L3 Managed Switch

Web Configuration User Manual

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Chapter 1 HTTP Switch Configuration

1.1 HTTP Configuration

Switch configuration can be conducted not only through command lines and SNMP but also through Web browser. The switches support the HTTP configuration, the abnormal packet timeout configuration, and so on.

1.1.1 Choosing the Prompt Language

Up to now, switches support two languages, that is, English and Chinese, and the two languages can be switched over through the following command.

Command	Purpose
[no] ip http language { english}	Sets the prompt language of Web configuration to **English**.

1.1.2 Setting the HTTP Port

Generally, the HTTP port is port 80 by default, and users can access a switch by entering the IP address directly; however, switches also support users to change the service port and after the service port is changed you have to use the IP address and the changed port to access switches. For example, if you set the IP address and the service port to **192.168.1.3** and **1234** respectively, the HTTP access address should be changed to **http:// 192.168.1.3:1234**. You'd better not use other common protocols' ports so that access collision should not happen. Because the ports used by a lot of protocols are hard to remember, you'd better use port IDs following port 1024.

Command	Purpose
ip http port { *portNumber* }	Sets the HTTP port.

1.1.3 Enabling the HTTP Service

Switches support to control the HTTP access. Only when the HTTP service is enabled can HTTP exchange happen between switch and PC and, when the HTTP service is closed, HTTP exchange stops.

Command	Purpose
ip http server	Enables the HTTP service.

1.1.4 Setting the HTTP Access Mode

You can access a switch through two access modes: HTTP access and HTTPS access, and you can use the following command to set the access mode to **HTTP**.

Command	Purpose

ip http http-access enable	Sets the HTTP access mode.

1.1.5 Setting the Maximum Number of VLAN Entries on Web Page

A switch supports at most 4094 VLANs and in most cases Web only displays parts of VLANs, that is, those VLANs users want to see. You can use the following command to set the maximum number of VLANs. The default maximum number of VLANs is 100.

Command	Purpose
ip http web max-vlan { *max-vlan* }	Sets the maximum number of VLAN entries displayed in a web page.

1.1.6 Setting the Maximum Number of Multicast Entries Displayed on a Web Page

A switch supports at most 100 multicast entries. You can run the following command to set the maximum number of multicast entries and Web then shows these multicast entries. The default maximum number of multicast entries is 15.

Command	Purpose
ip http web igmp-groups { *igmp-groups* }	Sets the maximum number of multicast entries displayed in a web page.

1.2 HTTPS Configuration

In order to improve the security of communications, switches support not only the HTTP protocol but also the HTTPS protocol. HTTPS is a security-purposed HTTP channel and it is added to the SSL layer under HTTP.

1.2.1 Setting the HTTP Access Mode

You can run the following command to set the access mode to **HTTPS**.

Command	Purpose
ip http ssl-access enable	Sets the HTTPS access mode.

1.2.2 It is used to set the HTTPS port.

As the HTTP port, HTTPS has its default service port, port 443, and you also can run the following command to change its service port. It is recommended to use those ports following port 1024 so as to avoid collision with other protocols' ports.

Parameter	Remarks
ip http secure-port {*portNumber*}	Sets the HTTPS port.

Chapter 2 Accessing the Switch

2.1 Accessing the Switch Through HTTP

When accessing the switch through Web, please make sure that the applied browser complies with the following requirements:

- HTML of version 4.0
- HTTP of version 1.1
- JavaScript™ of version 1.5

What's more, please ensure that the main program file, running on a switch, supports Web access and your computer has already connected the network in which the switch is located.

2.1.1 Initially Accessing the Switch

When the switch is initially used, you can use the Web access without any extra settings:

1. Modify the IP address of the network adapter and subnet mask of your computer to 192.168.0.2 and 255.255.255.0 respectively.

2. Open the Web browser and enter **192.168.0.1** in the address bar. It is noted that **192.168.0.1** is the default management address of the switch.

3、If the Internet Explorer browser is used, you can see the dialog box in figure 1. Both the original username and the password are “admin”, which is capital sensitive.

Figure 1: ID checkup of WEB login

4. After successful authentication, the systematic information about the switch will appear on the IE browser.

2.1.2 Upgrading to the Web-Supported Version

If your switch is upgraded to the Web-supported version during its operation and the switch has already stored its configuration files, the Web visit cannot be directly applied on the switch. Perform the following steps one by one to enable the Web visit on the switch:

1. Connect the console port of the switch with the accessory cable, or telnet to the management address of the switch through the computer.

2. Enter the global configuration mode of the switch through the command line, the DOS prompt of which is similar to “Switch_config#”.

3. If the management address of the switch is not configured, please create the VLAN interface and configure the IP address.

4. Enter the **ip http server** command in global configuration mode and start the Web service.

5. Run **username** to set the username and password of the switch. For how to use this command, refer to the “Security Configuration” section in the user manual.

After the above-mentioned steps are performed, you can enter the address of the switch in the Web browser to access the switch.

6. Enter **write** to store the current configuration to the configuration file.

2.2 Accessing a Switch through Secure Links

The data between the WEB browser and the switch will not be encrypted if you access a switch through common HTTP. To encrypt these data, you can use the secure links, which are based on the secure sockets layer, to access the switch.

To do this, you should follow the following steps:

1. Connect the console port of the switch with the accessory cable, or telnet to the management address of the switch through the computer.

2. Enter the global configuration mode of the switch through the command line, the DOS prompt of which is similar to “Switch_config#”.

3. If the management address of the switch is not configured, please create the VLAN interface and configure the IP address.

4. Enter the **ip http server** command in global configuration mode and start the Web service.

5. Run **username** to set the username and password of the switch. For how to use this command, refer to the “Security Configuration” section in the user manual.

6. Run **ip http ssl-access enable** to enable the secure link access of the switch.

7. Run **no ip http http-access enable** to forbid to access the switch through insecure links.

8. Enter **write** to store the current configuration to the configuration file.

9. Open the WEB browser on the PC that the switch connects, enter **https://192.168.0.1** on the address bar (**192.168.0.1** stands for the management IP address of the switch) and then press the **Enter** key. Then the switch can be accessed through the secure links.

2.3 Introduction of Web Interface

The homepage consists of the top control bar, the navigation bar, the configuration area and the bottom control bar.

2.3.1 Top Control Bar

Figure 2: Top control bar

Save All	Write the current settings to the configuration file of the device. It is equivalent to the execution of the **write** command. The configuration that is made through Web will not be promptly written to the configuration file after validation. If you click “Save All”, the unsaved configuration will be lost after rebooting.
English	The interface will turn into the English version.
Chinese	The interface will turn into the Chinese version.
Logout	Exit from the current login state. After you click "logout", you have to enter the username and the password again if you want to continue the Web function.
Port Panel	Displays the simple port panel.
About	Displays vendor information and sets automatic refresh.

After you configure the device, the result of the previous step will appear on the left side of the top control bar. If error occurs, please check your configuration and retry it later.

2.3.2 Navigation Bar

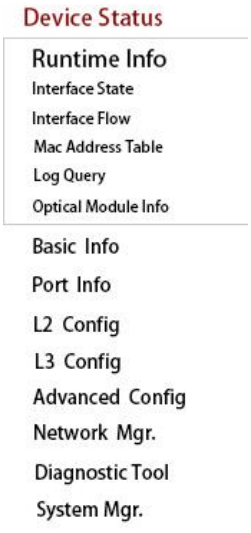


Figure 3 Navigation bar

The contents in the navigation bar are shown in a form of list and are classified according to types. By default, the list is located at “Runtime Info”. If a certain item need be configured, please click the group name and then the sub-item. For example, to browse the flux of the current port, you have to click “Interface State" and then “Interface Flow”.

Note:
The limited user can only browse the state of the device and cannot modify the configuration of the device. If you log on to the Web with limited user’s permissions, only “Interface State” will appear.

2.3.3 Configuration Information Area

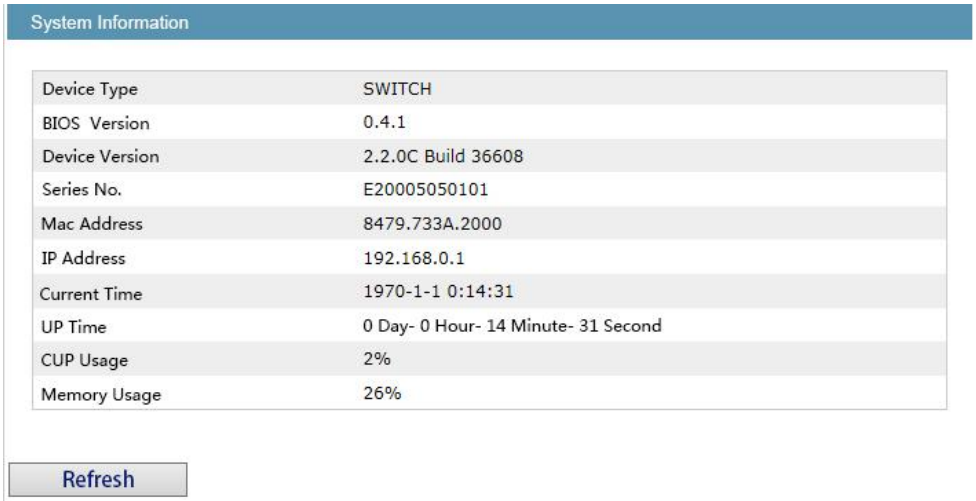


Figure 4 Configuration Area

The configuration display area shows the state and configuration of the device. The contents of this area can be modified by the clicking of the items in the navigation bar.

2.3.4 Configuration Area

The configuration area is to show the content that is selected in the navigation area. The configuration area always contains one or more buttons, and their functions are listed in the following table:

Refresh	Refresh the content shown in the current configuration area.
Apply	Apply the modified configuration to the device. The application of the configuration does not mean that the configuration is saved in the configuration file. To save the configuration, you have to click “Save All” on the top control bar.
Reset	Means discarding the modification of the sheet. The content of the sheet will be reset.
New	Creates a list item. For example, you can create a VLAN item or a new user.
Delete	Deletes an item in the list.
Back	Go back to the previous-level configuration page.

Chapter 3 Basic Configuration

Figure 1 A list of basic configuration

3.1 Hostname Configuration

If you click **Basic Config -> Hostname Config** in the navigation bar, the **Hostname Configuration** page appears, as shown in figure 2.

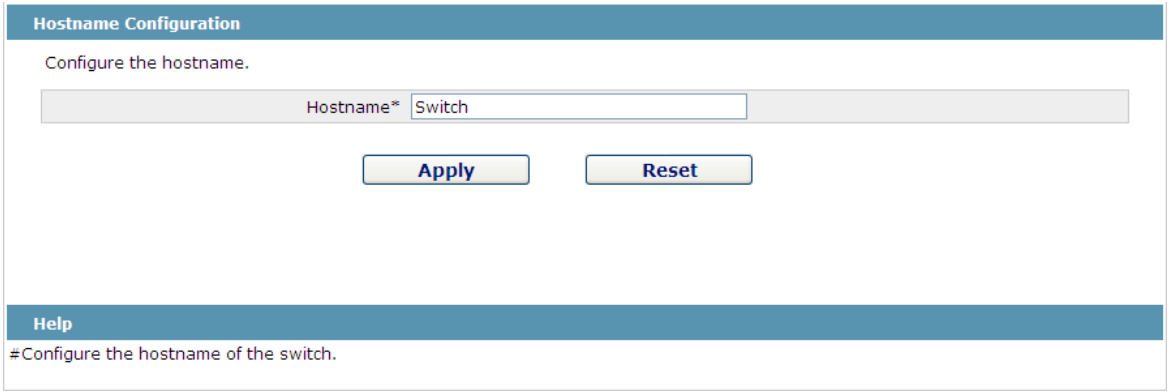


Figure 2 Hostname configuration

The hostname will be displayed in the login dialog box.

The default name of the device is “Switch”. You can enter the new hostname in the text box shown in figure 3 and then click “Apply”.

3.2 Time Management

If you click **System Manage -> Time Manage**, the **Time Setting** page appears.

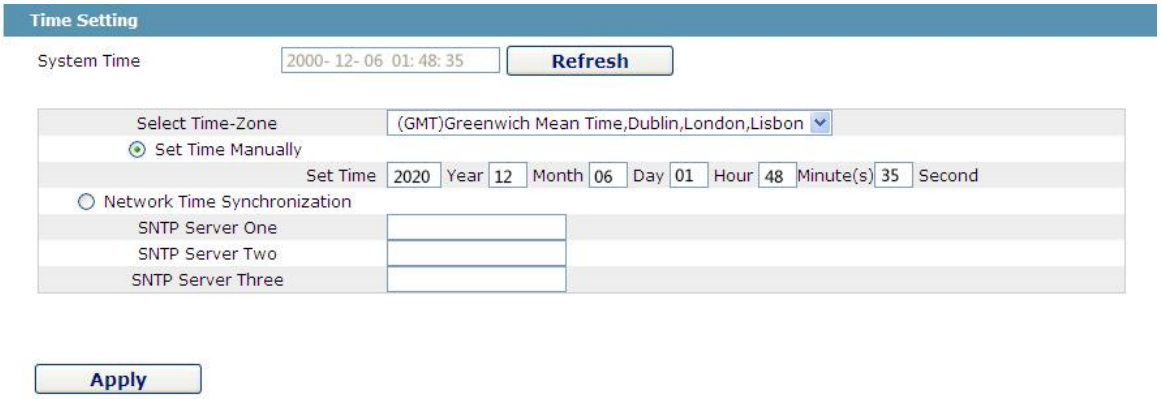


Figure 3 Clock management

To refresh the clock of the displayed device, click “Refresh”.

In the “Select Time-Zone” dropdown box select the time zone where the device is located. When you select “Set Time Manually”, you can set the time of the device manually. When you select “Network Time Synchronization”, you can designate 3 SNTP servers for the device.

Chapter 4 Configuration of the Physical Interface

Figure 1: Physical port configuration list

4.1 Configuring Port Description

If you click **Physical port config -> Port description Config** in the navigation bar, the **Port description Configuration** page appears, as shown in figure 2.

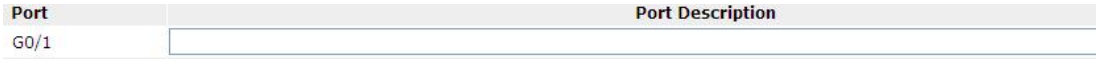


Figure 2: Port description configuration

You can modify the port description on this page and enter up to 120 characters. The description of the VLAN port cannot be set at present.

4.2 Configuring the Attributes of the Port

If you click **Physical port config -> Port attribute Config** in the navigation bar, the **Port Attribute Configuration** page appears, as shown in figure 3.

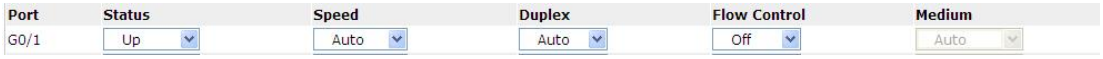


Figure 3 Configuring the port attributes

On this page you can modify the on/off status, rate, duplex mode, flow control status and medium type of a port.

Note:
After the speed or duplex mode of a port is modified, the link state of the port may be switched over and the network communication may be impaired.

4.3 Rate control

If you click **Physical port Config -> Port rate-limit Config** in the navigation bar, the **Port rate limit** page appears, as shown in figure 4.

Figure 4 Port's rate limit

On this page you can set the reception speed and transmission speed of a port. By default, all ports have no speed limited. The receiving and sending rates can be configured either by percentage or by specific units of the switch.

4.4 Port mirroring

If you click **Physical port Config -> Port Mirror** in the navigation bar, the **Port Mirror Config** page appears, as shown in figure 4-5.

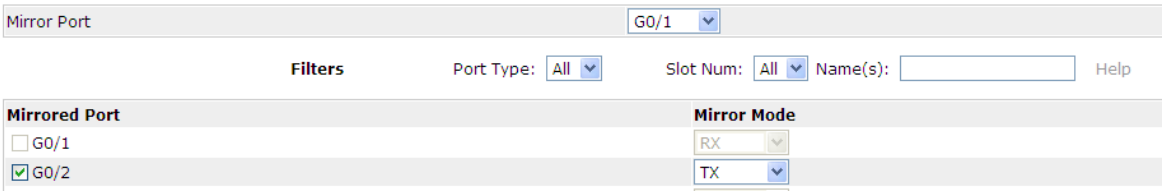


Figure 5 Port mirror configuration

Click the dropdown list on the right side of "Mirror Port" and select a port to be the destination port of mirror.

Click a checkbox and select a source port of mirror, that is, a mirrored port.

RX	The received packets will be mirrored to the destination port.
TX	The transmitted packets will be mirrored to a destination port.
RX & TX	The received and transmitted packets will be mirrored simultaneously.

4.5 Loopback Detection

If you click **Physical port Config -> Port loopback detection** in the navigation bar, the **Setting the port loopback detection** page appears, as shown in figure 4-6.

Figure 6: Port loopback detection

You can set the loopback detection cycle on the **Loopback Detection** page.

4.6 Port security

4.6.1 IP Binding Configuration

If you click **Physical port Config -> Port Security -> IP bind** in the navigation bar, the **Configure the IP-Binding Info** page appears, as shown in figure 4-7.

