



## **ALL-SG8452M**

**48-Port Gigabit + 4-SFP Slots  
Web Smart Ethernet Switch**



## **User Manual**

Default-IP:

**192.168.2.1**

Default Username + Password:

**admin**

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# **Chapter 1 Product Introduction**

Congratulations for purchasing the Web Smart Ethernet Switch. Before you install and use this product, please read this manual carefully for full exploiting the functions of this product.

## **1.1 Product Overview**

This is 48 10/100/1000Mbps RJ45 ports + 4 100/1000Mbps SFP ports Ethernet Switch. The Switch provides the seamless network connection. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities in a highly flexible package. With 48-10/100/1000Mbps Auto-Negotiation RJ45 ports, all UTP ports support Auto MDI/MDIX function. The Switch with a low-cost, easy-to-use, high performance upgrade your old network to a 1000Mbps Gigabit network. It is essential to helping solve network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources.

The Switch is easy to install and use. It is a great selection for office network.

## **1.2 Features**

- Comply with IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3z, IEEE802.3ad standards
- Supports IEEE802.3x flow control for Full-duplex Mode and backpressure for Half-duplex Mode
- Supports MAC address auto-learning and auto-aging
- Store and forward mode operates
- Support SNMP/RMON/TELENET
- Supports IEEE802.1Q VLAN, 4K VLAN Table
- Support IEEE802.1p Priority Queues
- Support 2K+256-entry ingress and egress ACL
- Support Storm Control
- Support QoS, Port Mirroring, Link Aggregation Protocol
- LED indicators for monitoring power, link/activity, Speed
- Web-based Management Support
- Internal power adapter supply

## 1.3 External Component Description

### 1.3.1 Front Panel

The front panel of the Switch consists of 48 x 10/100/1000Mbps RJ-45 ports, 4 x 1000Mbps SFP ports, 1 x Console port, 1 x Reset button and a series of LED indicators as shown as below.



#### **10/100/1000Mbps RJ-45 ports (1~48):**

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding 10/100/1000Mbps LED.

#### **SFP ports (49~52):**

Designed to install the SFP module and connect to the device with a bandwidth of 100Mbps or 1000Mbps. Each has a corresponding 100/1000Mbps LED.

#### **Console port (Console):**

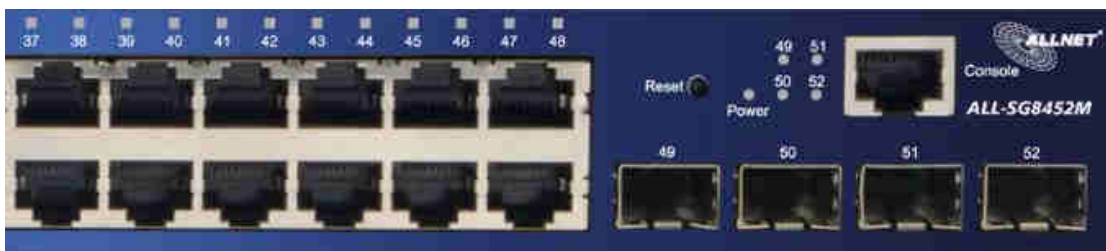
Designed to connect with the serial port of a computer or terminal for monitoring and configuring the Switch.

#### **Reset button (Reset):**

Keep the device powered on and press down the button for about 6 seconds. The system restores the factory default settings.

#### **LED indicators:**

The LED Indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the Switch, connection or attached devices.



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

| LED   | COLOR | STATUS | STATUS DESCRIPTION |
|-------|-------|--------|--------------------|
| Power | Green | On     | Power On           |
|       |       | Off    | Power Off          |

|                              |                        |          |                                      |
|------------------------------|------------------------|----------|--------------------------------------|
| LINK/ACT<br>/Speed<br>(1~48) | Orange<br>(10/100Mbps) | On       | A device is connected to the port    |
|                              | Green<br>(1000Mbps)    | Off      | A device is disconnected to the port |
|                              |                        | Flashing | Sending or receiving data            |
| SFP<br>(49~52)               | Green                  | On       | A device is connected to the port    |
|                              |                        | Off      | A device is disconnected to the port |
|                              |                        | Flashing | Sending or receiving data            |

### 1.3.2 Rear Panel

The rear panel of the Switch contains AC power connector and one marker shown as below.



