds
tx-interval	Specify the rate at which LLDP packets are sent (in sec)	
	<5-32768>	Rate at which LLDP packets are sent (in sec)

Example

```
0E-8PRTMAN(config)# lldp holdtime-multiplier 5
0E-8PRTMAN(config)# lldp tx-delay 1
0E-8PRTMAN(config)# lldp tx-interval 5
0E-8PRTMAN(config)#
```

4-1.18 logging

Log Configuration.

Syntax

logging {<cr>|<buffered>|<console>|<file>} severity <0-7>

logging host

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7> facility <local0-local7>

logging class (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

Parameter

buffered / console / file	Buffered logging / Console logging / File logging		
	severity	Specify logging level	
		<0-7>	Minimum severity <0-7> (EMEGR-DEBUG)
host	Remote syslog host		
	<ipv4_addr> / Hostname / <ipv6_addr>	Valid IP v4 Address / Host name / Valid IP v6 Address	
		facility	Specify facility parameter for syslog messages
		port	Remote server port, default 514
		severity	Specify logging level
class	Logging event class setting		
	auth-failed	Set logging authentication failure event	
	cold-start	Set logging bootup cold start-up event	
	di	Set logging DI event	
	do	Set logging DO event	
	linkUpDown	Set logging link up and down event	
	poe-Fail	Set logging PoE failure event	
	poe-OnOff	Set logging PoE on/off event	
	warm-start	Set logging bootup warm start-up event	

Example

```
0E-8PRTMAN(config)# logging host 10.10.10.1 facility local7
0E-8PRTMAN(config)# logging console severity 5
0E-8PRTMAN(config)#
```

4-1.19 loop-prevention

Loop prevention configuration.

Syntax

loop-prevention

Example

0E-8PRTMAN(config)# loop-prevention
0E-8PRTMAN(config)#

4-1.20 mac

MAC address table configuration.

Syntax

mac address-table {<aging>|<aging-time>|<static>}

Parameter

aging	aging state	
aging-time	aging time of the address table	
	<10-630>	Aging-time range in seconds indicating how long an entry remain in mac address table
static	Static MAC address	

Example

0E-8PRTMAN(config)# mac address-table aging
0E-8PRTMAN(config)#

4-1.21 management vlan

Management VLAN configuration.

Syntax

management-vlan vlan <1-4094>

Parameter

<1-4094>	VLAN ID

Example

0E-8PRTMAN(config)# management-vlan vlan 1

0E-8PRTMAN(config)#

4-1.22 mirror

Mirror configuration.

Syntax

mirror session <1-4> source interface GigabitEthernet <port_id> {<both>|<tx>|<rx>}

mirror session <1-4> source interface LAG <lag_id> {<both>|<tx>|<rx>}

mirror session <1-4> destination interface GigabitEthernet <port_id> {<cr>|<allow-ingress>}

Parameter

session	Mirror Session configuration		
	<1-4>	Session ID (e.g. 1-4)configuraton	
		destination	Mirror destination configuration
		source	Mirror Source configuration

Example

```
0E-8PRTMAN(config)# mirror session 1 destination interface GigabitEthernet 1 allow-ingress
0E-8PRTMAN(config)#
```

4-1.23 no

Negate command

Table : configure – no Commands

Command	Function
clock	Manage the system clock
custom	Custom Module configuration
dos	DoS information
errdisable	Error Disable
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration
smtp	SMTP Configuration
snmp	SNMP information
spanning-tree	Spanning-tree configuration
username	Local User
vlan	VLAN configuration

4-1.24 ntp

Configure NTP.

Syntax

ntp host {<ip_address>|<hostname>} port <1-65535>

Parameter

ip_address	Valid IP v4 address
hostname	Host name

Example

0E-8PRTMAN(config)# ntp host 118.163.81.61 port 123

0E-8PRTMAN(config)#

4-1.25 port-security

Port security configuration.

Syntax

port-security

port-security rate-limit <1-600>

Parameter

rate-limit	Rate limiter to protect the CPU against excessive load	
	<1-600>	Rate in packet per second (pps)

Example

0E-8PRTMAN(config)# port-security rate-limit 300

0E-8PRTMAN(config)#

4-1.26 power

Power over Ethernet (PoE) configuration.

Syntax

power inline auto-check

power inline force-mode {<disable>|<enable>}

power inline limit-mode {<class>|<port>}

power inline schedule <1-10> name <profile_name>

power inline schedule <1-10> weekday <1-7> {<start>|<end>} hour <0-23> minute <0-59>

Parameter

auto-check	The auto refresh function of the interface from the point of view of inline power management	
force-mode	PoE power force mode of the rtk system	
	disable	The power force mode disable
	enable	The power force mode enable
limit-mode	PoE power limit mode of the system	
	class	The power limit of a port is fixed regardless of the class of the discovered PD
	port	The power limit of a port is based on the class of the PD as detected during the classification process
schedule	Schedule Profile Configuration	

Example

0E-8PRTMAN(config)# power inline limit-mode class
0E-8PRTMAN(config)#

4-1.27 qos

Quality of Service.

Syntax

qos

qos map {<cos-queue>|<dscp-queue>|<precedence-queue>|<queue-cos>|<queue-dscp>|
<queue-precedence>}

qos queue strict-priority-num <0-8>

qos queue weight <1-8>

qos trust {<cos>|<cos-dscp>|<dscp>|<precedence>}

Parameter

map	Configure the QoS maps	
	cos-queue	Map assigned CoS values to select an egress queue. Use the command no form to return to the default values.
	dscp-queue	Modify the DSCP to queue map.
	precedence-queue	Modify the IP Precedence to queue map.
	queue-cos	Modify the queue to CoS map.
	queue-dscp	Modify the queue to DSCP map.
	queue-precedence	Modify the queue to ip precedence map.
queue	Queue configuration	
	strict-priority-num	Configure the number of strict priority queues
	weight	Configure weights to egress queues. Use no form to return to default values
trust	Configure the global trust mode . Use the no form to return untrusted state.	
	cos	Specify trust mode cos.
	cos-dscp	Specify trust mode Cos-DSCP.
	dscp	Specify trust mode DSCP.
	precedence	Specify trust mode precedence

Example

0E-8PRTMAN(config)# qos

0E-8PRTMAN(config)#

4-1.28 smtp

Simple Mail Transfer Protocol(SMTP) configuration.