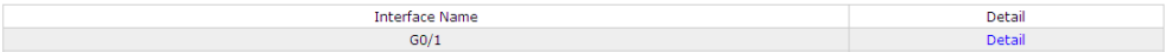


Figure 7 IP binding configuration

Click “Detail” and then you can conduct the binding of the source IP address for each physical port. In this way, the IP address that is allowed to visit the port will be limited.

Figure 8 Setting the binding of the source IP address

4.6.2 MAC Binding Configuration

If you click **Physical port Config -> Port Security -> MAC bind** in the navigation bar, the **Configure the MAC-Binding Info** page appears, as shown in figure 4-10.

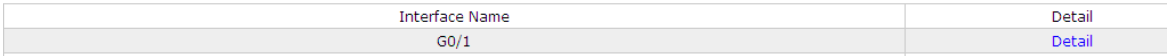


Figure 9 MAC binding configuration

Click “Detail” and then you can conduct the binding of the source MAC address for each physical port. In this way, the MAC address that is allowed to visit the port will be limited.

Figure 10 Setting the binding of the source MAC address

4.6.3 Setting the Static MAC Filtration Mode

If you click **Physical port Config -> Port Security -> Static MAC filtration mode** in the navigation bar, the **Configure the static MAC filtration mode** page appears, as shown in figure 4-11.

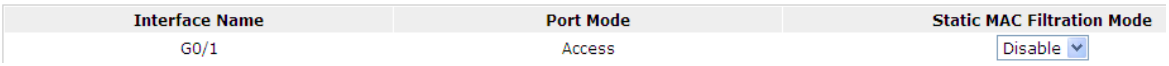


Figure 11: Setting the static MAC filtration mode

On this page you can set the static MAC filtration mode. By default, the static MAC filter is disabled. Also, the static MAC filter mode cannot be set on ports in trunk mode.

4.6.4 Static MAC Filtration Entries

If you click **Physical port Config -> Port security -> Static MAC filtration entries** in the navigation bar, the **Setting the static MAC filtration entries** page appears.

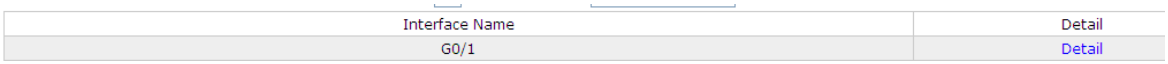


Figure 12: Static MAC filtration entry list

If you click “Detail”, you can conduct the binding of the source MAC address for each physical port. According to the configured static MAC filtration mode, the MAC address of a port can be limited, allowed or forbidden to visit.

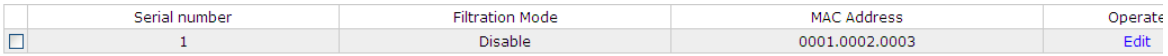


Figure 13: Setting static MAC filtration entries

4.6.5 Setting the Dynamic MAC Filtration Mode

If you click **Physical port Config -> Port Security -> Dynamic MAC filtration mode** in the navigation bar, the **Configure the dynamic MAC filtration mode** page appears, as shown in figure 4-14.

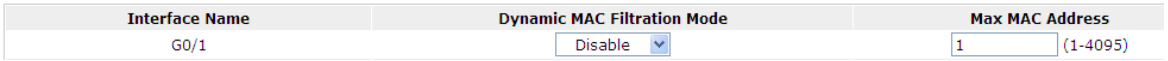


Figure 14: Setting the dynamic MAC filtration mode

You can set the dynamic MAC filtration mode and the allowable maximum number of addresses on this page. By default, the dynamic MAC filtration mode is disabled and the maximum number of addresses is 1.

4.7 Storm control

In the navigation bar, click **Physical port Config -> Storm control**. The system then enters the page, on which the broadcast/multicast/unknown unicast storm control can be set.

4.7.1 Broadcast Storm Control

Figure 15 Broadcast storm control

Through the dropdown boxes in the **Status** column, you can decide whether to enable broadcast storm control on a port. In the **Threshold** column you can enter the threshold of the broadcast packets. The legal threshold range for each port is given behind the threshold.

4.7.2 Multicast Storm Control

Figure 16 Setting the broadcast storm control

Through the dropdown boxes in the **Status** column, you can decide whether to enable multicast storm control on a port. In the **Threshold** column you can enter the threshold of the multicast packets. The legal threshold range for each port is given behind the threshold.

4.7.3 Unknown Unicast Storm Control

Figure 17 Unknown unicast storm control

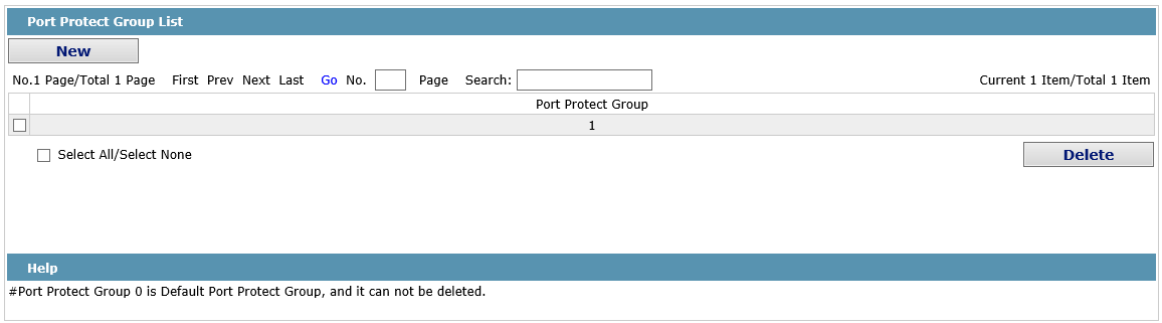
In the **Threshold** column you can enter the threshold of the broadcast packets. The legal threshold range for each port is given behind the threshold.

4.8 Port Protect Group Configuration

Click "Port Config" -> “Port Protect Group Config” in the navigation bar, and enter the configuration page of Port Protect Group List and Port Protect Group Interface Config.

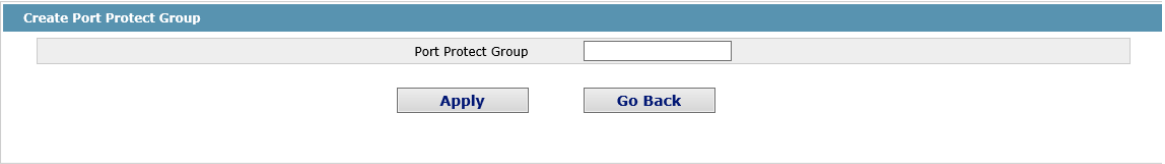
4.8.1 Port Protect Group List

Click "Port Config" -> “Port Protect Group Config” -> “Port Protect Group List” in the navigation bar, and enter the configuration page of “Port Protect Group List”.



Click “New” to create a new port protect group, as shown in the above figure.

Tick one port protect group and delete it. The port protect group is 0 by default, which cannot be deleted.



4.8.2 Port Protect Group Interface Configuration

Click "Port Config" -> “Port Protect Group Config” -> “Port Protect Group Interface Config” in the navigation bar, and enter the configuration page of “Port Protect Group Interface Config”.

The port protect group must be a created group. If one port has configured the default protect group, other ports can only be configured with the default protect group.

Chapter 5 Layer-2 Configuration

Figure 1: Layer-2 configuration list

5.1 VLAN Settings

5.1.1 VLAN List

If you click **Layer-2 Config -> VLAN Config** in the navigation bar, the **VLAN Config** page appears, as shown in figure 2.

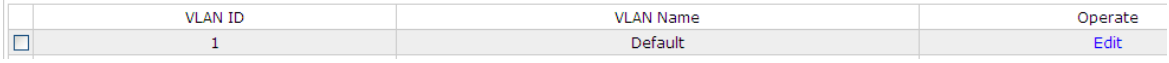


Figure 2 VLAN configuration

The VLAN list will display VLAN items that exist in the current device according to the ascending order. In case of lots of items, you can look for the to-be-configured VLAN through the buttons like “Prev”, “Next” and “Search”.

You can click “New” to create a new VLAN.

You can also click “Edit” at the end of a VLAN item to modify the VLAN name and the port’s attributes in the VLAN.

If you select the checkbox before a VLAN and then click “Delete”, the selected VLAN will be deleted.

Note:
By default, a VLAN list can display up to 100 VLAN items. If you want to configure more VLANs through Web, please log on to the switch through the Console port or Telnet, enter the global configuration mode and then run the “**ip http web max-vlan**” command to modify the maximum number of VLANs that will be displayed.

5.1.2 VLAN Settings

If you click "New" or “Edit” in the VLAN list, the VLAN configuration page appears, on which new VLANs can be created or the attributes of an existent VLAN can be modified.

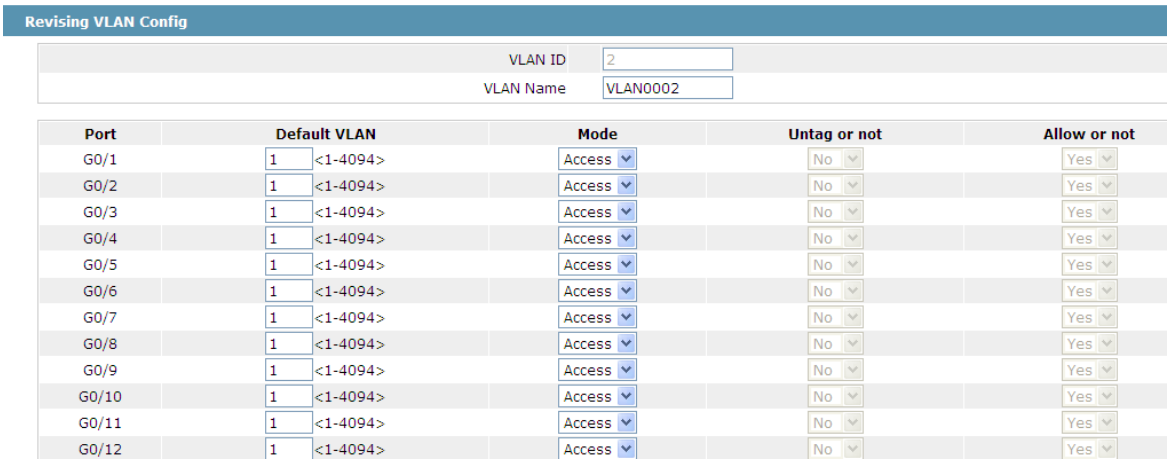


Figure 3 Revising VLAN configuration

If you want to create a new VLAN, enter a VLAN ID and a VLAN name; the VLAN name can be null.

Through the port list, you can set for each port the default VLAN , the VLAN mode (Trunk or Access), whether to allow the entrance of current VLAN packets and whether to execute the untagging of the current VLAN when the port works as the egress port.

Note:
When a port in Trunk mode serves as an egress port, it will untag the default VLAN by default.

5.2 GVRP Configuration

5.2.1 GVRP Global Attribute Configuration

If you click **Layer-2 Config -> GVRP Config -> GVRP Global Config** in the navigation bar, the **GVRP Global Config** page appears, as shown the following Figure.

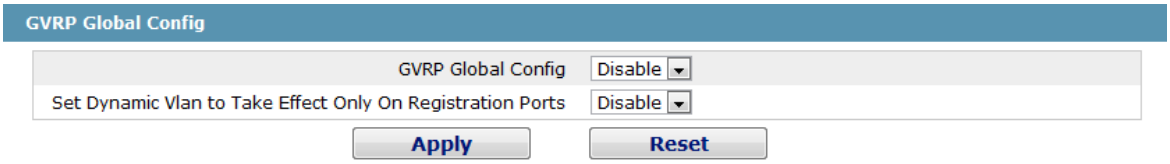


Figure 4 GVRP Global Configuration

You can enable or disable the global GVRP protocol and sets whether the dynamic vlan is only effective on the registration interface.

5.2.2 Global Interface Attribute Configuration

If you click **Layer-2 Config -> GVRP Config -> GVRP Interface Config** in the navigation bar, the **GVRP Interface Config** page appears, as shown the following Figure.

Figure 5 Global Interface Attribute Configuration

To enable or disable GVRP protocol on the GVRP interface configuration.

5.3 STP Configuration

5.3.1 STP Status Information

If you click **Layer-2 Config -> STP Config** in the navigation bar, the **STP Config** page appears, as shown in figure 10.

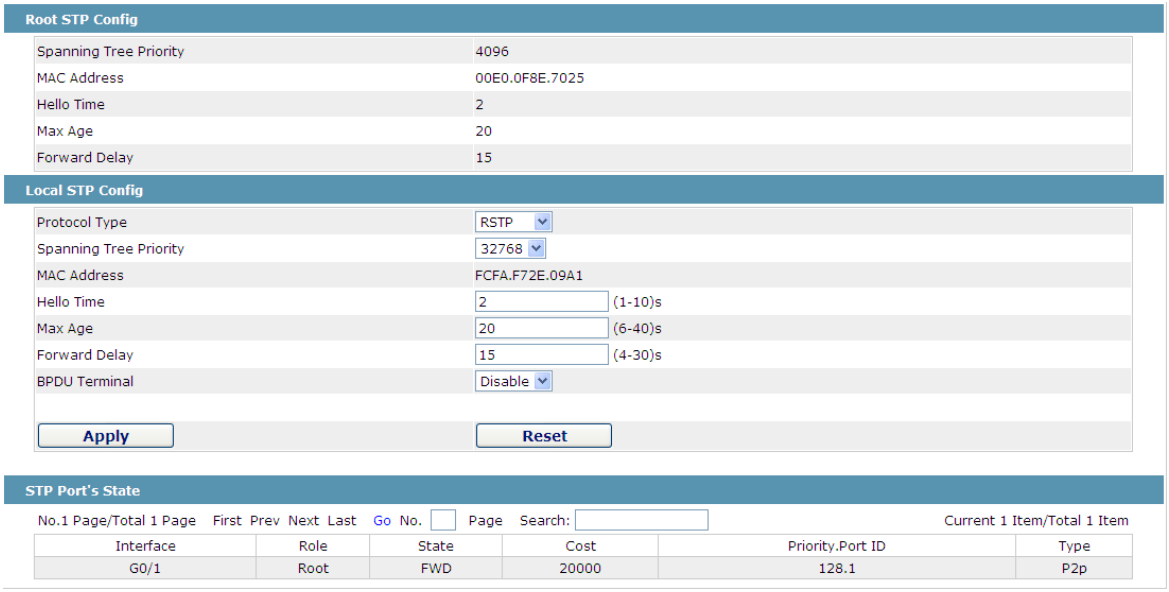


Figure 6 Configuring the global attributes of STP

The root STP configuration information and the STP port's status are only-read.

On the local STP configuration page, you can modify the running STP mode by clicking the Protocol type dropdown box. The STP modes include STP, RSTP and disabled STP.

The priority and the time need be configured for different modes.

Note:
The change of the STP mode may lead to the interruption of the network.

5.3.2 Configuring the Attributes of the STP Port

If you click the "Configure RSTP Port" option, the "Configure RSTP Port" page appears.

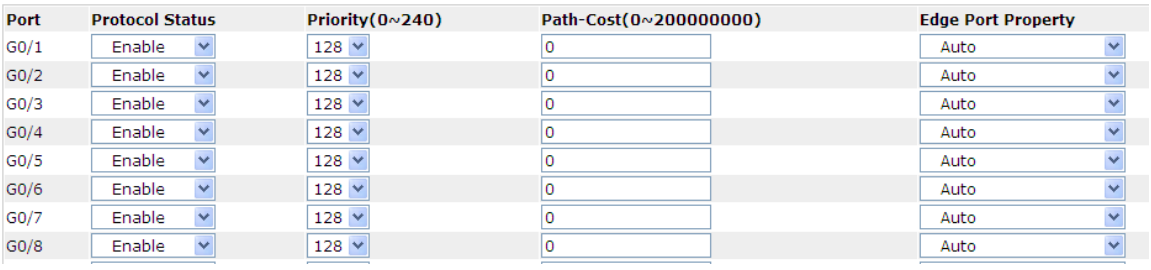


Figure 7 Configuring the attributes of RSTP

The configuration of the attributes of the port is irrelative of the global STP mode. For example, if the protocol status is set to "Disable" and the STP mode is also changed, the port will not run the protocol in the new mode.

The default value of the path cost of the port is 0, meaning the path cost is automatically calculated according to the speed of the port. If you want to change the path cost, please enter another value.

5.4 IGMP-Snooping Configuration

5.4.1 IGMP-Snooping Configuration

If you click **Layer-2 Config -> IGMP snooping**, the IGMP-Snooping configuration page appears.