#### AC Power Connector:

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

#### Grounding Terminal:

The Switch already comes with Lightning Protection Mechanism. You can also ground the Switch through the PE (Protecting Earth) cable of AC cord or with Ground Cable.

## 1.4 Environment

- Operating Temperature: 0°C~40°C
- Storage Temperature: -40°C~70°C
- Operating Humidity: 10%~90% non-condensing
- Storage humidity: 5%~90% non-condensing

## 1.5 Package Contents

Before installing the Switch, make sure that the following the "packing list" listed OK. If any part is lost and damaged, please contact your local agent immediately. In addition, make sure that you have the tools install Switches and cables by your hands.

- One Web Smart Ethernet Switch
- Four rubber feet, two mounting ears and eights screws
- One AC power cord
- One User Manual

## **Chapter 2 Installing and Connecting the Switch**

This part describes how to install your Web Smart Ethernet Switch and make connections to it. Please read the following topics and perform the procedures in the order being presented.

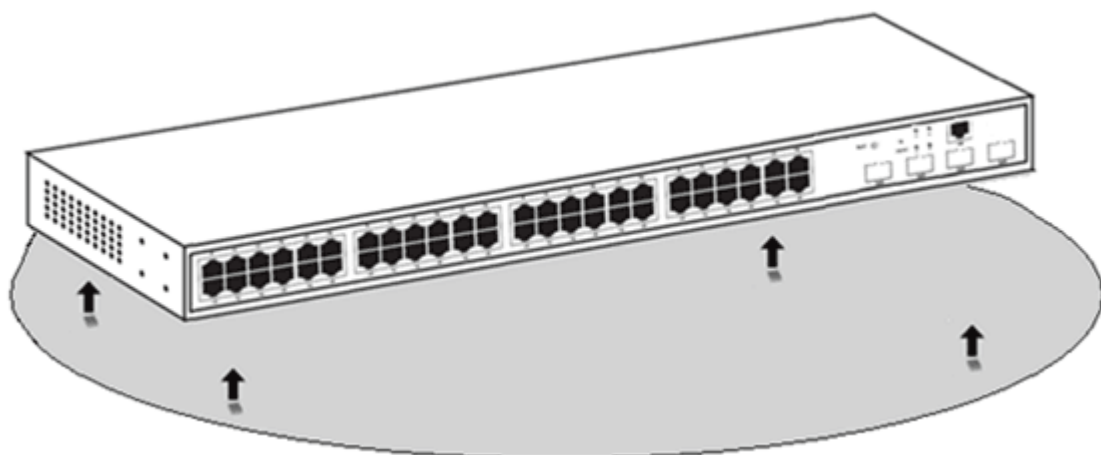
### **2.1 Installation**

Please follow the following instructions in avoid of incorrect installation causing device damage and security threat.

- Put the Switch on stable place or desktop in case of falling damage.
- Make sure the Switch works in the proper AC input range and matches the voltage labeled on the Switch.
- To keep the Switch free from lightning, do not open the Switch's shell even in power failure.
- Make sure that there is proper heat dissipation from and adequate ventilation around the Switch.
- Make sure the cabinet to enough back up the weight of the Switch and its accessories.