Syntax

smtp

smtp class (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

smtp {<email_1>|< email_2>|< email_3>|< email_4>|< email_5>|< email_6>|<mail-server>|<password>|<return-path>|<sender>|<username>} WORD<0-48>

Parameter

email_1	Set SMTP email 1 address	WORD<0-48>
email_2	Set SMTP email 2 address	
email_3	Set SMTP email 3 address	
email_4	Set SMTP email 4 address	
email_5	Set SMTP email 5 address	
email_6	Set SMTP email 6 address	
mail-server	Set SMTP mail server address	
password	Set SMTP password	
return-path	Set SMTP return address	
sender	Set SMTP sender address	
username	Set SMTP user name	
class	SMTP event class setting	
	auth-failed	Set SMTP authentication failure event
	cold-start	Set SMTP bootup cold start-up event
	di	Set SMTP DI event
	do	Set SMTP DO event
	linkUpDown	Set SMTP link up and down event
	poe-Fail	Set SMTP PoE failure event
	poe-OnOff	Set SMTP PoE on/off event
	warm-start	Set SMTP bootup warm start-up event

Example

```
0E-8PRTMAN(config)# smtp class auth-failed
0E-8PRTMAN(config)#
```

4-1.29 snmp

SNMP server's configuration.

Syntax

snmp

snmp community <community_string> (address|group|ro|rw)

snmp engineid ENGINEID

snmp engineid default

snmp engineid remote {<A.B.C.D>|<HOSTNAME>|<X:X::X:X>}

snmp group NAME version (1|2c|3) noauth read-view NAME write-view NAME

snmp host {<ipv4_addr>|<hostname>|<ipv6_addr>}

snmp trap (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

snmp user USER_NAME group GROUP_NAME auth (md5|sha) AUTHPASSWD priv (aes|des) PRIVPASSWD (ro|rw)

snmp view VIEW_NAME subtree Subtree_OID viewtype (excluded|included)

Parameter

community	Set community or security name string		
	<community_string>	Community name (maximum length is 20 characters)	
		ro	Set community access read_only
		rw	Set community access read_write
host	Trap or inform host		
engineid	SNMP engine id setting		
group	Set access group string		
user	Set user Settings		
view	Set view string		
trap	SNMP class trap setting		
	auth	Set snmp authentication failure trap	
	cold-start	Set snmp bootup cold start-up trap	
	linkUpDown	Set snmp link up and down trap	
	warm-start	Set snmp bootup warm start-up trap	
	di	Set SNMP DI event trap	
	do	Set SNMP DO event trap	
	poe-Fail	Set SNMP PoE Failure event trap	
	poe-OnOff	Set SNMP PoE On/Off event trap	

Example

0E-8PRTMAN(config)# snmp

0E-8PRTMAN(config)# snmp community private rw

0E-8PRTMAN(config)#

4-1.30 spanning-tree

Spanning Tree protocol.

Table : configure –spanning-tree Commands

Command	Function
mst configuration	Enter MST configuration submode

Syntax

spanning-tree

spanning-tree bpdu (filtering|flooding)

spanning-tree forward-delay <4-30>

spanning-tree hello-time <1-10>

spanning-tree max-hops <1-40>

spanning-tree maximum-age <6-40>

spanning-tree mode (stp|rstp|mstp)

spanning-tree mst <0-15> priority <0-61440>

spanning-tree pathcost method (long|short)

spanning-tree priority <0-61440>

spanning-tree tx-hold-count <1-10>

Parameter

bpdu	Configure default bpdu action.
filtering	BPDU packets are filtered on STP-disable ports.
flooding	BPDU packets are flooding to all ports when STP-disable.

forward-delay	Configure forward-delay parameter.
<4-30>	Forward-delay time in seconds.
hello-time	Configure hello-time parameter.
<1-10>	Configure hello time in seconds.
max-hops	Configure MSTP bridge max hop count.
<1-40>	Configure maximum number of hops.
maximum-age	Configure the age time for receiving control packet from root switch.
<6-40>	Age time of control packet from root switch.
mode	Spanning tree protocol type
mst	MSTP bridge instance
<0-15>	MST instance ID , 0 is for CIST (0..15)
priority	Priority of the instance
spanning-tree	Enable spanning-tree protocol.
tx-hold-count	Configure tx-hold-count in seconds.
<1-10>	Tx-hold counts.

Example

```
0E-8PRTMAN(config)# spanning-tree mode stp
0E-8PRTMAN(config)#
```

4-1.30.1 mst configuration

STP bridge instance configuration submenu.

Syntax

spanning-tree mst configuration

instance <0-15> vlan <vlan_list>

name <word32>

revision <0-65535>

Parameter

mst configuration	Enter MST configuration submode.
Instance	Sets spanning-tree parameters of instances.
<0-15>	MST instance ID , 0 is for CIST (0..15)
vlan	Add the MSTI-to-VLAN mapping.
<vlan_list>	List of VLAN numbers, 1~4094.
name	Name keyword
<word32>	Name of the bridge (word32)
revision	Set revision level.
<0-65535>	Revision level (0..65535)

Example

```
0E-8PRTMAN(config)# spanning-tree mst 7 vlan 10
0E-8PRTMAN(config)#
```

4-1.31 system

Set the system information configuration.