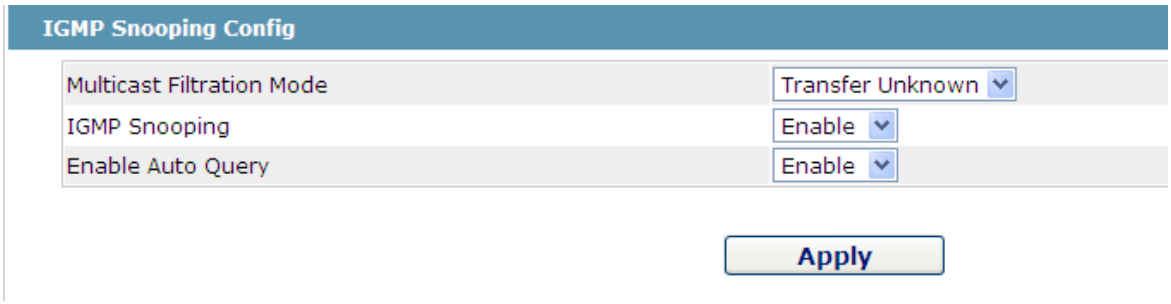
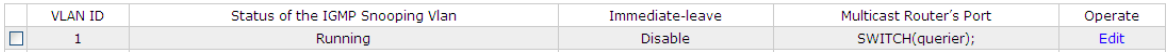


Figure 8 IGMP-snooping configuration

On this page you can set whether to make a switch to forward unknown multicasts, whether to enable IGMP snooping, and whether to configure the switch as the querier of IGMP.

5.4.2 IGMP-Snooping VLAN List

If you click **Layer-2 Config -> IGMP snooping vlan list**, the **IGMP-Snooping VLAN list** page appears.



	VLAN ID	Status of the IGMP Snooping Vlan	Immediate-leave	Multicast Router's Port	Operate
☐	1	Running	Disable	SWITCH(querier);	Edit

Figure 9: IGMP-snooping VLAN list

If you click **New**, IGMP-snooping VLAN configuration can be done. Through Web up to 8 physical ports can be set on each IGMP snooping VLAN. If you click **Cancel**, a selected IGMP-Snooping VLAN can be deleted; if you click **Edit**, you can modify the member port, running status and immediate-leave of IGMP-Snooping VLAN.

Figure 10: Static routing port of IGMP VLAN

When an IGMP-Snooping VLAN is created, its VLAN ID can be modified; but when the IGMP-Snooping VLAN is modified, its VLAN ID cannot be modified.

You can click "**>>**" and "**<<**" to delete and add a routing port.

5.4.3 Static Multicast Address

If you click **Static multicast address**, the **Setting the static multicast address** page appears.

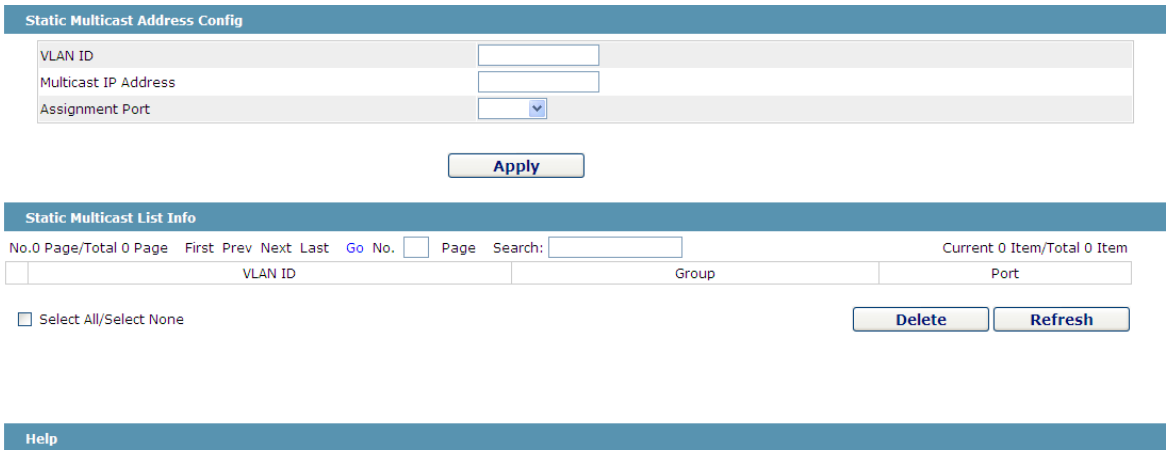


Figure 11 Multicast List

On this page, the currently existing static multicast groups and port groups in each static multicast group are shown.

Click "Refresh" to refresh the contents in the list.

5.4.4 Multicast List

Click the **Multicast List Info** option on the top of the page and the **Multicast List Info** page appears.

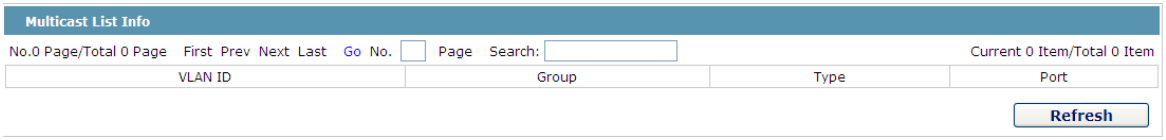


Figure 12 Multicast List

On this page the multicat groups, which are existent in the current network and are in the statistics of IGMP snooping, as well as port sets which members in each group belong to are dislayed.

Click “Refresh” to refresh the contents in the list.

Note:
By default, a multicast list can display up to 15 VLAN items. You can modify the number of multicast items by running **ip http web igmp-groups** after you log on to the device through the Console port or Telnet.

5.5 Setting Static ARP

If you click **Layer-2 Config -> Static ARP Config**, the static ARP configuration page appears.

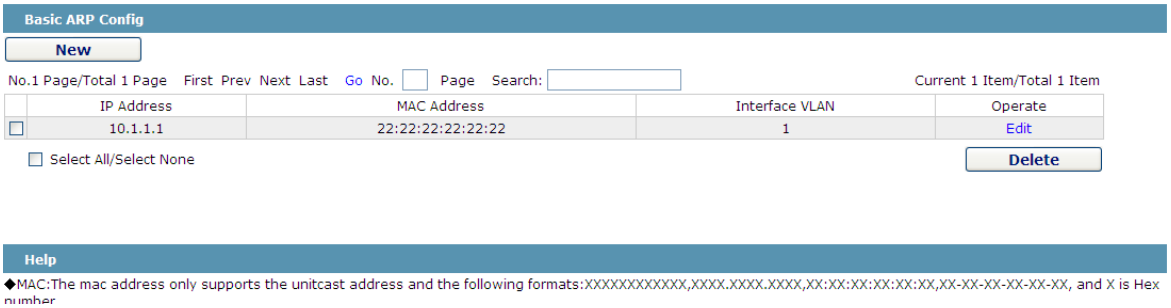


Figure 13 Displaying static ARP

You can click **New** to add an ARP entry. If the **Alias** column is selected, it means to answer the ARP request of the designated IP address.

If you click Edit, you can modify the current ARP entry.

If you click Cancel, you can cancel the chosen ARP entry.

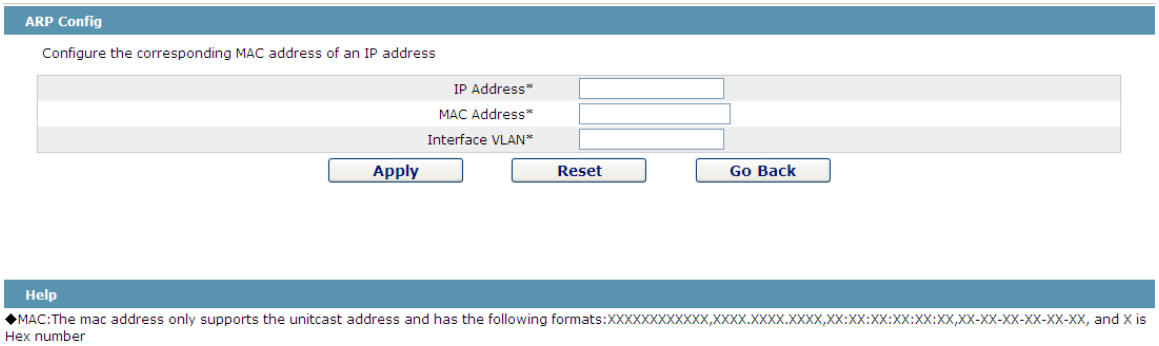


Figure 14 Setting static ARP

5.6 Static MAC Address Configuration

If you click **Layer-2 Config -> Static MAC Config -> Static MAC List**, the **Static MAC Address List Info** page appears.

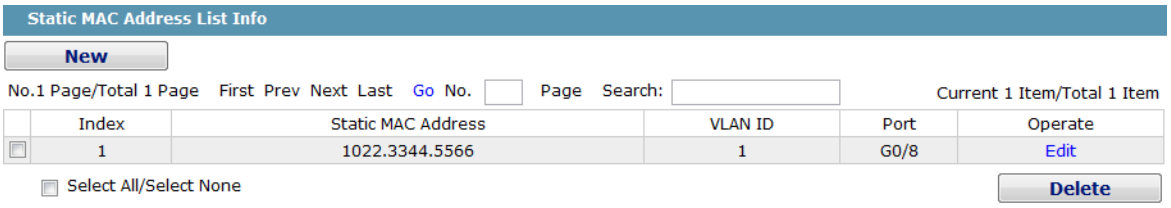


Figure 15 Setting Static MAC Address List Info

Click **New** to designate static MAC address and VLAN. The unicast MAC address can only configure one interface. Multiple MAC addresses can configure multiple interfaces.

Click **Edit** to modify the static MAC address.

Click **Delete** to delete the selected MAC address table.

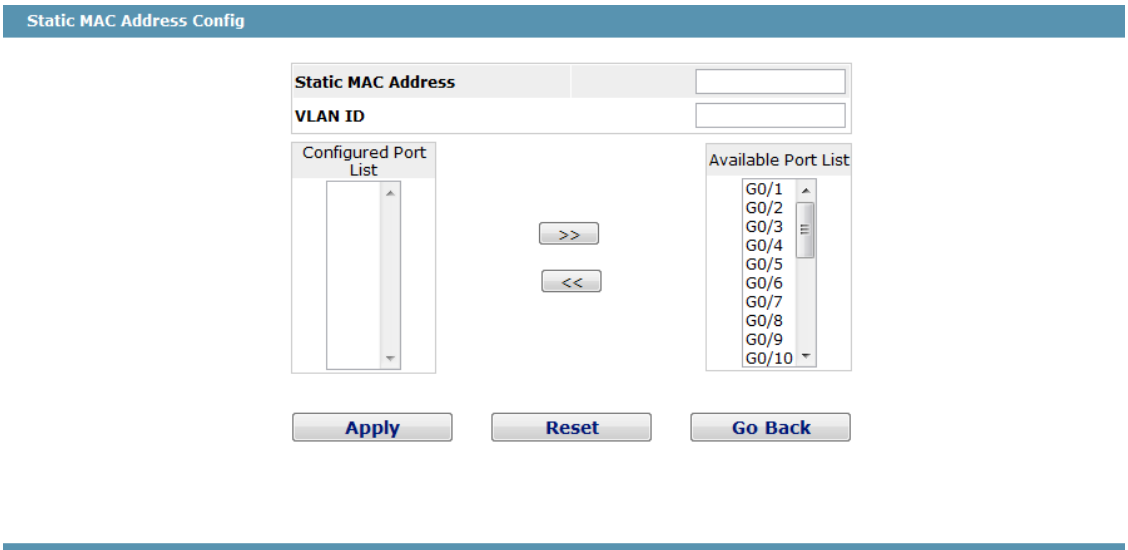


Figure 16 Static MAC Address Config

5.7 LLDP Configuration

5.7.1 Configuring the Global Attributes of LLDP

If you click **Layer-2 Config -> LLDP Config -> LLDP Global Config** in the navigation bar, the **Basic Config of LLDP Protocol** page appears, as shown in the following Figure.

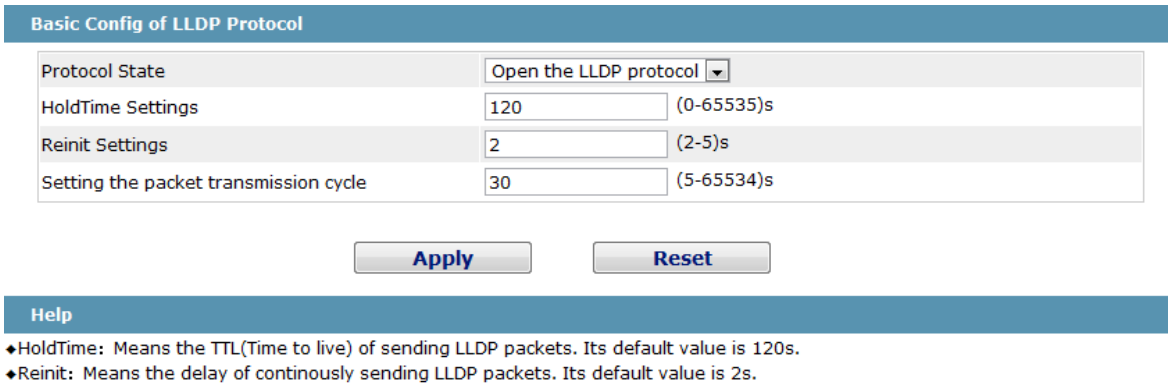


Figure17 Configuring the Global Attributes of LLDP

You can choose to enable LLDP or disable it. When you choose to disable LLDP, you cannot configure LLDP.

The “HoldTime” parameter means the ttl value of the packet that is transmitted by LLDP. Its default value is 120s.

The “Reinit” parameter means the delay of successive packet transmission of LLDP. Its default value is 2s.

5.7.2 LLDP Port Attribute Configuration

If you click **Layer-2 Config -> LLDP Config -> LLDP Interface Config** in the navigation bar, the **LLDP Port Config** page appears.

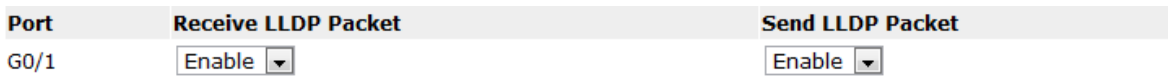


Figure 18 Configuring the LLDP port

After the LLDP port is configured, you can enable or disable LLDP on this port.

5.8 DDM Configuration

If you click **L2 Config -> DDM Config** in the navigation bar, the **DDM configuration** page appears, as shown in figure 19.

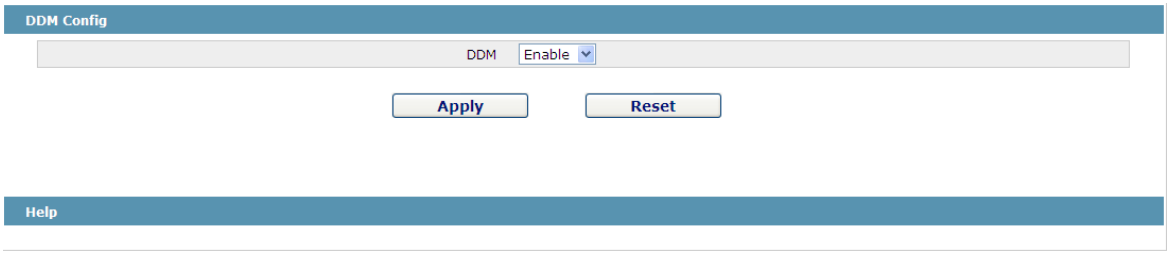


Figure 19: DDM configuration

5.9 Port Aggregation Configuration

5.9.1 Port Aggregation Configuration

If you click **Layer-2 Config -> Port Channel-> Port Channel**, the **Port Aggregation Config** page appears.

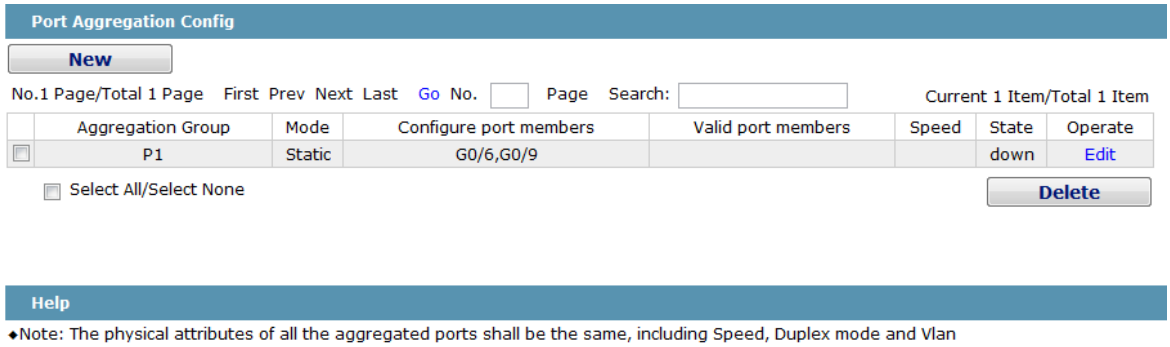


Figure 20 Port Aggregation Information

Click **New** to create an aggregation group. It can configure 32 aggregation groups in maximum and each group is with 8 physical ports into aggregation. Click **Delete** to delete the selected aggregation group. Click "**Reset**" to modify the setting.