#### **2.1.1 Desktop Installation**

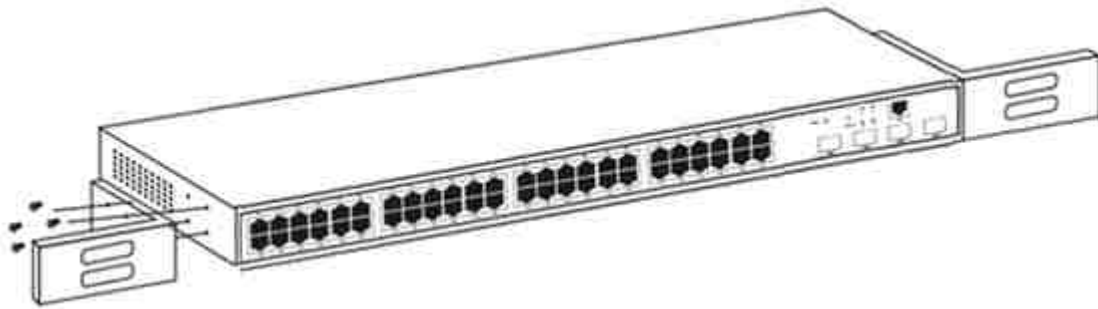
Sometimes users are not equipped with the 19-inch standard cabinet. So when installing the Switch on a desktop, please attach these cushioning rubber feet provided on the bottom at each corner of the Switch in case of the external vibration. Allow adequate space for ventilation between the device and the objects around it.



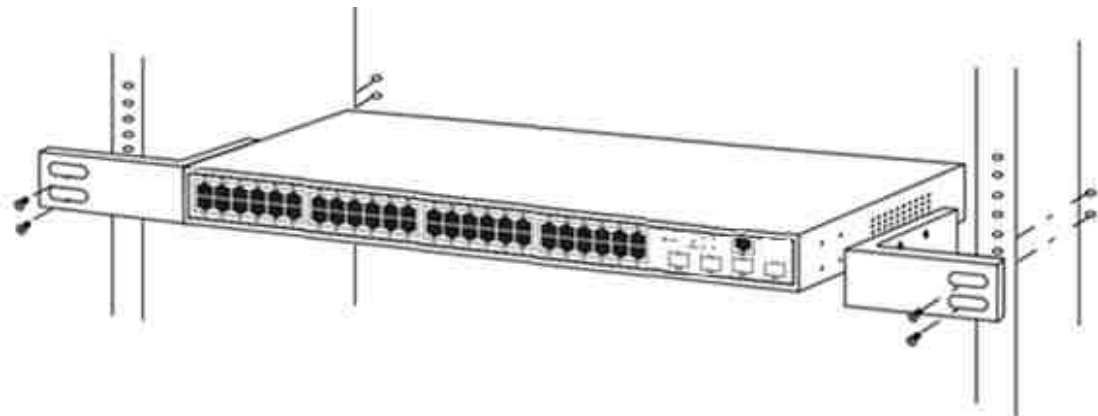
## 2.1.2 Rack-mountable Installation in 19-inch Cabinet

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

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



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



## 2.1.3 Power on the Switch

The Switch is powered on by the AC 100-240V 50/60Hz internal high-performance power supply. Please follow the next tips to connect:

### **AC Electrical Outlet:**

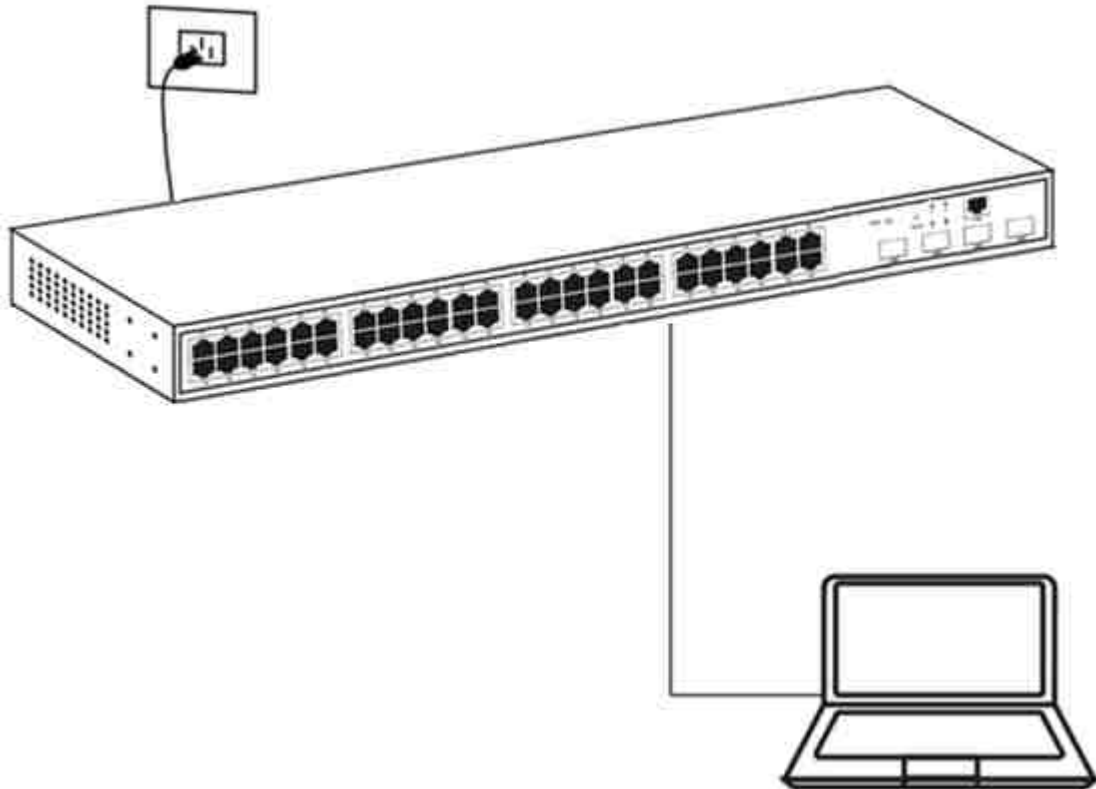
It is recommended to use single-phase three-wire receptacle with neutral outlet or multifunctional computer professional receptacle. Please make sure to connect the metal ground connector to the grounding source on the outlet.

### **AC Power Cord Connection:**

Connect the AC power connector in the back panel of the Switch to external receptacle with the included power cord, and check the power indicator is on or not. When it is on, it indicates the power connection is OK.

## 2.2 Connect Computer (NIC) to the Switch

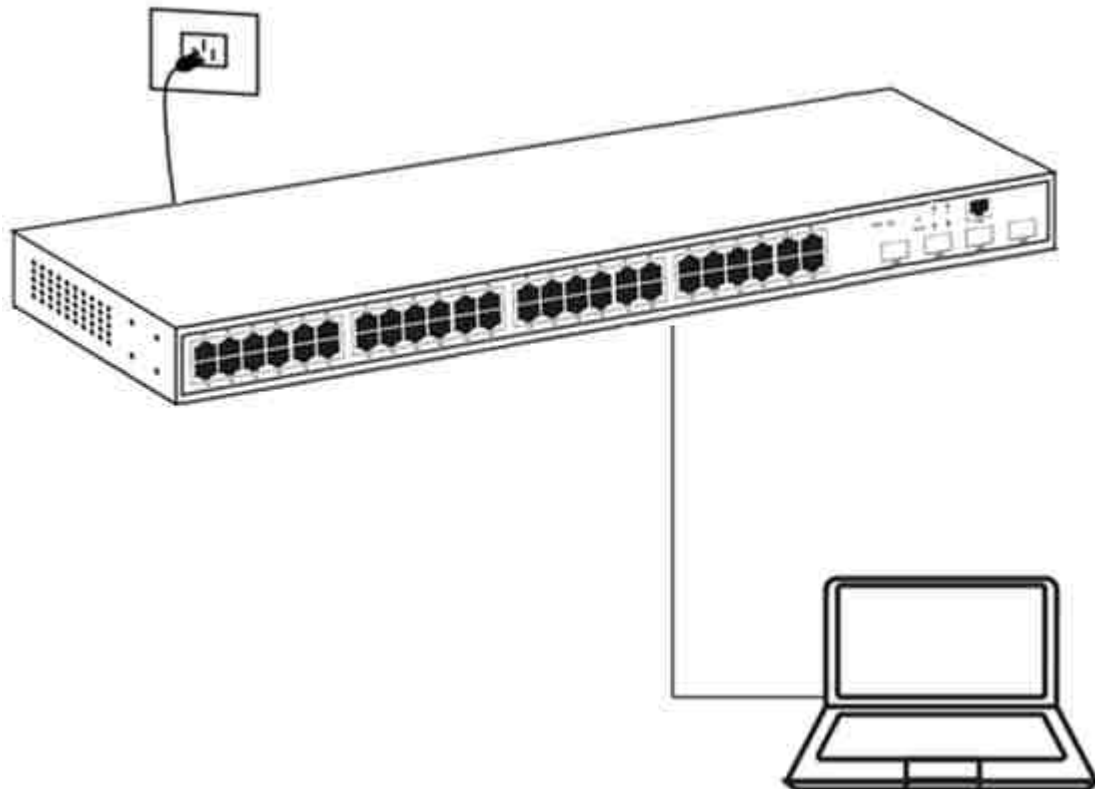
Please insert the NIC into the computer, after installing network card driver, please connect one end of the twisted pair to RJ-45 jack of your computer, the other end will be connected to any RJ-45 port of the Switch, the distance between Switch and computer is around 100 meters. Once the connection is OK and the devices are power on normally, the LNK/ACT/Speed status indicator lights corresponding ports of the Switch.