Syntax

system contact <word255>

system location <word255>

system name <word32>

Parameter

contact	Set host contact	
	<word255>	contact string (word255)
location	Set host location	
	<word255>	location string (word255)

name	Set host name	
	<word32>	name string (word32)

Example

0E-8PRTMAN(config)# system contact ”Contact here”

0E-8PRTMAN(config)#

4-1.32 username

Enable telnet server.

Syntax

username WORD<0-32> {<encrypted>|<password>} <PASSWORD>

Example

0E-8PRTMAN(config)# username ”user_1” password ”pwd_1”

0E-8PRTMAN(config)#

4-1.33 vlan

VLAN configuration.

Syntax

vlan <vlan_list>

Parameter

<vlan_list>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094

Example

Chapter 5 COPY Commands of CLI

Copy from source to destination.

Syntax

copy backup-config {<running-config>|<startup-config>|<tftp://server/path-to-file>}

copy flash:image {<flash:image>|<tftp://server/path-to-file>}

copy running-config {< backup-config>|<startup-config>|<tftp://server/path-to-file>}

copy startup-config {<running-config>|<backup-config>|<tftp://server/path-to-file>}

copy tftp://server/path-to-file {<backup-config>|<flash:image>|<running-config>|<startup-config>|<tftp://server/path-to-file>}

Parameter

backup-config	Backup configuration.
flash:image	Copy from flash: file system
running-config	Running configuration
startup-config	Startup configuration
tftp://server/path-to-file	Copy from tftp: file system

Example

0E-8PRTMAN# copy tftp://192.168.137.100/vmlinux.bix flash://image

Downloading file. Please wait...

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Correct FW[0E-8PRTMAN_v1.2.3.7] for model[0E-8PRTMAN]

!!

Upgrade firmware success. Do you want to reboot now? (y/n)y

Chapter 6 DEBUG of CLI

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
power	power-over-ethernet configuration
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Chapter 7 DELETE Commands of CLI

Delete a file from the flash file system.

Syntax

delete {<backup-config>|<flash:image>|<startup-config>|<system>}

Parameter

backup-config	Backup configuration.	
flash:image	Delete a file from the flash file system	
startup-config	Startup configuration	
system	Run time firmware image	
	image0	Runtime image 0
	image1	Runtime image 1

Example

0E-8PRTMAN# delete flash://startup-config

Delete flash://startup-config [y/n] y

*Dec 04 2020 11:10:35: %SYSTEM-5: System restore to default

Do you want to reload the system to take effect? [y/n]

Chapter 8 DISABLE of CLI

Turn off privileged mode command.

Syntax

disable

Example

0E-8PRTMAN# disable

Chapter 9 END of CLI

End current mode and change to enable mode.

Syntax

end

Example

0E-8PRTMAN# end

Chapter 10 EXIT of CLI

Exit current mode and back to previous mode.

Syntax

exit

Parameter

Example

0E-8PRTMAN# exit

Chapter 11 NO of CLI

Turn off debug mode.

Syntax

no debug {<acl>|<igmp>|<l2>|<lag>|<lldp>|<platform>|<power>|<psecure>|<spanning-tree>|<time>|<vlan>}

Parameter

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Example

0E-8PRTMAN# no debug l2

Chapter 12 PING Commands of CLI

Send ICMP ECHO_REQUEST to network hosts

Syntax

ping {<ipv4_addr>|<HOSTNAME>|<ipv6_addr>} {<cr>|<count>} <1-65535>

Parameter

<ipv4_addr>	Valid ipv4 address.
HOSTNAME	Host name
<ipv6_addr>	Valid ipv6 address.

Example

0E-8PRTMAN# ping 1.1.1.1 count 2

PING 1.1.1.1 (1.1.1.1): 56 data bytes

64 bytes from 1.1.1.1: icmp_seq=0 ttl=54 time=20.0 ms

64 bytes from 1.1.1.1: icmp_seq=1 ttl=54 time=10.0 ms

--- 1.1.1.1 ping statistics ---

2 packets transmitted, 2 packets received, 0% packet loss

round-trip min/avg/max = 10.0/15.0/20.0 ms

0E-8PRTMAN#

Chapter 13 REBOOT Commands of CLI

Halt and perform a warm restart.

Syntax

reboot

Example

0E-8PRTMAN# reboot

*Dec 04 2020 14:11:15: %SYSTEM-4: System reboot

Chapter 14 RESTORE-DEFAULTS Commands of CLI

Restore to default.

Syntax

restore-defaults

restore-defaults keep ip

Parameter

keep	Keep configuration options	
	ip	IP Configuration

Example

0E-8PRTMAN# restore-defaults

*Dec 04 2020 14:12:25: %SYSTEM-5: System restore to default

System: restore factory defaults. Do you want to reboot now? (y/n)y

Rebooting now...

Chapter 15 SAVE of CLI

Save running configuration to flash.

Syntax

save

Example

0E-8PRTMAN# save

Chapter 16 Show Commands of CLI

Table : SHOW Commands

Command	Function
backup-config	Backup configuration
bootvar	Show boot attributes
cable-diag	Cable Diagnostics
clock	Display the time and date from the system clock
cpu	Displays information about the system CPU utilization
custom	Custom Module configuration
debugging	Debugging information
dos	DoS information
errdisable	Error Disable
fiber-transceiver	Fiber ports diagnositics
flash	Flash Operations
history	List the last several history commands
info	Basic information
interfaces	Interface status and configuration
ip	IP information
Ipv6	IPv6 information
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	LLDP information
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
memory	Memory statistics
mirror	Mirror configuration
ntp	Simple Network Time Protocol (NTP) information
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration

running-config	Running configuration
smtp	SMTP information
snmp	SNMP information
spanning-tree	Show spanning tree information
startup-config	Startup configuration
storm-control	Storm control configuration
username	Local User
users	Display information about users
version	System hardware and software status
vlan	VLAN configuration

16-1 backup-config

Backup configuration

Syntax

show backup-config

Example

0E-8PRTMAN# show backup-config

16-2 bootvar

Boot attributes.