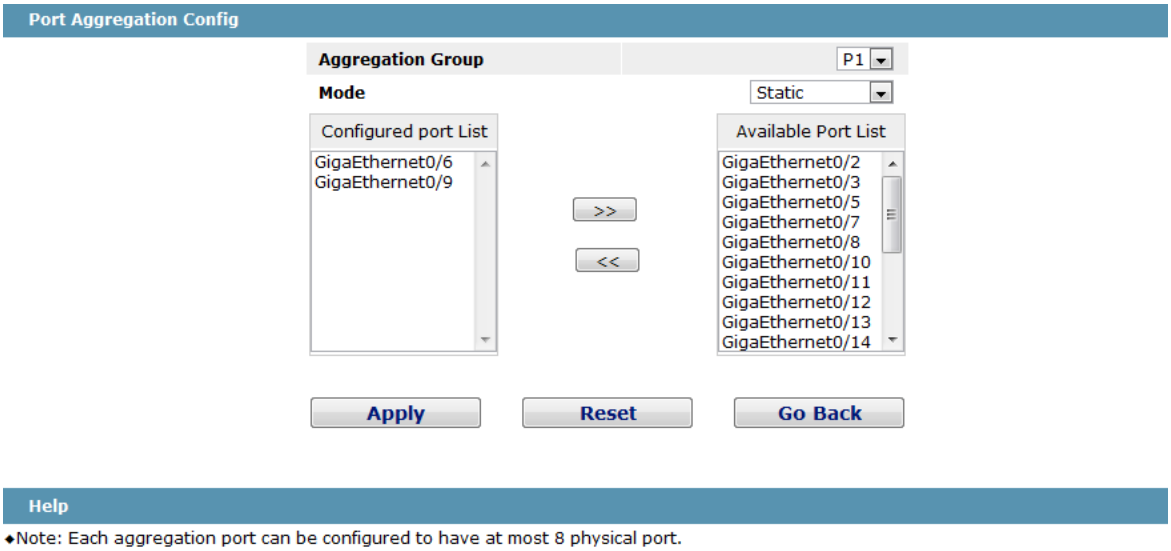


Figure 21 Port Aggregation Configuration

If you create an aggregation group, it is optional; if you modify the aggregation group, it is not optional.

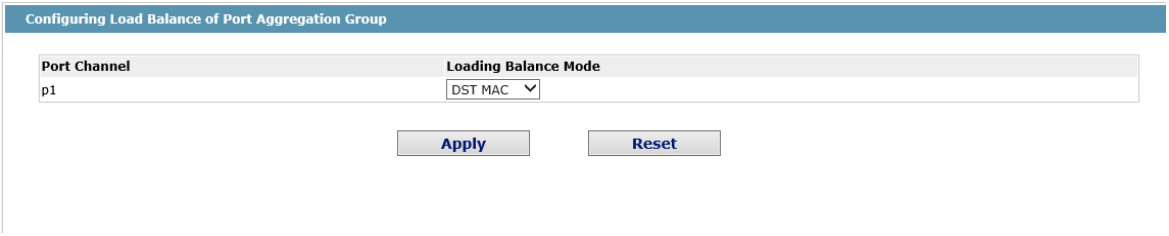
When the aggregation port has a member port, the user can select the aggregation mode: static, LACP Active and LACP Passive.

You can click “>>” and “<<” to delete and add an aggregation member port.

5.9.2 Port Channel Group Loading Balance Configuration

Some models support link aggregation load balancing configuration and others not, but they can be configured in the global configuration mode.

3928 supports the aggregation group based load balancing configuration:



The Aggregation Group Based Load Balancing Configuration

You can use different aggregation groups to set different aggregation modes.

5.10 Ring Protection Configuration

5.10.1 EAPS Ring List

If you click **Layer-2 Config -> Ring protection Config**, the **EAPS ring list** page appears.

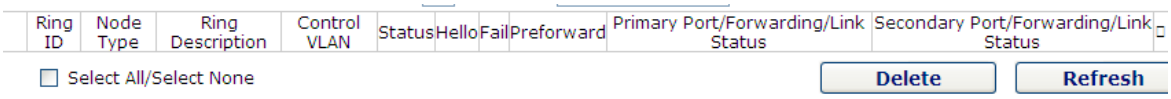


Figure 22 EAPS Ring List

In the list shows the currently configured EAPS ring, including the status of the ring, the forwarding status of the port and the status of the link.

Click “New” to create a new EAPS ring.

Click the “Operate” option to configure the “Time” parameter of the ring.

Note:
1. The system can support 8 EAPS rings.

2. After a ring is configured, its port, node type and control Vlan cannot be modified. If the port of the ring, the node type or the control Vlan need be adjusted, please delete the ring and then establish a new one.

5.10.2 EAPS Ring Configuration

If you click “New” on the EAPS ring list, or “Operate” on the right side of a ring item, the “Configure EAPS” page appears.

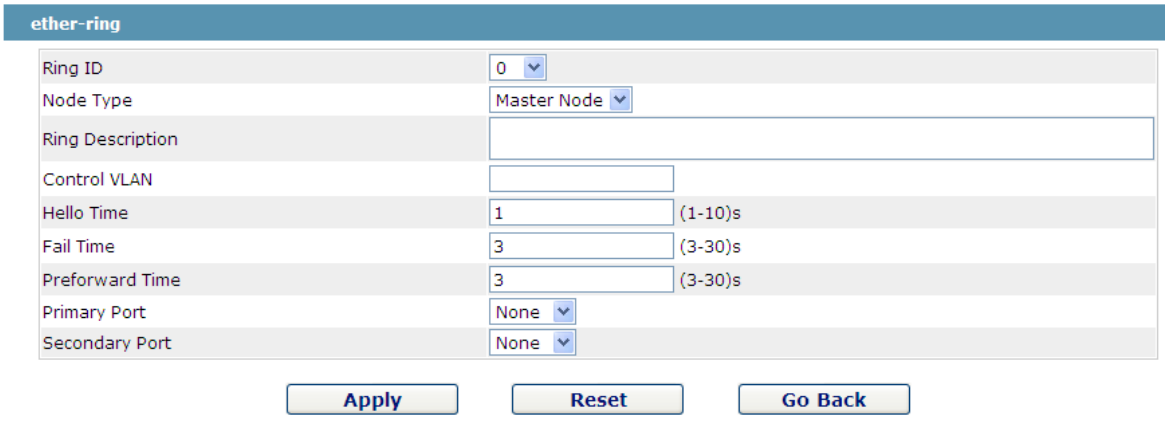


Figure 23 EAPS ring configuration

Note:
If you want to modify a ring, on this page the node type, the control VLAN, the primary port and the secondary port cannot be modified.

In the dropdown box on the right of “Ring ID”, select an ID as a ring ID. The ring IDs of all devices on the same ring must be the same.

The dropdown box on the right of “Node Type” is used to select the type of the node. Please note that only one master node can be configured on a ring.

Enter a value between 1 and 4094 in the text box on the right of “Control VLAN” as the control VLAN ID. When a ring is established, the control VLAN will be automatically established too. Please note that if the designated control VLAN is 1 and the VLAN of the control device is also 1 the control device cannot access the control VLAN. Additionally, please do not enter a control VLAN ID that is same as that of another ring.

In the text boxes of “Primary Port” and “Secondary Port”, select a port as the ring port respectively. If "Node Type" is selected as “Transit-Node”, the two ports will be automatically set to transit ports.

Click “Apply” to finish EAPS ring configuration, click “Reset” to resume the initial values of the configuration, or click “Return” to go back to the EAPS list page.

5.11 MEAPS Configuration

5.11.1 MEAPS Ring Network List

Click “L2 Config” -> “Multiple Ring Protection” in the navigation bar, and enter the multiple ring protection configuration page.

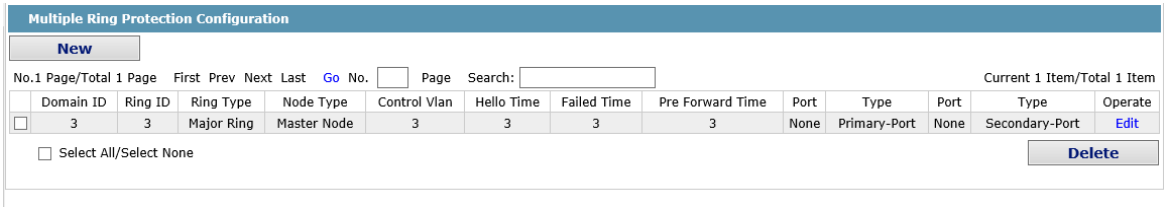


Figure 24 MEAPS Network List

The list displays the currently configured MEAPS ring, including the domain ID, the ring ID, the ring type, the node type, control VLAN, Hello Time, Fail Time, Pre Forward Time and the primary and secondary port on the ring.

Click “New” to create MEAPS ring network.

Click “Modify” right of the entry to configure the time parameter, and the primary and secondary port of the ring network.

Note that:
1. MEAPS domain numbers the system supported is 4 (0-3).
2. The ring numbers supported in the domain is 8 (0-7).
3. Once one MEAPS has configured, its ID, ring ID, ring type, node type and control Vlan cannot be configured. If these parameters need to be configured, please delete the net ring and re-create it.

5.11.2 EAPS Ring Network Configuration

Click “New” in the EAPS ring list or “Modify” right of the ring entry, and enter EAPS ring network configuration page.

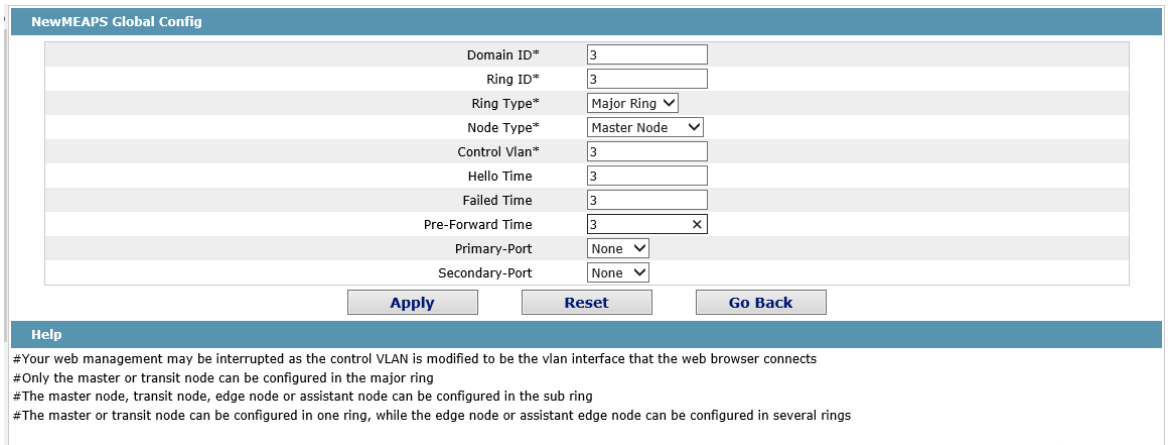


Figure 25 MEAPS Configuration

Note that:
Once one MEAPS has configured, its ID, ring ID, ring type, node type and control Vlan cannot be configured.

The primary ring can only configure the master node and the transit node.

The secondary ring can configure the primary node, the transit node, the edge node

The primary node and the transit node can only exit in one ring, and the edge node and the assistant edge node can exist in many rings simultaneously.

In the text boxes of “Primary Port” and “Secondary Port”, select a port as the ring port respectively or select “None”.

5.12 Backup Link Protocol Configuration

5.12.1 Backup Link Protocol Global Configuration

If you click **Layer-2 Config ->Backup Link Config ->Backup Link Protocol Global Config** on the navigation bar, the **Backup Link Protocol Global Config** page appears.

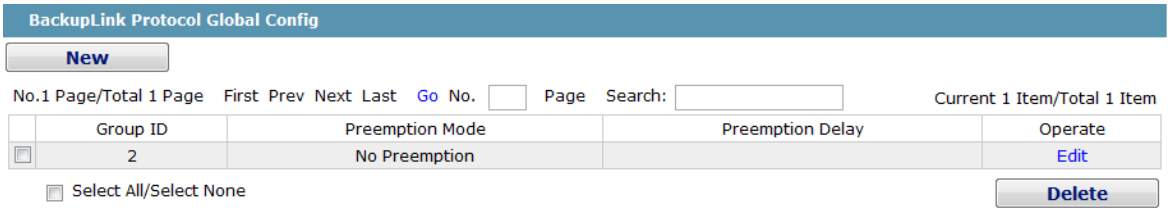


Figure 26 Backup Link Protocol Global Configuration

On the page, the current configured backup link groups are shown, including Preemption Mode and Preemption Delay.

Click **New** to create a new link backup group.

Click **Edit** on the right to configure Preemption Mode and Preemption Delay.

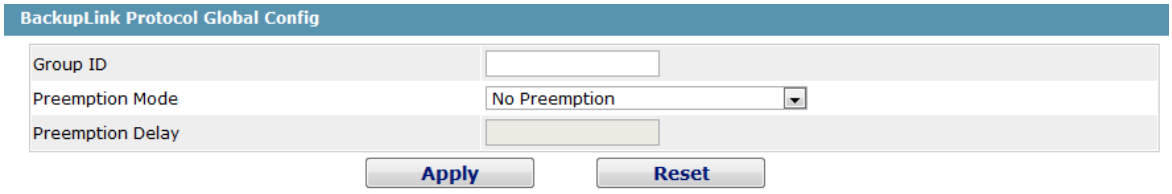


Figure 27 Backup Link Protocol Global Configuration

Note:
1. The system supports 8 link backup groups.
2. The Preemption mode determines the policy the primary port and the backup port forward packets.

5.12.2 Backup Link Protocol Interface Configuration

If you click **Layer-2 Config -> Backup Link Protocol Config -> Backup Link Protocol Interface Config** on the navigation bar, the **Backup Link Protocol Global Config** page appears.

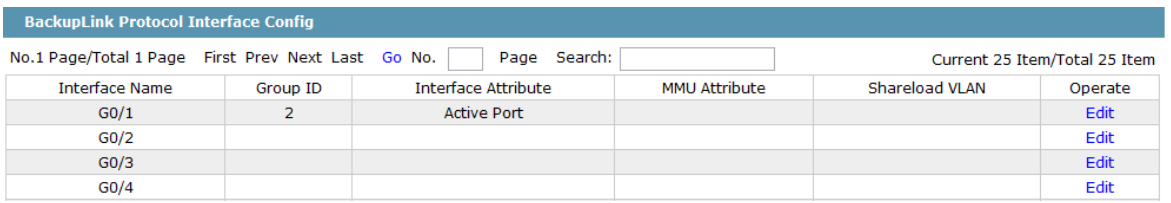


Figure 28 Backup Link Protocol Interface Configuration

This page shows the backup link group's member ports, Interface Attribute, MMU Attribute, Shareload Vlan, etc.

Click **Edit** on the right to configure the Backup Link Protocol.

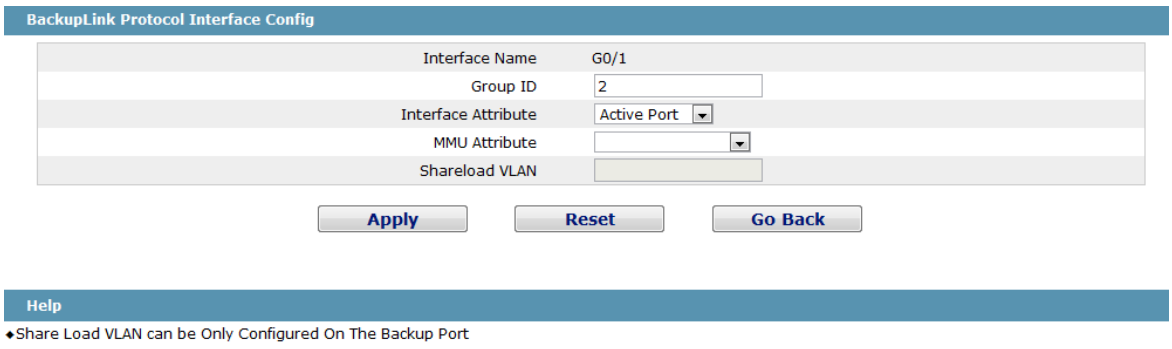


Figure 29 Backup Link Protocol Interface Configuration

The backup link group which has configured the primary port cannot take other ports as its primary port. Likewise, the backup link group which has configured the backup port cannot take other ports as its backup port.

5.13 MTU Configuration

If you click **Layer-2 Config -> MTU Config** on the navigation bar, the **MTU Config** page appears.

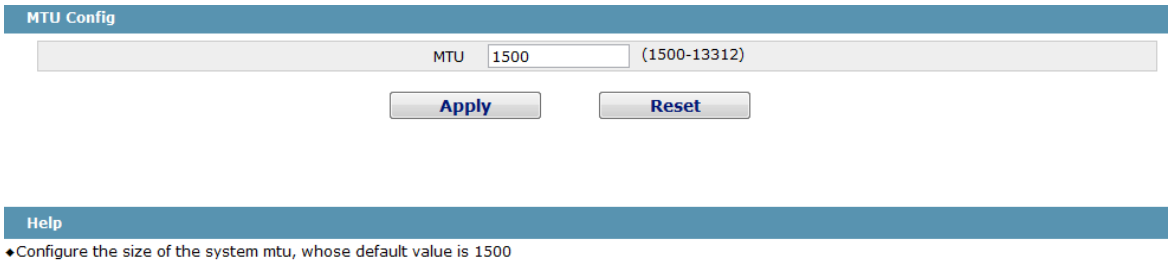


Figure 30 MTU Configuration

You can set the size of the maximum transmission unit (MTU).