## **Chapter 3 How to Login the Switch**

### **3.1 Switch to End Node**

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



Please refer to the LED Indicator Specification. The LINK/ACT/Speed LEDs for each port lights on when the link is available.

### **3.2 How to Login the Switch**

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

| Parameter          | Default Value |
|--------------------|---------------|
| Default IP address | 192.168.2.1   |
| Default username   | admin         |
| Default password   | admin         |

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

1. Connect the Switch with the computer NIC interface.
2. Power on the Switch.
3. Check whether the IP address of the computer is within this network segment: 192.168.2.xxx ("xxx" ranges 2~254), for example, 192.168.2.100.
4. Open the browser, and enter http://192.168.2.1 and then press "Enter". The Switch login window appears.
5. Switching language to English. Enter the Username and Password (The factory default Username is **admin** and Password is **admin**), and then click "Login" to log in to the Switch configuration window as below.

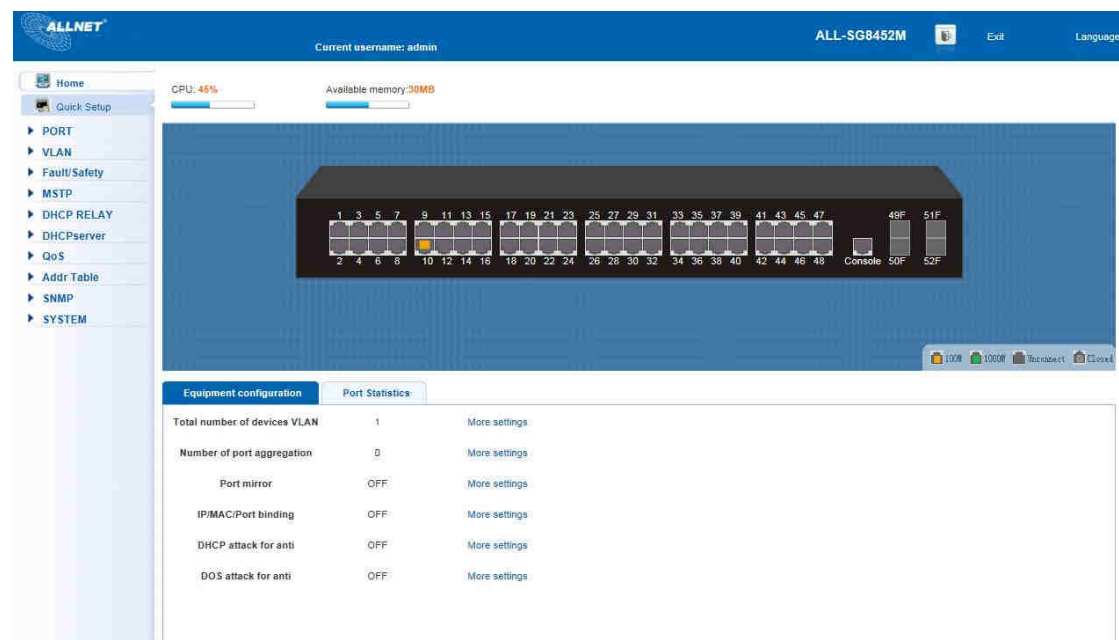


The image shows the login interface for the ALLNET ALL-SG8452M switch. At the top, there is a logo consisting of a blue satellite dish icon and the text "ALLNET® ALL-SG8452M". Below the logo is a small icon of three people and the text "USER LOGIN". A prompt "Please input user name and password !" is displayed. There are three input fields: "User Name:" followed by a text box, "Password:" followed by a text box, and "Language:" followed by a dropdown menu showing "English" with a downward arrow. At the bottom, there is a blue button labeled "LOGIN".

## Chapter 4 Switch Configuration

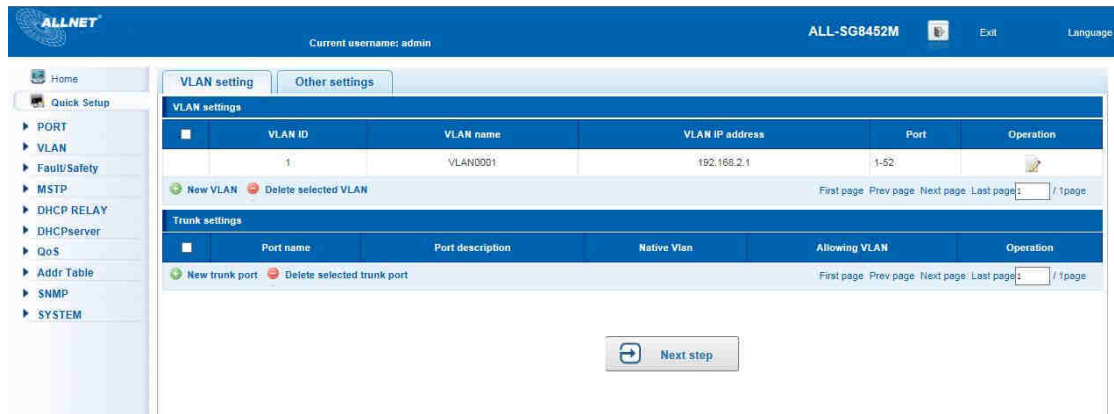