Syntax

show bootvar

Example

```
0E-8PRTMAN# show bootvar
Image   Version          Date                      Status        File Name
-----   ----------   ---------------------   -----------   ----------
0       0E-8PRTMAN_v2.0.1.3_vk   2022-01-11 13:52:13      Active*
1       0E-8PRTMAN_v2.0.1.3_vk   2022-01-11 13:52:13      Not active

"*" designates that the image was selected for the next boot
0E-8PRTMAN#
```

16-3 cable-diag

Cable Diagnostics.

Syntax

show cable-diag interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
0E-8PRTMAN# show cable-diag interfaces GigabitEthernet 1
 Port    |  Speed | Local pair | Pair length | Pair status
--------+--------+------------+-------------+---------------
   gi1    |  auto  |     Pair A   |        0.52      | Open
                           Pair B   |        0.50      | Open
                           Pair C   |        0.51      | Open
                           Pair D   |        0.51      | Open
0E-8PRTMAN#
```

16-4 clock

The time and date from the system clock.

Syntax

show clock {<cr>|<detail>}

Parameter

detail	Show timezone and summertime configuration

Example

0E-8PRTMAN# show clock

2022-01-01 08:35:52

Time set manually

0E-8PRTMAN# show clock detail

2022-01-01 08:35:59

Time set manually

Time zone:

Acronym is

Offset is UTC+8

0E-8PRTMAN#

16-5 cpu

CPU information.

Syntax

show cpu input rate

show cpu utilization

Parameter

input	Show rate of input frames to CPU.	
	rate	Show rate of input frames to CPU
utilization	Displays information about the system CPU utilization	

Example

```
0E-8PRTMAN# show cpu input rate
Input Rate to CPU is 0 pps
0E-8PRTMAN# show cpu utilization
CPU utilization
---------------
Current: 53%
0E-8PRTMAN#
```

16-6 custom

Custom Module configuration.

Syntax

show custom enable

show custom enable interface GigabitEthernet <port_list>

show custom enable interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
0E-8PRTMAN# show custom enable interfaces GigabitEthernet 3,6-8
   Port   |   Status
--------+----------
      gi3 | disabled
      gi6 | disabled
      gi7 | disabled
      gi8 | disabled
0E-8PRTMAN#
```

16-7 debugging

Debugging information.

Syntax

show debugging

Example

```
0E-8PRTMAN# show debugging
0E-8PRTMAN#
```

16-8 dos

DoS information.

Syntax

show dos

show dos interface GigabitEthernet <port_list>

show dos interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
0E-8PRTMAN# show dos
    Type                              | State (Length)
-----------------------------+---------------------------------
   DMAC equal to SMAC             | enabled
   Land (DIP = SIP)               | enabled
   UDP Blat (DPORT = SPORT)    | enabled
   TCP Blat (DPORT = SPORT)    | enabled
   POD (Ping of Death)            | enabled
   IPv6 Min Fragment Size       | enabled    (1240 Bytes)
   ICMP Fragment Packets         | enabled
   IPv4 Ping Max Packet Size | enabled    (512 Bytes)
   IPv6 Ping Max Packet Size | enabled    (512 Bytes)
   Smurf Attack                      | enabled    (Netmask Length: 0)
   TCP Min Header Length         | enabled    (20 Bytes)
   TCP Syn (SPORT < 1024)       | enabled
   Null Scan Attack                | enabled
   X-Mas Scan Attack              | enabled
   TCP SYN-FIN Attack             | enabled
   TCP SYN-RST Attack             | enabled
   TCP Fragment (Offset = 1) | enabled
0E-8PRTMAN#
```

16-9 errdisable

Error Disable.

Syntax

show errdisable recovery

Example

```
0E-8PRTMAN# show errdisable recovery
ErrDisable Reason            | Timer Status
-------------------------+---------------
                     bpduguard | disabled
                      selfloop | disabled
                broadcast-flood | disabled
  unknown-multicast-flood | disabled
                unicast-flood | disabled
                          acl | disabled
            psecure-violation | disabled
              dhcp-rate-limit | disabled
               arp-inspection | disabled

Timer Interval : 300 seconds

Interfaces that will be enabled at the next timeout:

Port |    Error Disable Reason       | Time Left
-----+-------------------------+------------
0E-8PRTMAN#
```

16-10 fiber-transceiver

Fiber ports diagnositics.

Syntax

show fiber-transceiver interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
0E-8PRTMAN# show fiber-transceiver interfaces GigabitEthernet 1-5
Port     | Temperature   | Voltage       | Current         | Output power | Input power | OE-Present | LOS
           | [C]             | [Volt]        | [mA]            | [mWatt]        | [mWatt]       |                |
================================================================================================
==============
  gi1    |
  gi2    |
  gi3    |
  gi4    |
  gi5    |

  Temp             - Internally measured transceiver temperature
  Voltage          - Internally measured supply voltage
  Current          - Measured TX bias current
  Output Power - Measured TX output power in milliWatts
  Input Power    - Measured RX received power in milliWatts
  OE-Present     - SFP Presetn or Not Present
  LOS              - Loss of signal
  N/A - Not Available, N/S - Not Supported, W - Warning, E – Error
0E-8PRTMAN#
```

16-11 flash

Flash Operations.