5.14 PDP Configuration

5.14.1 Configuring the Global Attributes of PDP

If you click **Layer-2 Config -> PDP Config -> PDP Global Config** in the navigation bar, the **Basic Config of PDP Protocol** page appears.

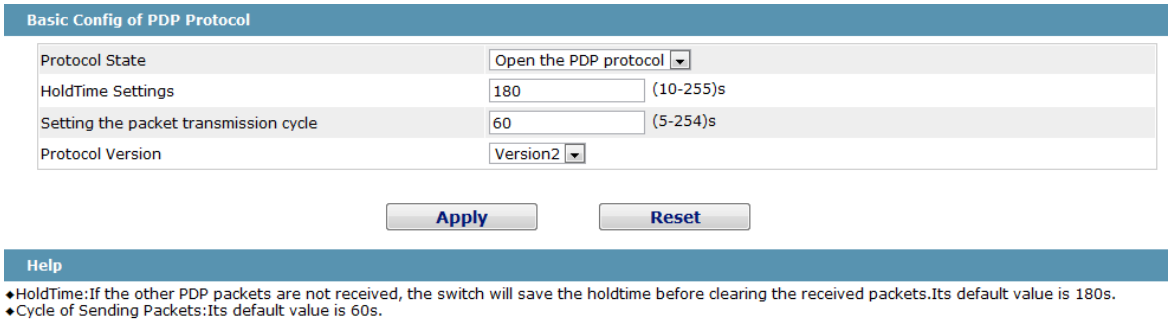


Figure 31 Basic Config of PDP Protocol

You can choose to enable PDP or disable it. When you choose to disable PDP, you cannot configure PDP.

The "**Hold Time**" parameter means the time to be saved before the router discards the received information if other PDP packets are not received.

5.14.2 PDP Interface Attribute Configuration

If you click **Layer-2 Config -> PDP Config-> PDP Interface Config** in the navigation bar, the **Protocol Port Config** page appears.

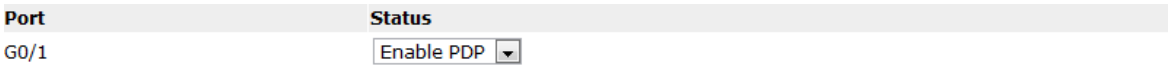


Figure 32 PDP Interface Attribute Configuration

After the PDP port is configured, you can enable or disable PDP on this port.

Chapter 6 Layer-3 Configuration

Figure 1: Layer-3 configuration list

6.1 Configuring the VLAN Interface

If you click **Layer-3 Config -> VLAN interface and IP address Config**, the **Configuring the VLAN interface** page appears.

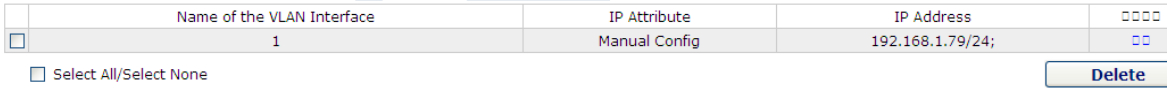


Figure 2: Configuring the VLAN interface

Click **New** to add a new VLAN interface. Click **Cancel** to delete a VLAN interface. Click **Modify** to modify the settings of a corresponding VLAN interface.

When you click **New**, the name of the corresponding VLAN interface can be modified; but if you click **Modify**, the name of the corresponding VLAN interface cannot be modified.

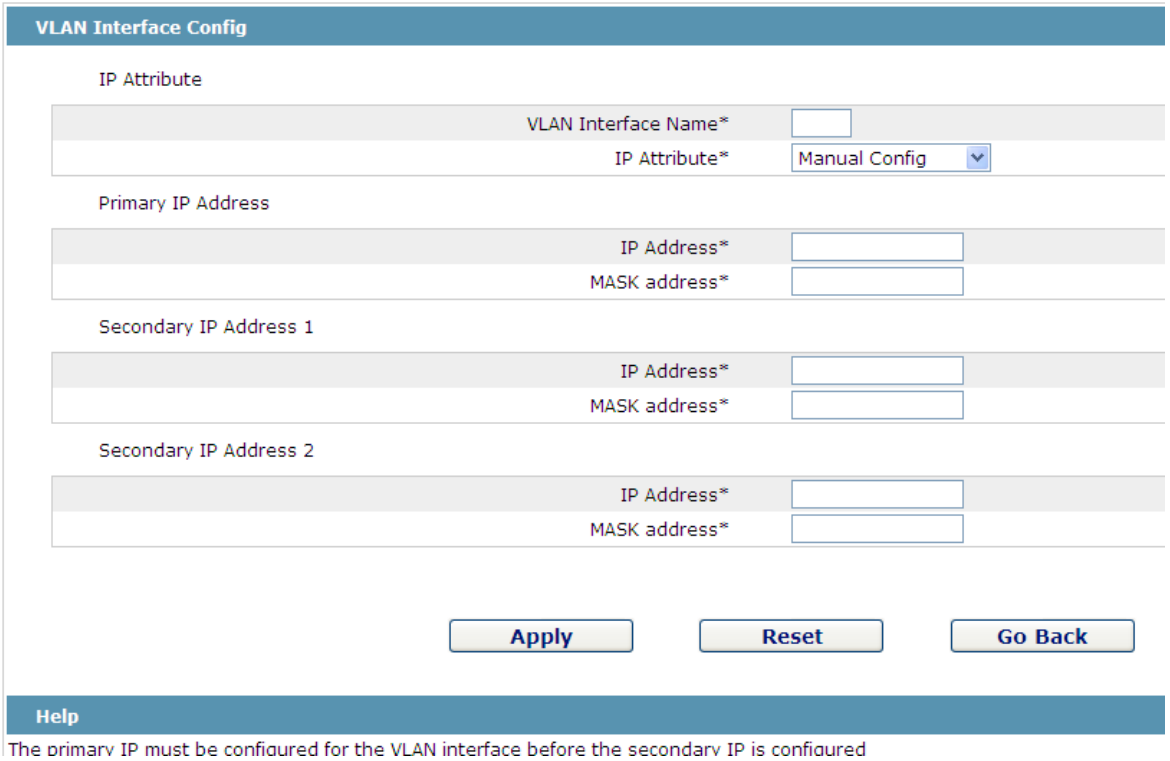


Figure 3: VLAN interface configuration

Note:
Before the accessory IP of a VLAN interface is set, you have to set the main IP.

6.2 Static Routing Configuration

If you click **Layer-3 Config -> Static Routing**, the **Configuring the static routing table** page appears.

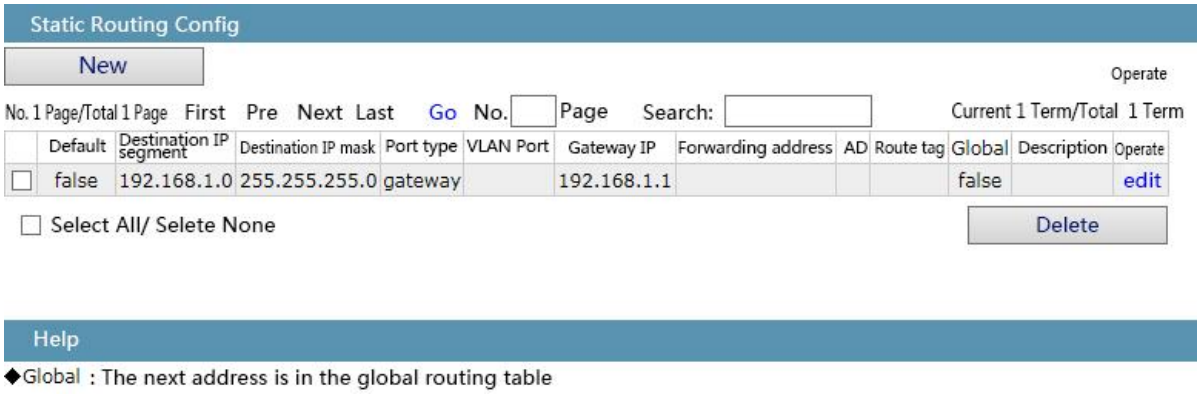


Figure 4: configure Static Routing

Click **New** to add a new static routing table.

Click **Modify** to modify the settings of a corresponding static routing table.

Click **Cancel** to delete a static routing table.

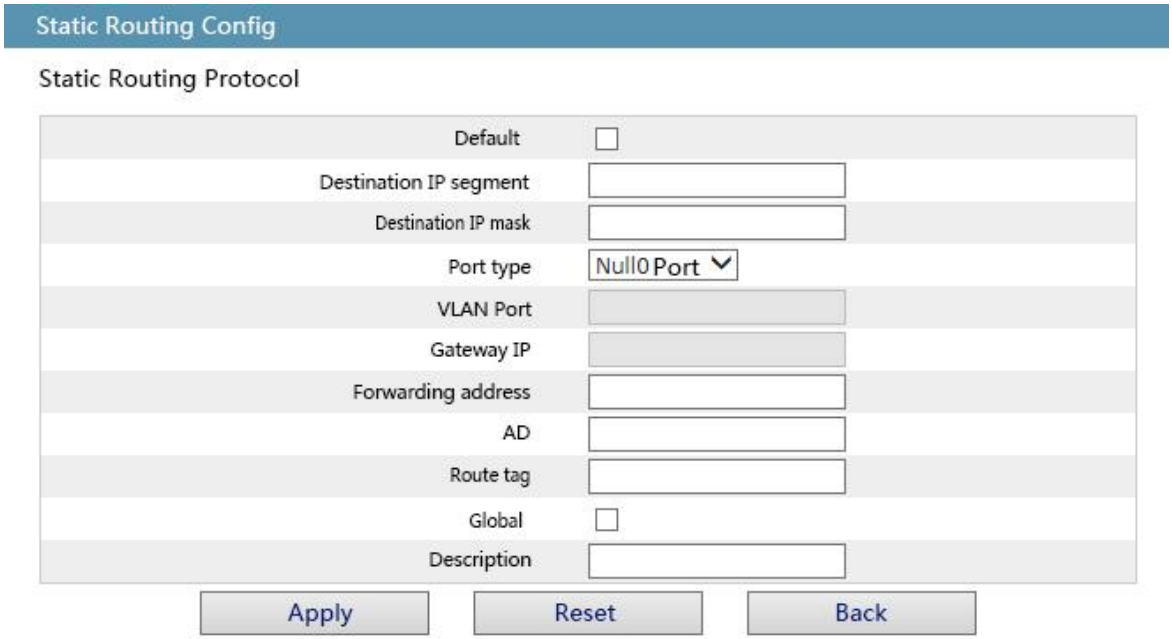


Figure 5: Static Routing configuration

Chapter 7 Advanced Configuration

Figure 1 A list of advanced configuration

7.1 QoS Configuration

7.1.1 Configuring QoS Port

If you click **Advanced Config -> QoS -> Configure QoS Port,** the **Port Priority Config** page appears.

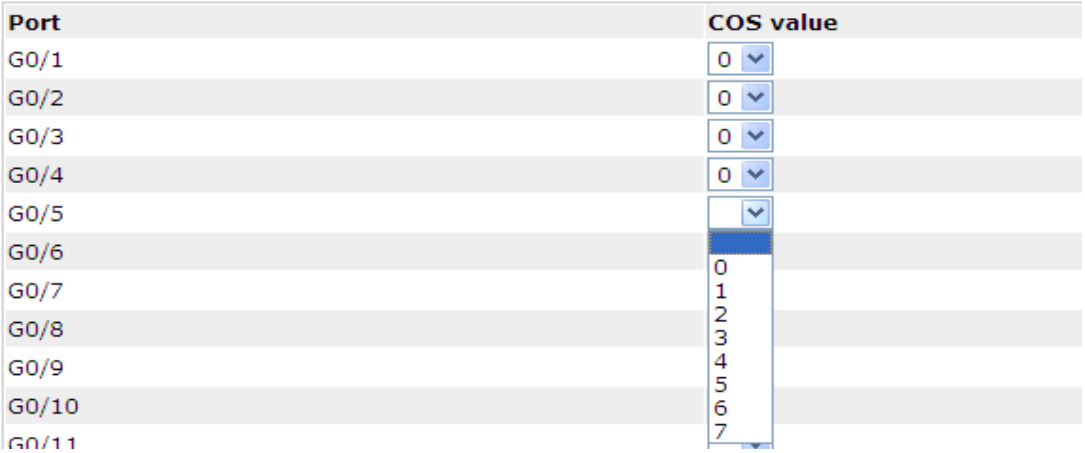


Figure 2 Configuring the QoS Port

You can set the CoS value by clicking the dropdown box on the right of each port and selecting a value. The default CoS value of a port is 0, meaning the lowest priority. If the CoS value is 7, it means that the priority is the highest.

7.1.2 Global QoS Configuration

If you click **Advanced Config -> QoS Config -> Global QoS Config**, the **Port's QoS parameter configuration** page appears.

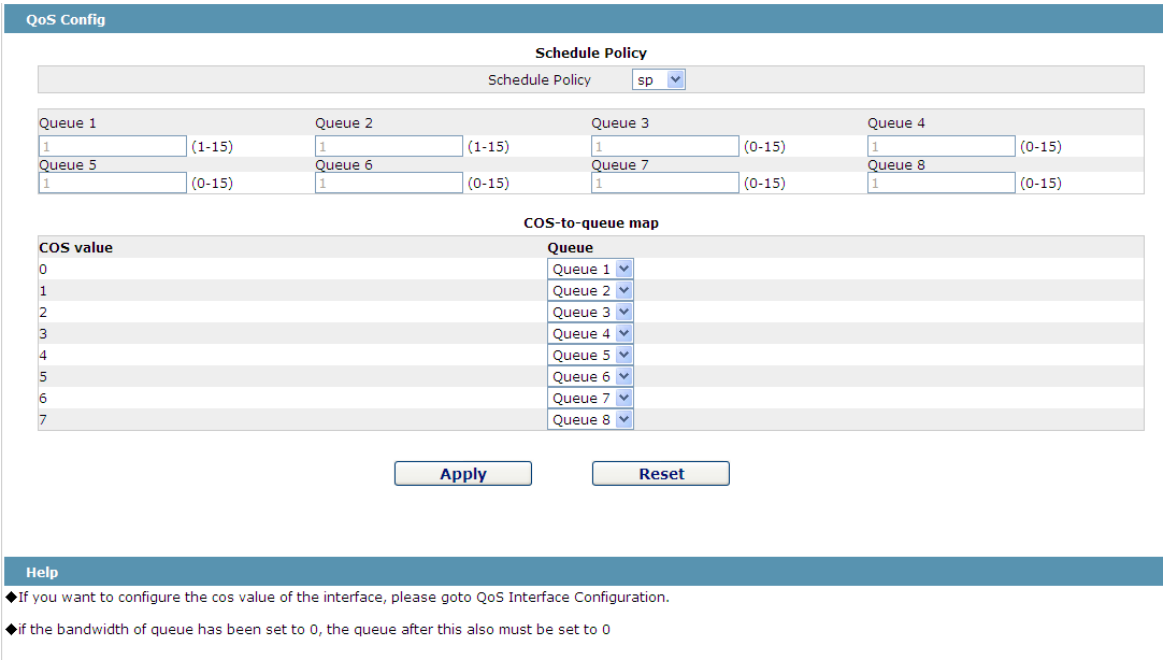


Figure 3 Configuring global QoS attributes

In WRR schedule mode, you can set the weights of the QoS queues. There are 4 queues, among which queue 1 has the lowest priority and queue 4 has the highest priority.

7.2 IP Access Control List

7.2.1 Setting the Name of the IP Access Control List

If you click **Advanced Config -> IP access control list -> IP access control list Config**, the IP ACL configuration page appears.

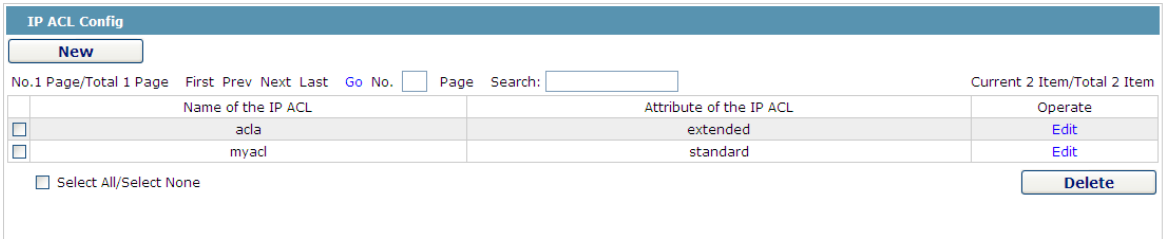


Figure 4: IP access control list configuration

Click **New** to add a name of the IP access control list. Click **Cancel** to delete an IP access control list.