The Web Smart Ethernet Switch Managed switch software provides rich layer 2 functionality for switches in your networks. This chapter describes how to use Web-based management interface (Web UI) to this switch configure managed switch software features.

In the Web UI, the left column shows the configuration menu. Above you can see the information for switch system, such as memory, software version. The middle shows the switch's current link status. Green squares indicate the port link is up, while black squares indicate the port link is down. Below the switch panel, you can find a common toolbar to provide useful functions for users. The rest of the screen area displays the configuration settings.



### 4.1 Quickly setting

In the navigation bar to select **“Quick Setup”**, can create a VLAN in this module, add the port in the VLAN, set the basic information and modify the switch login password. The following picture:



### 【parameter description】

| Parameter   | Description                            |
|-------------|--|
| VLAN ID     | VLAN number, 48GE default VLAN 1       |
| VLAN name   | VLAN mark                              |
| Manage IP   | Manage the IP address of the VLAN      |
| device name | Switch name                            |
| Manage VLAN | Switches management in use of the VLAN |

### 【instructions】

**Native VLAN:** as a Trunk, the mouth will belong to a Native VLAN. The so-called Native VLAN, is refers to UNTAG send or receive a message on the interface, is considered belongs to the VLAN. Obviously, the interface of the default VLAN ID (PVID) in the IEEE 802.1 Q VLAN ID is the Native VLAN. At the same time, send belong to Native VLAN frame on the Trunk, must adopt UNTAG way.

**Allowed VLAN list:** a Trunk can transport the equipment support by default all the VLAN traffic (1-4094). But, also can by setting the permission VLAN Trunk at the mouth of the list to limit the flow of some VLAN can't through the Trunk.