Syntax

show flash

Example

```
0E-8PRTMAN# show flash
        File Name                File Size            Modified
----------------------- ---------------- ------------------------
 startup-config              948                 2022-01-01 00:08:49
 ssl_cert                    1277                2022-01-01 00:00:59
 image0 (active)             10448078            2022-01-11 13:52:13
 image1 (backup)             10448078            2022-01-11 13:52:13
0E-8PRTMAN#
```

16-12 history

Show CLI command history.

Syntax

show history

Example

```
0E-8PRTMAN# show history
Maximun History Count: 128
-------------------------------------------------------------
1. conf
0E-8PRTMAN#
```

16-13 info

Basic information.

Syntax

show info

Example

```
0E-8PRTMAN# show info
System Name          : 0E-8PRTMAN
System Location    :
System Contact     :
MAC Address          : 68:8D:B6:01:02:03
IP Address           : 192.168.11.59
Subnet Mask          : 255.255.255.0
Loader Version     : 2.0.0.1
Loader Date          : Sep 27 2022 - 14:14:01
Firmware Version : 2.03.04
Firmware Date       : Jan 10 2023 - 03:46:30
System Object ID : 1.3.6.1.4.1.58360.100.10
System Up Time     : 0 days, 2 hours, 5 mins, 50 secs
0E-8PRTMAN#
```

16-14 interface

Interface status and configuration.

Syntax

show interfaces GigabitEthernet <port_list> {<cr>|<protected>|<status>}

show interfaces LAG <lag_list> {<cr>|<protected>|<status>}

show interfaces switchport GigabitEthernet <port_list>

show interfaces switchport LAG <lag_list>

Parameter

interfaces	Interface status and configuration			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			protected	Configure an interface to be a protected port
			status	Port status information
	LAG	IEEE 802.3 Link Aggregation interface		

		<lag_list>	LAG List X-Y,Z	
			protected	Configure an interface to be a protected port
			status	Port status information
	switchport	Set switching mode characteristics		
		GigabitEthernet	Gigabit ethernet interface to configure	
			<port_list>	Port List X-Y,Z
		LAG	IEEE 802.3 Link Aggregation interface	
			<lag_list>	LAG List X-Y,Z

Example

```
0E-8PRTMAN# show interfaces GigabitEthernet 2-3 status
Port   Status       Duplex  Speed    Type
gi2    notconnect   auto    auto     Copper
gi3    notconnect   auto    auto     Copper
0E-8PRTMAN#
```

16-15 ip

Internet Protocol.

Syntax

show ip

show ip dhcp {<cr>|<server>}

show ip http

show ip https

show ip igmp filter

show ip igmp filter interfaces GigabitEthernet <port_list>

show ip igmp filter interfaces LAG <lag_list>

show ip igmp max-group

show ip igmp max-group action {<cr>|interfaces GigabitEthernet <port_list>|interfaces LAG <lag_list>}

show ip igmp max-group interfaces GigabitEthernet <port_list>

show ip igmp max-group interfaces LAG <lag_list>

show ip igmp profile {<cr>|<1-128>}

show ip igmp snooping {<cr>|<forward-all>|<groups>|<querier>|<router>|<vlan>}

Parameter

dhcp	DHCP information		
	server	DHCP Server	
http	HTTP server configuration		
https	HTTPS server configuration		
igmp	Interface status and configuration		
	filter	IGMP port filter	
	max-group	IGMP port group limit num	
	profile	IGMP profile configuration	
	snooping	IGMP Snooping Configuration	
		<forward-all>	IPv4 forward all
		<groups>	IPv4 multicast groups
		<querier>	Querier information
		<router>	IPv4 multicast routers
		<vlan>	VLAN configuration

Example

```
0E-8PRTMAN# show ip dhcp server
DHCP Server State : disabled
Start IPv4 Address: 0.0.0.0
End     IPv4 Address: 0.0.0.0
Client Lease Time : 86400 seconds
0E-8PRTMAN#
```

16-16 ipv6

IPv6 configuration commands.

Syntax

show ipv6

Example

```
0E-8PRTMAN# show ipv6
###### Config ######
                State: enabled
      Auto Config: enabled
             DHCPv6: disabled
           Gateway: ::

###### Status ######
       IP Address: fe80::6a8d:b6ff:fe00:0/64
Default Gateway: ::
0E-8PRTMAN#
```

16-17 lacp

Lacp configuration.

Syntax

show lacp

Example

```
0E-8PRTMAN# show lacp
Status: C - current,    E - expired, D - defaulted
            a - attached, d - detached
State:   A - activity,        T - timeout(fast), G - aggregation
            S - synchronized, C - collecting,       D - distributing
            F - defaulted,       E - expired

LAG Port   Status              Sys ID                  Port ID Sys Pri Port Pri Key         State
--- ----- ------                ----------------- ------- ------- -------- -------- --------
0E-8PRTMAN#
```

16-18 lag

Link Aggregation Group Configuration.

Syntax

show lag

Example

```
0E-8PRTMAN# show lag
Load Balancing: src-dst-mac.

 Group ID |   Type   |                Ports
----------+--------+---------------------------------------------
     1          | ------ |
     2          | ------ |
     3          | ------ |
     4          | ------ |
     5          | ------ |
     6          | ------ |
     7          | ------ |
     8          | ------ |
0E-8PRTMAN#
```

16-19 line

A specific line for configuration.

Syntax

show line {<cr>|<console>|<ssh>|<telnet>}

Parameter

console	Access CLI from console
ssh	Access CLI from ssh
telnet	Access CLI from telnet

Example

```
0E-8PRTMAN# show line
Console ==============================
    Session Timeout : 10 (minutes)
    History Count   : 128
    Password Retry  : 3
    Silent Time     : 0 (seconds)
Telnet ===============================
    Telnet Server   : disabled (23)
    Session Timeout : 10 (minutes)
    History Count   : 128
    Password Retry  : 3
    Silent Time     : 0 (seconds)
SSH ==================================
    SSH Server      : disabled (22)
    Session Timeout : 0 (minutes)
    History Count   : 128
    Password Retry  : 0
    Silent Time     : 0 (seconds)
0E-8PRTMAN#
```

16-20 lldp

show lldp configuration.