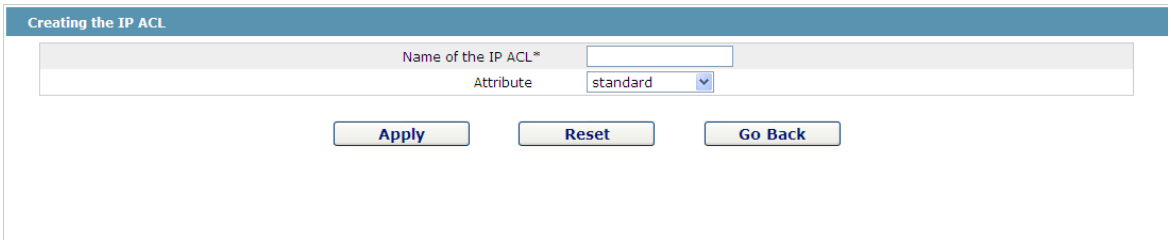


Figure 5: Creating a name of the IP access control list

If you click **Modify**, the corresponding IP access control list appears and you can set the corresponding rules for the IP access control list.

7.2.2 Setting the Rules of the IP Access Control List

- Standard IP access control list

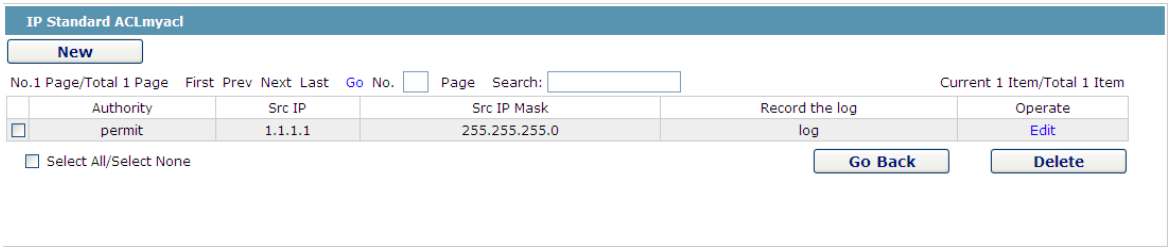


Figure 6: Standard IP access control list

Click **New** to add a rule of the IP access control list. Click **Cancel** to delete a rule of the IP access control list. If you click **Modify**, the corresponding IP access control list appears and you can set the corresponding rules for the IP access control list.

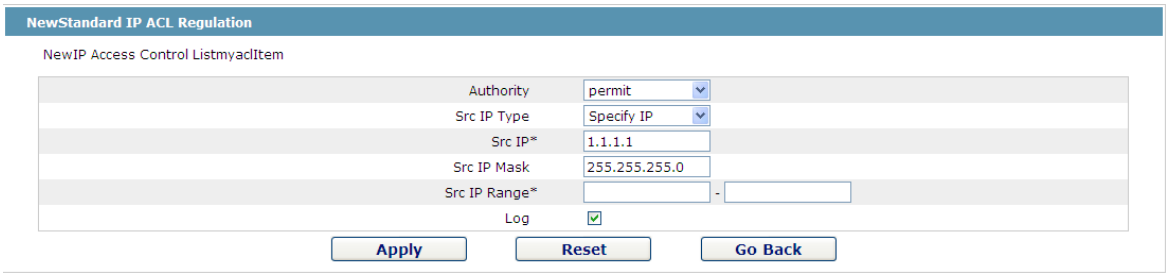


Figure 7: Setting the Rules of the standard IP access control list

- Extended IP access control list

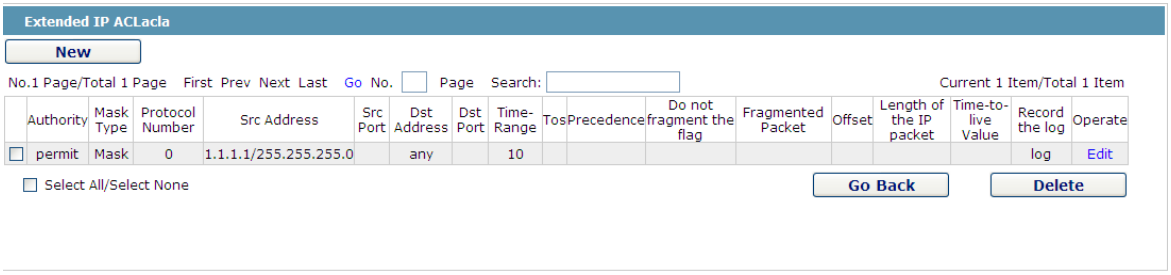


Figure 8: Extended IP access control list

Click **New** to add a rule of the IPaccess control list. Click **Cancel** to delete a rule of the IP access control list. If you click **Modify**, the corresponding IP access control list appears and you can set the corresponding rules for the IP access control list.

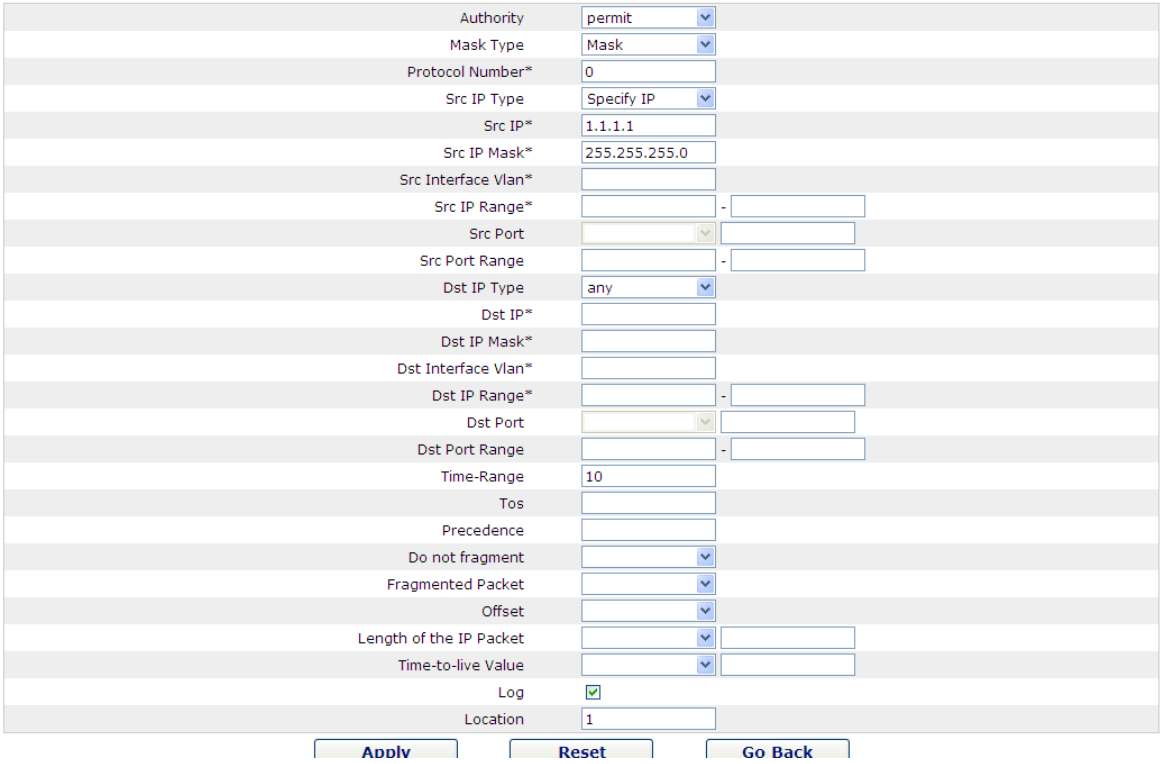


Figure 9: Setting the Rules of the extended IP access control list

7.2.3 Applying the IP Access Control List

If you click **Advanced Config -> IP access control list -> Applying the IP access control list**, the **Applying the IP access control list** page appears.

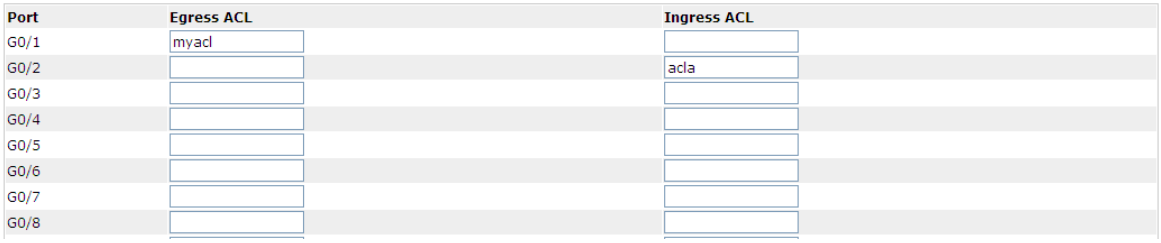


Figure 10: Applying the IP access control list

7.3 MAC Access Control List

7.3.1 Setting the Name of the MAC Access Control List

If you click **Advanced Config -> MAC access control list -> MAC access control list Config**, the MAC ACL configuration page appears.

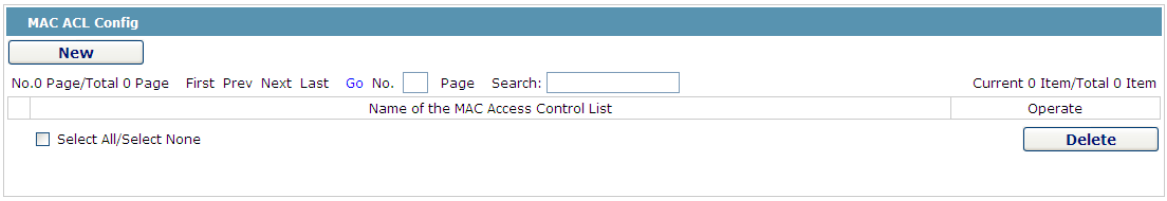


Figure 11: MAC access control list configuration

Click **New** to add a name of the MAC access control list. Click **Cancel** to delete a MAC access control list.

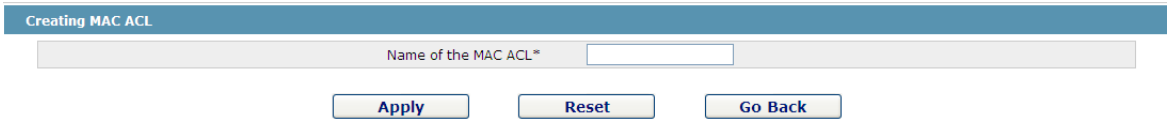


Figure 12: Setting the name of MAC access control list

7.3.2 Setting the Rules of the MAC Access Control List

If you click **Modify**, the corresponding MAC access control list appears and you can set the corresponding rules for the MAC access control list.

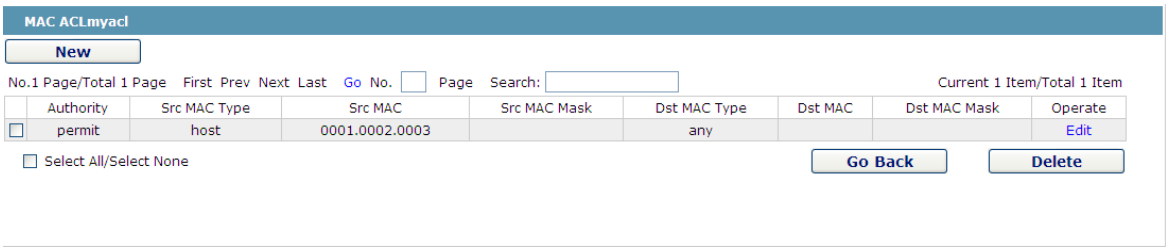


Figure 13: Specific MAC access control list configuration

Click **New** to add a rule of the MAC access control list. Click **Cancel** to delete a rule of the MAC access control list.

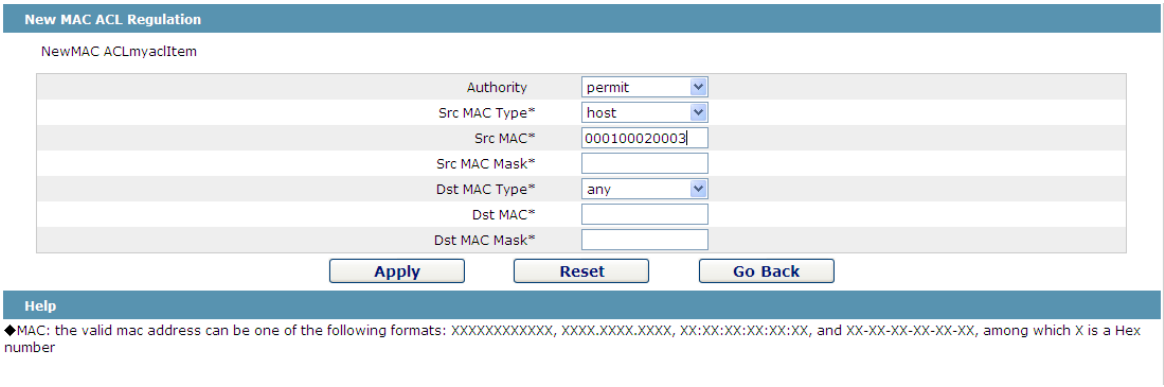


Figure 14: Setting the Rules of the MAC Access Control List

7.3.3 Applying the MAC Access Control List

If you click **Advanced Config -> MAC access control list -> Applying the MAC access control list**, the **Applying the MAC access control list** page appears.

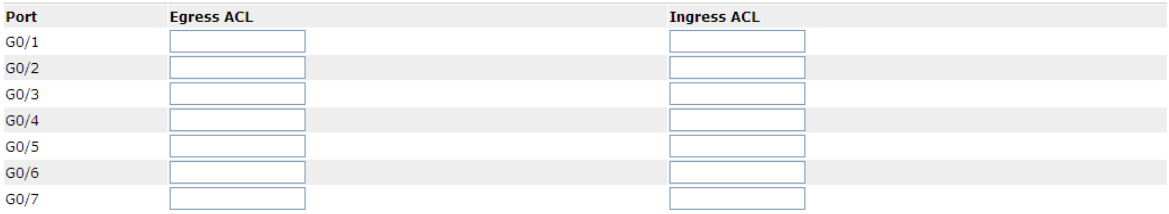


Figure 15: Applying the MAC access control list

Chapter 8 Network Management Configuration

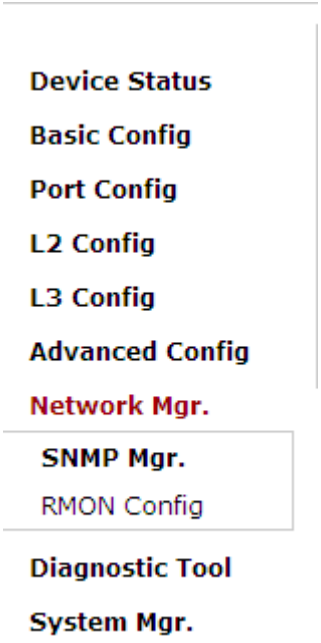


Figure 1: Network management configuration list

8.1 SNMP Configuration

If you click **Network management Config -> SNMP management** in the navigation bar, the **SNMP management** page appears, as shown in figure 2.

8.1.1 SNMP Community Management

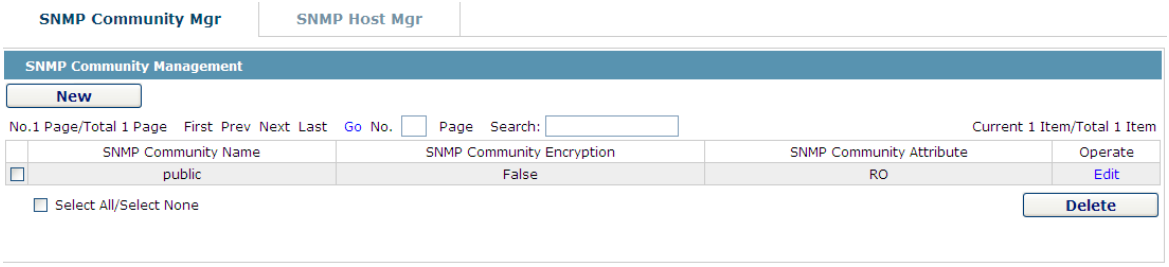


Figure 2 SNMP community management

On the SNMP community management page, you can know the related configuration information about SNMP community.

You can create, modify or cancel the SNMP community information, and if you click **New** or **Edit**, you can switch to the configuration page of SNMP community.

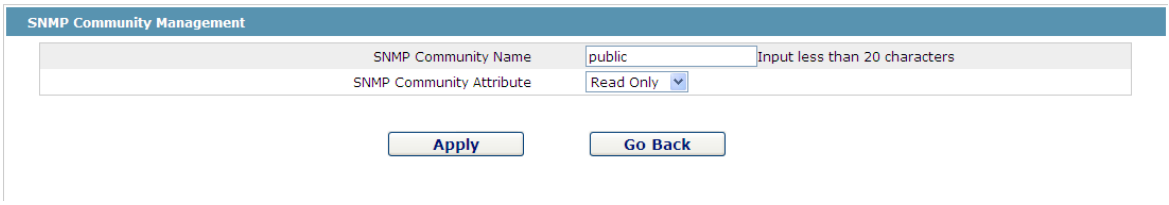


Figure 3 SNMP community management settings

On the SNMP community management page you can enter the SNMP community name, select the attributes of SNMP community, which include Read only and Read-Write.