Syntax

show lldp

show lldp interface GigabitEthernet <port _list>

show lldp interface GigabitEthernet <port _list> {<local-device>|<neighbor>|<statistics>|<tlvs-overloading>}

show lldp local-device

show lldp neighbor

show lldp statistics

Parameter

<table>
<tr><td rowspan="7">interfaces</td><td colspan="4">Interface status and configuration</td></tr>
<tr><td rowspan="6">GigabitEthernet</td><td colspan="3">Gigabit ethernet interface to configure</td></tr>
<tr><td rowspan="5"><port_list></td><td colspan="2">Port List X-Y,Z</td></tr>
<tr><td>local-device</td><td>LLDP information that is advertised from a specific port</td></tr>
<tr><td>neighbor</td><td>Information about neighboring devices discovered using Link Layer Discovery Protocol</td></tr>
<tr><td>statistics</td><td>LLDP Statistics information</td></tr>
<tr><td>tlvs-overloading</td><td>LLDP TLVs overloading information</td></tr>
<tr><td>local-device</td><td colspan="4">LLDP information that is advertised from a specific port</td></tr>
<tr><td>neighbor</td><td colspan="4">Information about neighboring devices discovered using Link Layer Discovery Protocol</td></tr>
<tr><td>statistics</td><td colspan="4">LLDP Statistics information</td></tr>
</table>

Example

0E-8PRTMAN# show lldp neighbor

Port | Device ID | Port ID | SysName | Capabilities | TTL

---- + ----------------- + ---------------- + ----------------- + -------------- + -----

gi8 | 00:68:8D:B6:51:04 | 6 | H51-044-90-250 | Bridge | 117

0E-8PRTMAN#

16-21 logging

Log Configuration.

Syntax

show logging

show logging {<buffered>|<file>|<event>}

Parameter

buffered	Buffered logging
file	File logging
event	Display syslog class of event enable or disable

Example

0E-8PRTMAN# show logging

Logging service is enabled

Console Logging: level notice

Buffer Logging : level notice

File Logging : disabled

Buffer Logging

---

*Jan 01 2000 00:00:31: SYSTEM-5: New console connection for user admin, source async ACCEPTED

*Jan 01 2000 00:00:26: PORT-5: Interface GigabitEthernet10 link up

*Jan 01 2000 00:00:15: PORT-5: Interface GigabitEthernet9 link up

*Jan 01 2000 00:00:13: SYSTEM-5: Cold startup

0E-8PRTMAN#

16-22 loop-prevention

Show loop prevention

Syntax

show loop-prevention

show loop-prevention interfaces GigabitEthernet <port_list>

show loop-prevention interfaces LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
0E-8PRTMAN# show loop-prevention
Loop Prevention:                    Disabled
Loop Prevention Tx Interval:        2
Loop Prevention Recovery Interval: 16
Loop Prevention switch_priority:    0x800000
Loop Prevention hop cnt max:        10
Loop Prevention is root:            Ture
Loop Prevention Root Port:          N/A

0E-8PRTMAN#
```

16-23 mac

Mac Address Table information.

Syntax

show mac address-table {<cr>|<aging-time>|<counters>|<dynamic>|<static>}

show mac address-table interface (GigabitEthernet <port_list> | LAG <lag_list>)

show mac address-table vlan <vlan_id>

show mac address-table vlan <vlan_id> interface (GigabitEthernet <port_list> | LAG <lag_list>)

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
0E-8PRTMAN# show mac address-table
VID    | MAC Address        | Type                | Ports
------+-------------------+-------------------+---------------
     1 | 38:73:EA:A0:58:77 | Management          | CPU
     1 | 00:33:33:33:33:33 | Dynamic             | gi15
     1 | 94:C6:91:FA:13:05 | Dynamic             | gi11
     1 | F0:2F:74:0A:D8:CC | Dynamic             | gi11

Total number of entries: 4
0E-8PRTMAN#
```

16-24 management-vlan

Management VLAN configuration.

Syntax

show management-vlan

Example

```
0E-8PRTMAN# show management-vlan
    Management VLAN-ID : default(1)
0E-8PRTMAN#
```

16-25 memory

Memory statistics

Syntax

show memory statistics

Parameter

statistics	Memory statistics

Example

```
0E-8PRTMAN# show memory statistics
                 total(KB)       used(KB)       free(KB)     shared(KB)     buffer(KB)      cache(KB)
--------------------+------------+------------+------------+------------+------------
Mem:             125836          43608          82228              0              0              0
-/+ buffers/cache:               43608          82228
Swap:                0              0              0
0E-8PRTMAN#
```

16-26 mirror

Show mirror configuration

Syntax

show mirror

show mirror session> <1-4>

Example

```
0E-8PRTMAN# show mirror

Session 1 Configuration
Mirrored source     : Not Config
Destination port    : Not Config

Session 2 Configuration
Mirrored source     : Not Config
Destination port    : Not Config

Session 3 Configuration
Mirrored source     : Not Config
Destination port    : Not Config

Session 4 Configuration
Mirrored source     : Not Config
Destination port    : Not Config
0E-8PRTMAN#
```

16-27 ntp

Simple Network Time Protocol (NTP) information.

Syntax

show ntp

Example

```
0E-8PRTMAN# show ntp
NTP is Disabled
NTP Server address:
NTP Server port: 123
0E-8PRTMAN#
```

16-28 port-security

show port security.

Syntax

show port-security {<cr>|<address>|interface GigabitEthernet <port _list>}

Parameter

address	All port security related MAC addresses		
interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

0E-8PRTMAN# show port-security

Port Security: Disabled

Rate Limit: 100 pps

0E-8PRTMAN#

16-29 power

Power over Ethernet (PoE) configuration.

Syntax

show power inline

show power inline consumption

show power inline consumption interface GigabitEthernet <port_list>

show power inline interface GigabitEthernet <port_list>

Parameter

inline	Inline Power				
	consumption	Power consumption			
		interfaces	Interface status and configuration		
			GigabitEthernet	Gigabit ethernet interface to configure	
				<port_list>	Port List X-Y,Z
	interfaces	Interface status and configuration			
		GigabitEthernet	Gigabit ethernet interface to configure		
			<port_list>	Port List X-Y,Z	

Example

```
0E-8PRTMAN# show power inline interfaces GigabitEthernet 1
Port State Status        Priority Class     Max.Power (Admin) Device
                                                (mW)
---- ----- ---------- -------- ------- ----------------- ----------------
gi1   Auto   searching   high       class0   30000 (30000)       N/A

Port Overload         Short Current   Power Denied   MPS Absent      Invalid Sig.
---- ------------- ------------- ------------- ------------- -------------
gi1   0                 0                 0                 0                0
0E-8PRTMAN#
```

16-30 qos

Show Quality of Service configuration.

Syntax

show qos

show qos interface GigabitEthernet <port_list>

show qos interfaces LAG <lag_list>

show qos map {<cr>|<cos-queue>|<dscp-queue>|<precedence-queue>|
<queue-cos>|<queue-dscp>|<queue-precedence>}

show qos queueing

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
map	Configure the QoS maps		
	cos-queue	CoS to Queue mapping	
	dscp-queue	DSCP to Queue mapping	
	precedence-queue	IP Precedence to Queue mapping	
	queue-cos	Queue to CoS mapping	
	queue-dscp	Queue to DSCP mapping	
	queue-precedence	Queue to IP Precedence mapping	
queueing	Display quality of service (QoS) queuing information		

Example

```
0E-8PRTMAN# show qos
QQoS Mode: basic
Basic trust: cos
0E-8PRTMAN#
```

16-31 running-config

Running configuration.

Syntax

show running-config

show running-config interface GigabitEthernet <port_list>

show running-config interface LAG <lag_list>

Example

```
0E-8PRTMAN# show running-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: ADI PoE SW 0E-8PRTMAN Switch
! System Version: v2.0.1.3_vk
! System Name: 0E-8PRTMAN
! System Up Time: 0 days, 5 hours, 40 mins, 32 secs
!
!
!
system name "0E-8PRTMAN"
ip address 192.168.11.199 mask 255.255.255.0
ip default-gateway 192.168.11.1
username "admin" encrypted password
MjEyMzJmMjk3YTU3YTVhNzQzODk0YTBlNGE4MDFmYzM=
!
!
!
!
!
!
spanning-tree mst configuration
  name "38:73:EA:A0:58:77"
!
!
!
!
--More--
0E-8PRTMAN#
```

16-32 smtp

Display SMTP configurations.

Syntax

show smtp

show smtp event

Parameter

event	Display smtp class of event enable or disable

Example

```
0E-8PRTMAN# show smtp event
SMTP auth failed event    : Enable
SMTP linkUpDown event     : Enable
SMTP cold-start event     : Enable
SMTP warm-start event     : Enable
SMTP D/I event            : Enable
SMTP D/O event            : Enable
SMTP PoE PD On/Off event: Enable
SMTP PoE PD Fault event : Enable
0E-8PRTMAN#
```

16-33 snmp

Display SNMP configurations.

Syntax

show snmp

show snmp {<community>|<engineid>|<group>|<host>|<trap>|<user>|<view>}

Parameter

community	Display snmp class of trap enable or disable
engineid	Display snmp class of trap enable or disable
group	Display snmp class of trap enable or disable
host	Display snmp class of trap enable or disable
trap	Display snmp class of trap enable or disable
user	Display snmp class of trap enable or disable

view	Display snmp class of trap enable or disable

Example

```
0E-8PRTMAN# show snmp
SNMP is disabled.
Community Name                Access Right
-----------------------------------------

Total Community Entries: 0
Server                  Community Name     Notification Version       Notification Type
-------------------------------------------------------------------------------

Total Trap Entries: 0
0E-8PRTMAN#
```

16-34 spanning-tree

Show spanning tree protocol configuration.

Syntax

show spanning-tree

show spanning-tree brief

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>} statistics

show spanning-tree mst <0-15>

show spanning-tree mst <0-15> interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree mst configuration

Parameter

brief	Displays spanning-tree brief information
interfaces	Interface status and configuration

	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			statistics	Statistics for specified ports
	LAG	IEEE 802.3 Link Aggregation interface		
		<lag_list>	LAG List X-Y,Z	
			statistics	Statistics for specified ports
mst	Multiple spanning trees			
	<0-15>	Instance ID (0~15)		
		interfaces	Interface status and configuration	
			GigabitEthernet	Gigabit ethernet interface to configure
				<port_list> Port List X-Y,Z
			LAG	IEEE 802.3 Link Aggregation interface
				<lag_list> LAG List X-Y,Z
	configuration	MST current region configuration		