8.1.2 SNMP Host Management

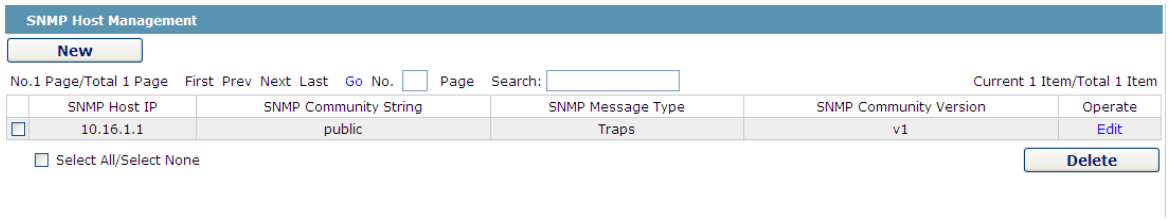


Figure 4 SNMP host management

On the SNMP community host page, you can know the related configuration information about SNMP host.

You can create, modify or cancel the SNMP host information, and if you click **New** or **Edit**, you can switch to the configuration page of SNMP host.

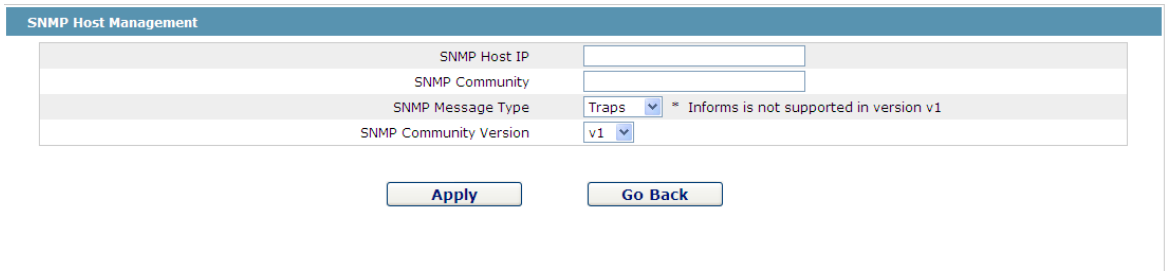


Figure 5 SNMP host management settings

On the SNMP host configuration page, you can enter **SNMP Host IP**, **SNMP Community**, **SNMP Message Type** and **SNMP Community Version**. **SNMP Message Type** includes **Traps** and **Informs**, and as to version 1, **SNMP Message Type** does not support **Informs**.

8.2 RMON

8.2.1 RMON Statistic Information Configuration

If you click **Network Management Config -> RMON -> RMON Statistics -> New**, the **RMON Statistics** page appears.

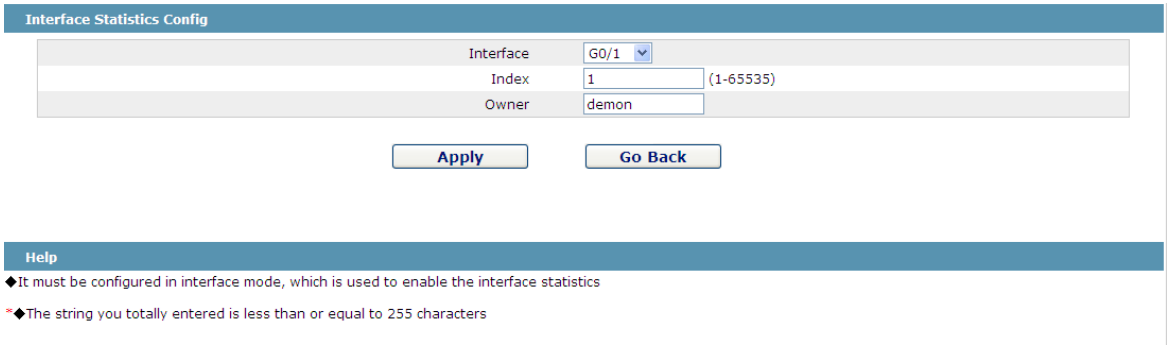


Figure 6 Configuring the RMON statistic information

You need to set a physical port to be the reception terminal of the monitor data.

The index is used to identify a specific interface; if the index is same to that of the previous application interface, it will replace that of the previous application interface.

At present, the monitor statistic information can be obtained through the command line “show rmon statistics”, but the Web does not support this function.

8.2.2 RMON History Information Configuration

If you click **Network Management Config -> RMON -> RMON history -> New**, the **RMON history** page appears.

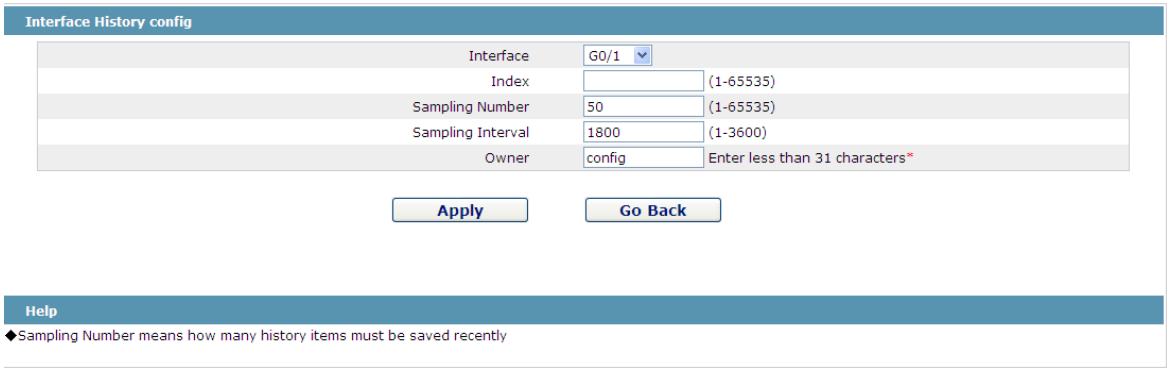


Figure 7 Configuring the RMON history information

You need to set a physical port to be the reception terminal of the monitor data.

The index is used to identify a specific interface; if the index is same to that of the previous application interface, it will replace that of the previous application interface.

The sampling number means the items that need be reserved, whose default value is 50.

The sampling interval means the time between two data collection, whose default value is 1800s.

At present, the monitor statistic information can be obtained through the command line “show rmon history”, but the Web does not support this function.

8.2.3 RMON Alarm Information Configuration

If you click **Network Management Config -> RMON -> RMON Alarm -> New**, the **RMON Alarm** page appears.

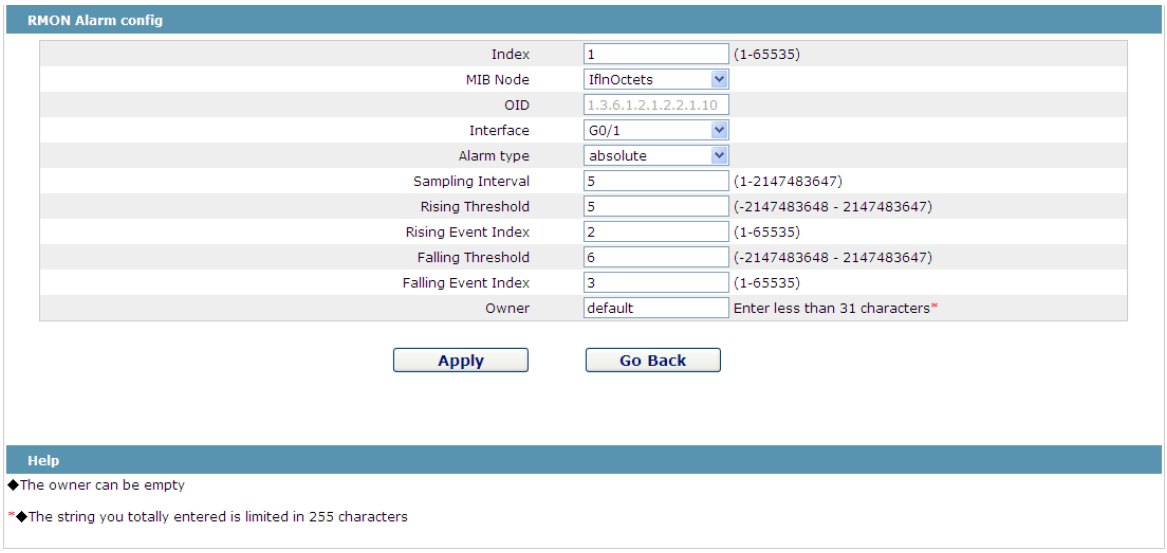


Figure 8 Configuring the RMON alarm information

The index is used to identify a specific alarm information; if the index is same to the previously applied index, it will replace the previous one.

The MIB node corresponds to OID.

If the alarm type is **absolute**, the value of the MIB object will be directly minitored; if the alarm type is **delta**, the change of the value of the MIB object in two sampling will be monitored.

When the monitored MIB object reaches or exceeds the rising threshold, the event corresponding to the index of the rising event will be triggered.

When the monitored MIB object reaches or exceeds the falling threshold, the event corresponding to the index of the falling event will be triggered.

8.2.4 RMON Event Configuration

If you click **Network Management Config -> RMON -> RMON Event -> New**, the **RMON event** page appears.

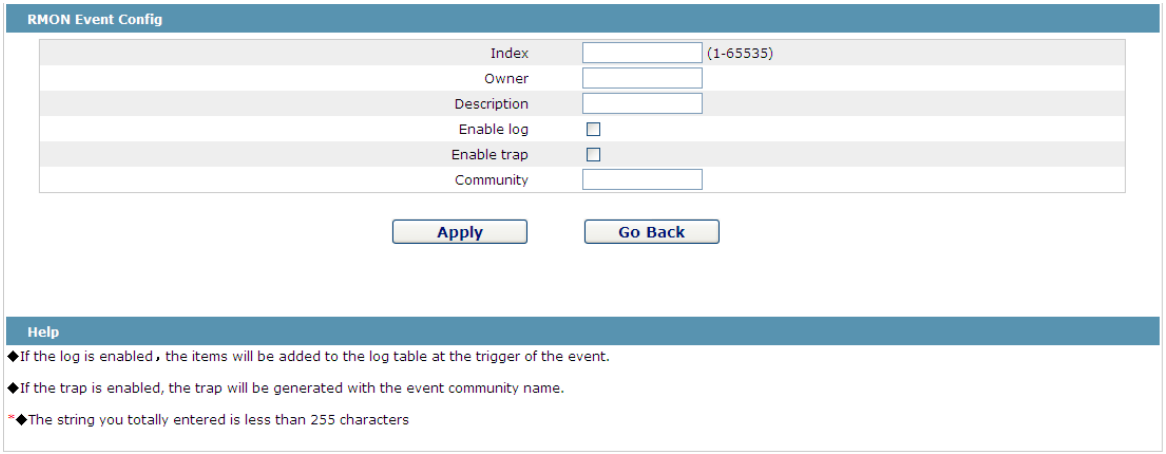


Figure 9 RMON event configuration

The index corresponds to the rising event index and the falling event index that have already been configured on the **RMON alarm config** page.

The owner is used to describe the descriptive information of an event.

"Enable log" means to add an item of information in the log table when the event is triggered.

“Enable trap” means a trap will be generated if the event is triggered.

Chapter 9 Diagnosis Tools

Figure 1: Diagnosis tool list

9.1 Ping

9.1.1 Ping

If you click **Diagnosis Tools -> Ping**, the **Ping** page appears.

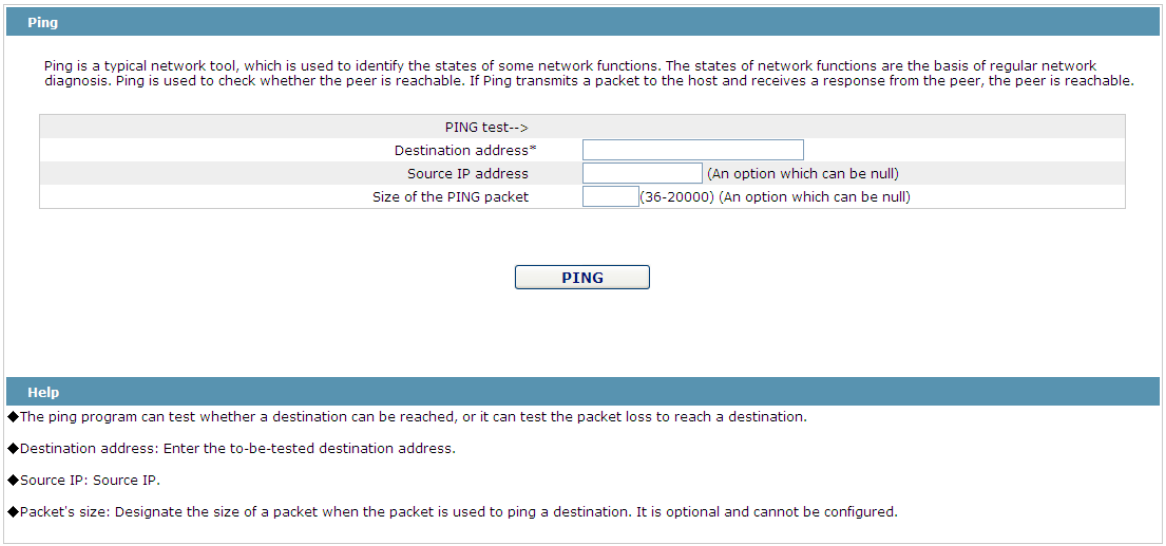


Figure 2 Ping

Ping is used to test whether the switch connects other devices.

If a Ping test need be conducted, please enter an IP address in the “Destination address” textbox, such as the IP address of your PC, and then click the “PING” button. If the switch connects your entered address, the device can promptly return a test result to you; if not, the device will take a little more time to return the test result.

“Source IP address” is used to set the source IP address which is carried in the Ping packet.

“Size of the PING packet” is used to set the length of the Ping packet which is transmitted by the device.

Chapter 10 System Management

Figure 1 Navigation list of system management

10.1 User Management

10.1.1 User List

If you click **System Manage -> User Manage**, the **User Management** page appears.

Figure 2 User list

You can click “New” to create a new user.

To modify the permission or the login password, click “Edit” on the right of the user list.

Note:
1. Please make sure that at least one system administrator exists in the system, so that you can manage the devices through Web.
2. The limited user can only browse the status of the device.

10.1.2 Establishing a New User

If you click “New” on the **User Management** page, the **Creating User** page appears.

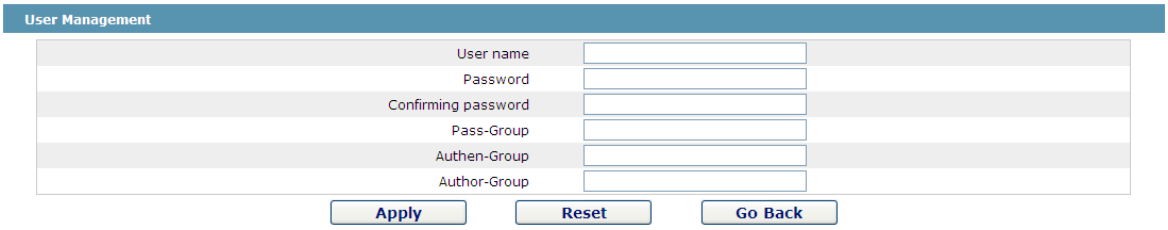


Figure 3 Creating new users

In the “User name” text box, enter a name, which contains letters, numbers and symbols except “?”, “\”, “&”, “#” and the “Space” symbol. \ “ & # and characters other than spaces.

In the “Password” textbox enter a login password, and in the “Confirming password” textbox enter this login password again.

In the “User permission” dropdown box set the user's permission. The “System administrator” user can browse the status of the device and conduct relevant settings, while the limited user can only browse the status of the device.

10.1.3 User Group Management

If you click **New** on the **User Mgr.** page, the **User Group Management** page appears.

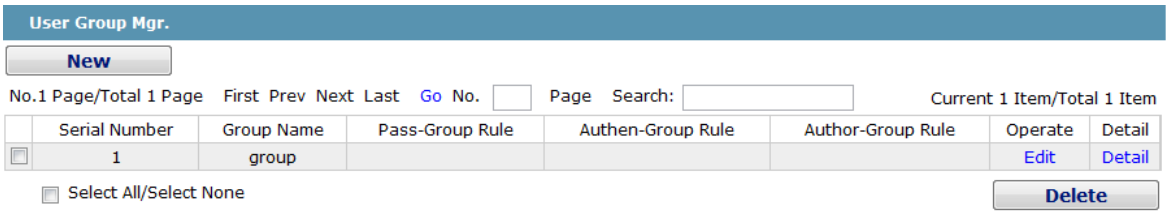


Figure 4 User group list

Click **New** to create a new user group.

Click **Delete** to delete the user group.