Example

```
0E-8PRTMAN# show spanning-tree
Spanning tree enabled mode MSTP
Default port cost method:  long
Gathering information .....
###### MST 0 Vlans Mapped:
CST Root ID      Priority      32768
                 Address       00:68:8d:b6:51:08
                 This switch is root for CST and IST master
                 Hello Time   2 sec   Max Age 20 sec   Forward Delay 15 sec
                 Max hops      20
  Name       State     Prio.Nbr     Cost       Sts     Role EdgePort          Type
--------- -------- -------- -------- ------ ---- -------- ------------------
###### MST 1 Vlans Mapped: 1-4094
Root ID          Priority      32768
                 Address       00:68:8d:b6:51:08
                 This switch is the regional Root
Interfaces
Name          State       Prio.Nbr     Cost         Sts   Role   EdgePort   Type
--------      --------    --------     --------- ---- ----    --------   ----------
```

```
gi7             enabled     128.7          20000        Frw    Desg    No            P2P Intr
gi8             enabled     128.8          20000        Blk    Bckp    No            P2P Intr
0E-8PRTMAN# show spanning-tree mst 1 interfaces GigabitEthernet 2
 MST Port Information
============================================================
 Instance Type : MSTI (1)
------------------------------------------------------------
          Port Identifier : 128/2
     Internal Path-Cost : 0             /20000
------------------------------------------------------------
       Regional Root Bridge : 0/00:00:00:00:00:00
          Internal Root Cost : 0
           Designated Bridge : 0/00:00:00:00:00:00
  Internal Port Path Cost : 20000
                       Port Role : Disabled
                      Port State : Disabled
    ------------------------------------------------------------
0E-8PRTMAN#
```

16-35 startup-config

Startup configuration.

Syntax

show startup-config

Example

```
0E-8PRTMAN# show startup-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: ADI PoE SW 0E-8PRTMAN Switch
! System Version: v2.03.04cu
! System Name: 0E-8PRTMAN
! System Up Time: 0 days, 0 hours, 1 mins, 54 secs
```

```
!
!
!
system name "0E-8PRTMAN"
ip address 192.168.11.59 mask 255.255.255.0
ip default-gateway 192.168.11.254
ip dhcp server lease-time 0
username "admin" encrypted password OGM5NzY3N2U3Y2YyNWMwNzVkNWEwZjhjOTA3ZGFhY2E=
!
!
!
!
!
power inline force-mode disable
spanning-tree mst configuration
 name "38:73:EA:A0:58:77"
!
!
!
--More—
0E-8PRTMAN#
```

16-36 storm-control

show storm-control configuration.

Syntax

show storm-control

show storm-control interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
0E-8PRTMAN# show storm-control interfaces GigabitEthernet 1-5

  Port      | State |   Broadcast   |   Unkown-Multicast   | Unknown-Unicast |     Action
            |       |       kbps    |          kbps        |        kbps     |
----------+-------+-------------+--------------------+-----------------|----------
  gi1         disable Off(   10000)    Off(   10000)          Off(   10000)          Drop
  gi2         disable Off(   10000)    Off(   10000)          Off(   10000)          Drop
  gi3         disable Off(   10000)    Off(   10000)          Off(   10000)          Drop
  gi4         disable Off(   10000)    Off(   10000)          Off(   10000)          Drop
  gi5         disable Off(   10000)    Off(   10000)          Off(   10000)          Drop

0E-8PRTMAN#
```

16-37 username

Local user information.

Syntax

show username

Example

```
0E-8PRTMAN# show username
Priv    |  Type   |       User Name   |              Password
------+--------+---------------+---------------------------------
 admin | secret |         admin       | MjEyMzJmMjk3YTU3YTVhNzQzODk0YTBlNGE4MDFmYzM=
0E-8PRTMAN#
```

16-38 users

Information about users.

Syntax

show users

Example

```
0E-8PRTMAN# show users
    Username          Protocol              Location
--------------- ------------ ----------------------
          admin          console                0.0.0.0
0E-8PRTMAN#
```

16-39 version

System hardware and software status.

Syntax

show version

Example

```
0E-8PRTMAN# show version
Loader Version     : 2.0.0.1
Loader Date        : Sep 27 2022 - 14:14:01
Firmware Version : 2.03.04
Firmware Date      : Jan 10 2023 - 03:46:30
0E-8PRTMAN#
```

16-40 vlan

VLAN information.

Syntax

show vlan

show vlan <VLAN-LIST>

show vlan <VLAN-LIST> interfaces GigabitEthernet <port_list> membership

show vlan <VLAN-LIST> interfaces LAG <lag_list> membership

show vlan dynamic

show vlan static

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
dynamic	Display dynamic entries		
static	Display static entries		

Example

```
0E-8PRTMAN# show vlan
   VID    | VLAN Name |    Untagged Ports | Tagged Ports | Type
------+-----------+-----------------+--------------+--------
        1 |     default |       gi1-28,lag1-8 |                  --- | Default
0E-8PRTMAN#
```

Chapter 17 SSL of CLI

Setup SSL host keys.

Syntax

ssl

Parameter

Example

```
0E-8PRTMAN# ssl
Generating a RSA private key
.....+++++
.....+++++
writing new private key to '/mnt/ssh/ssl_key.pem_tmp'
-----
0E-8PRTMAN#
```

Chapter 18 TERMINAL Commands of CLI

Terminal configuration.

Syntax

terminal length <0-24>

Parameter

length	Terminal length	
	<0-24>	Length value. 0 means no limit

Example

0E-8PRTMAN# terminal length 24

Chapter 19 TRACEROUTE of CLI

Trace route to network hosts.

Syntax

traceroute <hostname>

traceroute <hostname> max_hop <2-255>

Parameter

hostname	The IP address or hostname address to trace		
	max_hop	The number of maximun hop.(Default:30)	
		<2-255>	Maximum hop range

Example

```
0E-8PRTMAN# traceroute 1.1.1.1 max_hop 2
traceroute to 1.1.1.1 (1.1.1.1), 2 hops max, 38 byte packets
 1  192.168.11.1 (192.168.11.1)  0.000 ms  0.000 ms  0.000 ms
 2  10.135.91.1 (10.135.91.1)  0.000 ms  0.000 ms  0.000 ms
0E-8PRTMAN#
```