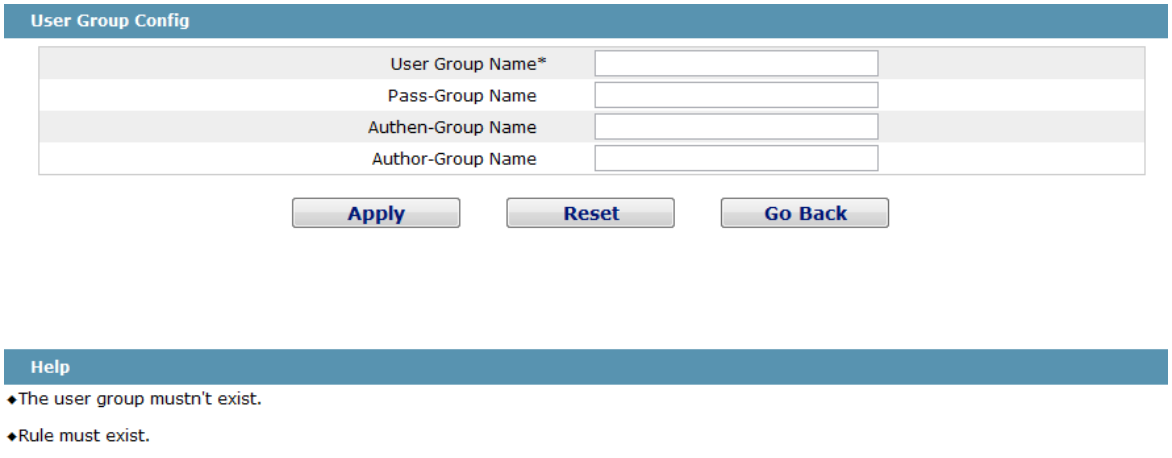


Figure 5 User group configuration

The User Group Name must be different with the existing group names. The user group cannot be created until the Pass-Group name, Authen-Group Name and Author-Group Name are specified. Configuring the Pass-Group name, Authen-Group Name and Author-Group Name in another 3 pages.

10.1.4 Password Group Management

Click **Pass-Group Mgr.** and the **Pass-Group Mgr.** page appears.

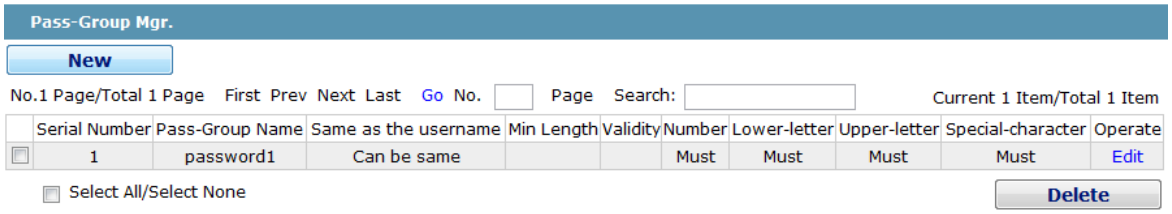
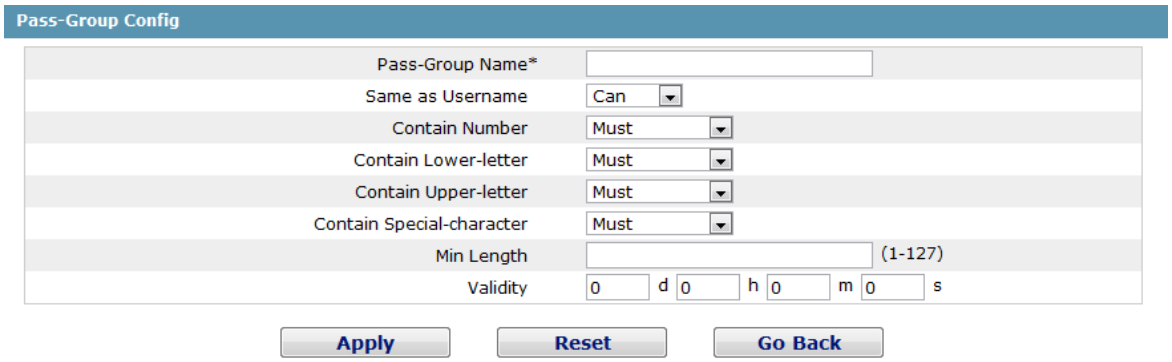


Figure 6 Password Group Management

Click **New** to create a new password rule.

Click **Delete** to delete the password rule.



In the Pass-Group Configuration, the password can be set whether to be same as Username, Contain Number, Contain Lower-letter, Contain Upper-letter, Contain Special-character, Min Length and validity.

The rule can be applied to the user management. The password is valid only when it conforms to the rule.

10.1.5 Authentication Group Configuration

Click **Authen-Group Mgr.** on the navigation bar, and **Authen-Group Mgr.** appears.

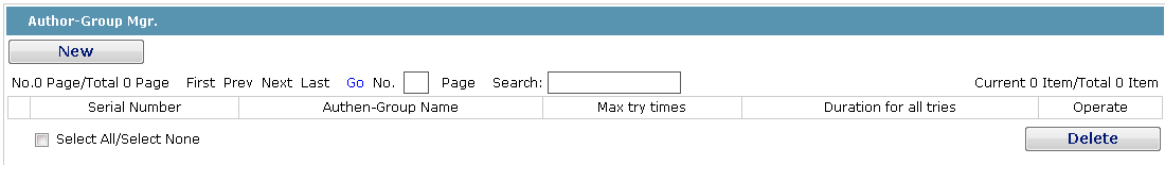
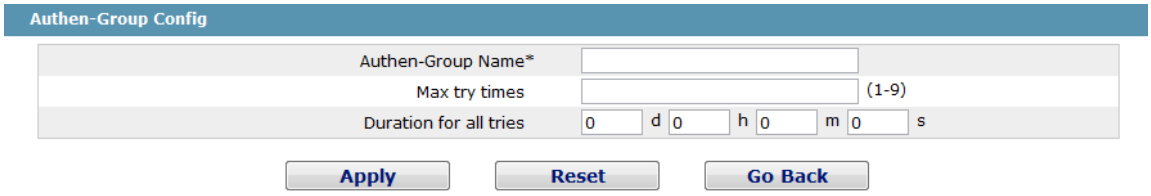
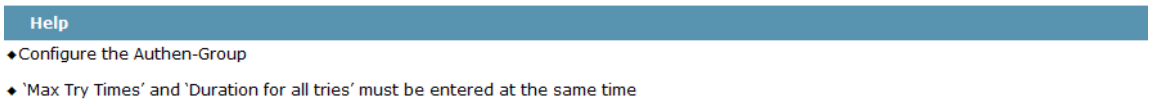


Figure 7 Pass Group Configuration

Click **New** to create a new authorization rule.

Click **Delete** to delete the authorization rule.





The **Max try times** and **Duration of all tries** can be configured or not. But they must be adjusted simultaneously.

10.1.6 Authorization Group Management

If you click **Author-Group Mgr.** and the **Author-Group Mgr.** page appears.

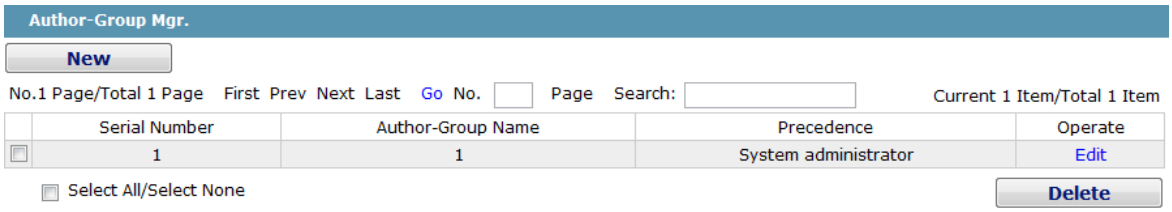


Figure 8 Author Group Management

Click **New** to create a new authorization rule.

Click **Delete** to delete the new authorization rule.

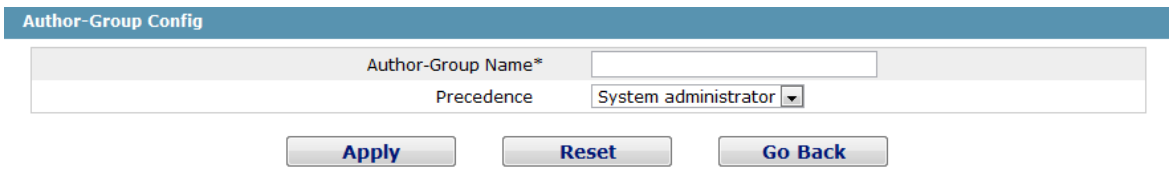


Figure 9 Author Group Configuration

The authorization rule determines the user's access: Administrator or Limited user. The **Administrator** has full access to the configuration and the **Limited user** only has access to check the configuration.

10.2 Log Management

If you click **System Manage -> Log Manage**, the **Log Management** page appears.

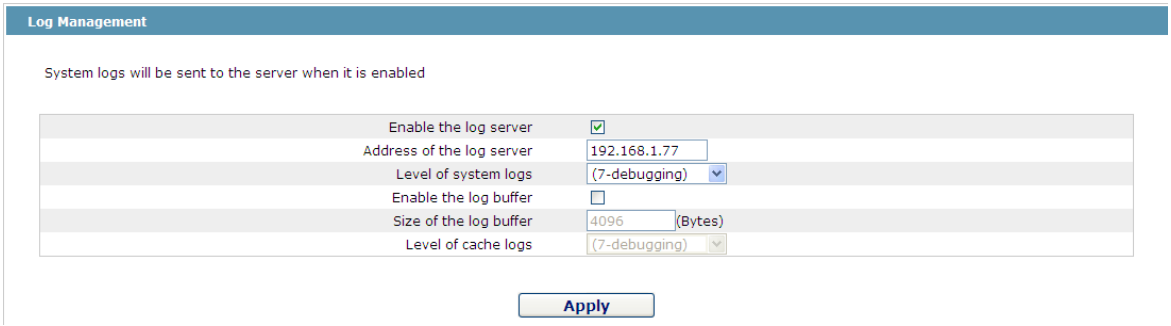


Figure 10 Log management

If "Enabling the log server" is selected, the device will transmit the log information to the designated server. In this case, you need enter the address of the server in the "Address of the system log server" textbox and select the log's grade in the "Grade of the system log information" dropdown box.

If "Enabling the log buffer" is selected, the device will record the log information to the memory. By logging on to the device through the Console port or Telnet, you can run the command "show log" to browse the logs which are saved on the device. The log information which is saved in the memory will be lost after rebooting. Please enter the size of the buffer area in the "Size of the system log buffer" textbox and select the grade of the cached log in the "Grade of the cache log information" dropdown box.

10.3 Managing the Configuration Files

If you click **System Manage -> Configuration file**, the **Configuration file** page appears.

10.3.1 Exporting the Configuration Information

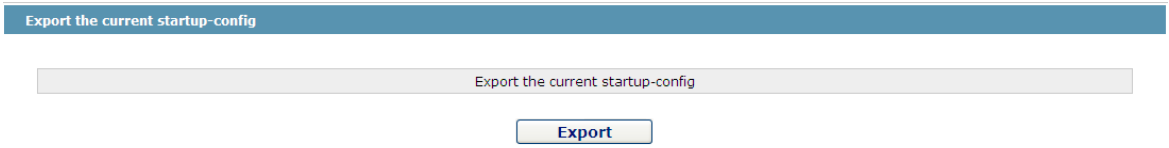


Figure 11 Exporting the configuration file

The current configuration file can be exported, saved in the disk of PC or in the mobile storage device as the backup file.

To export the configuration file, please click the “Export” button and then select the “Save” option in the pop-up download dialog box.

The default name of the configuration file is “startup-config”, but you are suggested to set it to an easily memorable name.

10.3.2 Importing the Configuration Information

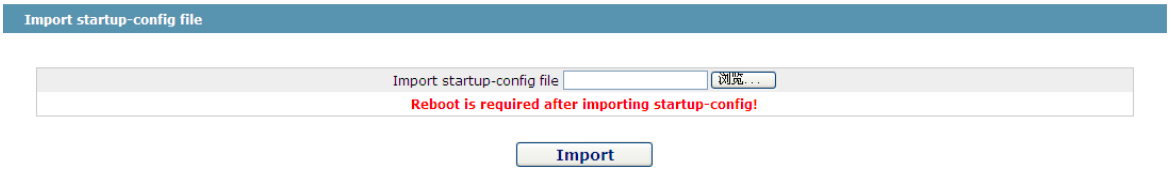


Figure 12 Importing the configuration files

You can import the configuration files from PC to the device and replace the configuration file that is currently being used. For example, by importing the backup configuration files, you can resume the device to its configuration of a previous moment.

Note:
1. Please make sure that the imported configuration file has the legal format for the configuration file with illegal format cannot lead to the normal startup of the device.
2. If error occurs during the process of importation, please try it later again, or click the “Save All” button to make the device re-establish the configuration file with the current configuration, avoiding the incomplete file and the abnormality of the device.
3. After the configuration file is imported, if you want to use the imported configuration file immediately, do not click “Save All”, but reboot the device directly.

10.4 Software Management

If you click **System Manage -> Software Upgrade**, the software management page appears.

10.4.1 Backing up the IOS Software

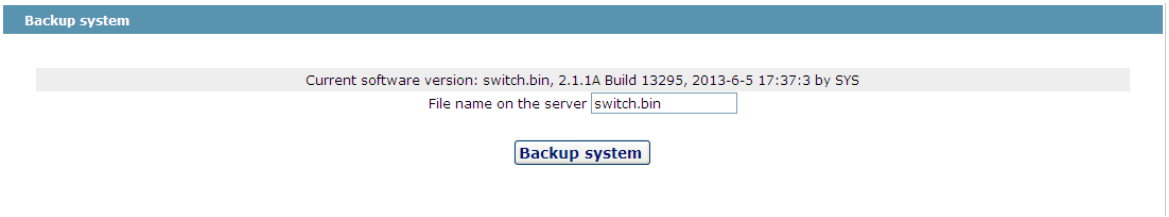


Figure 13 Backing up IOS

On this page the currently running software version is displayed. If you want to backup IOS, please click “Backuping IOS”; then on the browser the file download dialog box appears; click “Save” to store the IOS file to the disk of the PC, mobile storage device or other network location.

Note:

The default name of IOS document is “Switch.bin”. It is suggested to modify it as a name which is detectable and searchable when its backup is created.

10.4.2 Upgrading the IOS Software

Note:
1. Please make sure that your upgraded IOS matches the device type, because the matchable IOS will not lead to the normal startup of the device.
2. The upgrade of IOS probably takes one to two minutes; when the “updating” button is clicked, the IOS files will be uploaded to the device.
3. If errors occur during upgrade, please do not restart the device or cut off the power of the device, or the device cannot be started. Please try the upgrade again.
4. After the upgrade please save the configuration and then restart the device to run the new IOS.

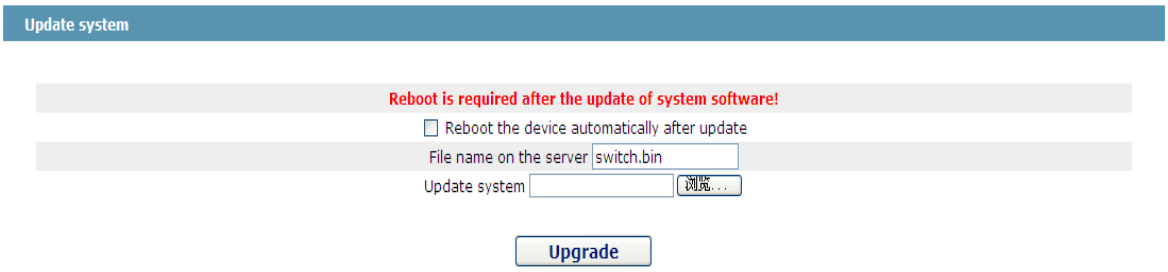


Figure 14 Upgrading the IOS software

The upgraded IOS is always used to solve the already known problems or to perfect a specific function. If you device run normally, do not upgrade your IOS software frequently.

If IOS need be upgraded, please first enter the complete path of the new IOS files in the textbox on the right of “Upgrading IOS”, or click the “Browsing” button and select the new IOS files on your computer, and then click “Updating”.

10.5 Rebooting the Device

If you click **System Manage -> Reboot Device**, the **Rebooting** page appears.

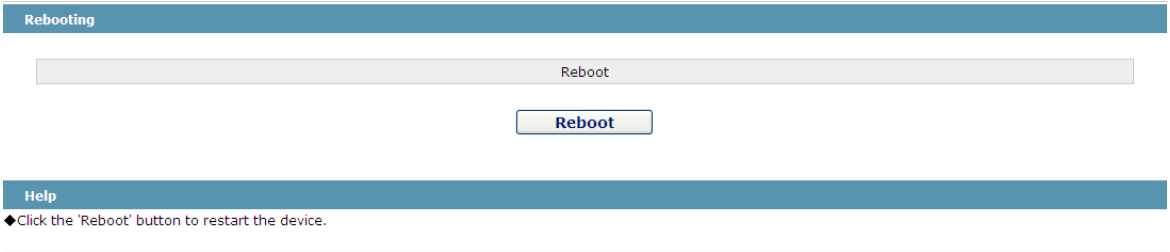


Figure 15 Rebooting the device

If the device need be rebooted, please first make sure that the modified configuration of the device has already been saved, and then click the “Reboot” button.