### 【Configuration example】

- 1) VLAN setting: such as create VLAN 2 ,Sets the port 8 to Trunk ,Native VLAN 2

**VLAN setting** | **Other settings**

VLAN setting

VLAN ID: 2

VLAN name(1-32 character): VLAN0002

Choose to join the VLAN port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 |

Optional Not optional Selected Aggregation Trunk Tips : d

save quit

**VLAN setting** | **Other settings**

VLAN setting

VLAN ID: 1

new VLAN delete selected VLAN

Trunk settings

port name

new Trunk port delete selected Trunk port

**new Trunk port**

choose port to set up

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |

Optional Not optional Selected Aggregation Trunk Tips : drag to si

Native Vlan: 2

Allowing VLAN(such as 3-5,8,10): 1

save quit

2) Click "next step" button, into other settings, such as: manage IP address set as 192.168.2.11, device name set as switch-123 ,default gateway with the DNS server set as 172.16.1.241

**VLAN setting** | **Other settings**

device basic information

manage VLAN: 1

manage IP: 192.168.2.11

Subnet mask: 255.255.255.0

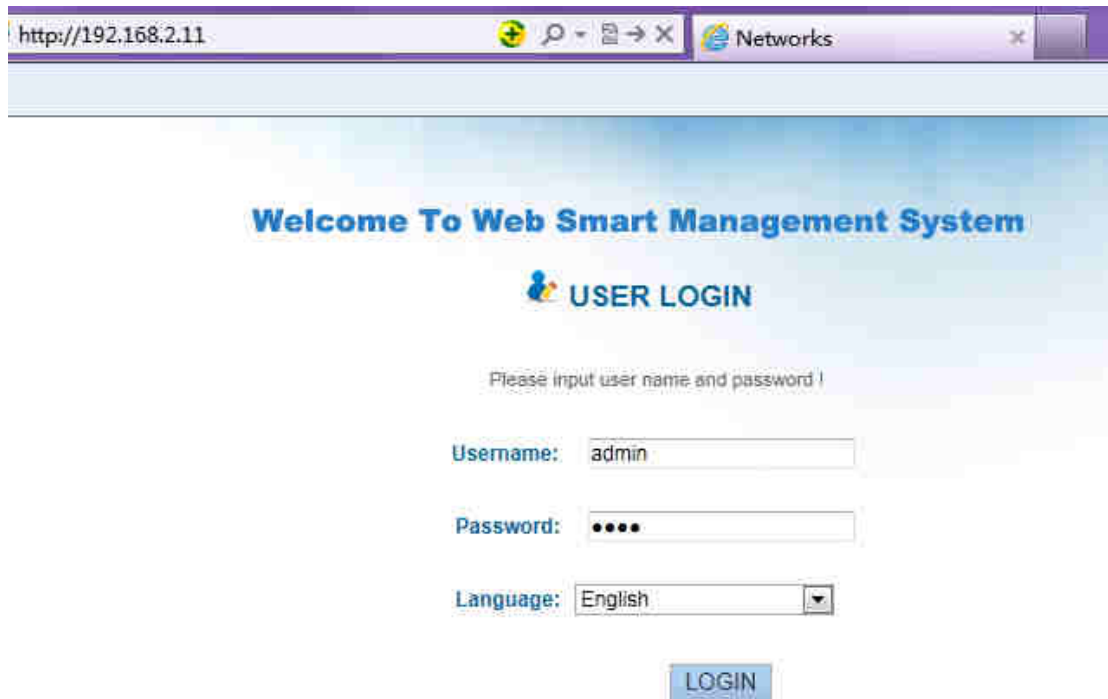
device name: Switch-123

default gateway: 192.168.2.22

DNS server: 172.16.1.241

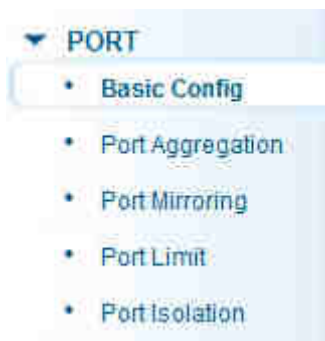
save settings

Use 192.168.2.11 to log in, set a new password for 1234



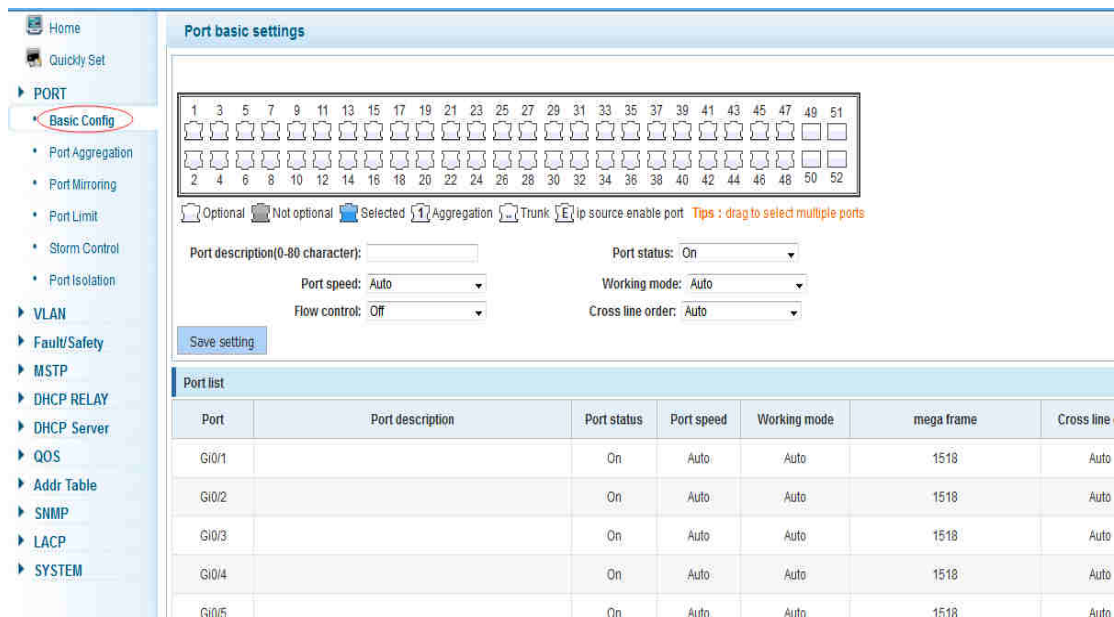
## 4.2 PORT

In the navigation bar to select **"PORT"**. You may conduct **basic config, port aggregation, port mirroring , port limit** and **port isolation**.



### 4.2.1 Basic config

In the navigation bar to select **"PORT>basic config"**. For panel port to port described, port speed, port status, working mode, flow control, cross line order configuration, the following picture:



### 【parameter description】

| parameter           | description   |
|---------------------|---|
| port                | Select the current configuration port number                                  |
| port status         | Choose whether to close link port   |
| flow control        | Whether open flow control   |
| port speed          | Can choose the following kinds:<br>Aggregation<br>10 M<br>100 M<br>1000 M     |
| working mode        | Can choose the following kinds:<br>Self negotiated<br>10 M<br>100 M<br>1000 M |
| port described      | The port is described   |
| Cross line sequence | Whether open intersection line sequence                                       |

### 【instructions】

Open flow control should be negotiated will close, negotiated close is to set port speed rate and working mode; Set the port rate more than actual rate of port, the port will be up.

### 【Configuration example】

Such as: The port is set to 10 M, half duplex, open flow control and cross line sequence and port state

**Port basic settings**

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 |

☐ Optional 
 ☐ Not optional 
 ☒ Selected 
 ☒ Aggregation 
 ☐ Trunk 
 ☒ IP source enable port 
 Tips : drag to select multiple ports

Port description(0-80 character): 
 Port status:

Port speed: 
 Working mode:

Flow control: 
 Cross line order:

## 4.2.2 Port aggregation

In the navigation bar to select **"PORT>port aggregation"**. In order to expand the port bandwidth or achieve the bandwidth of the redundancy backup, the following picture:

**Port aggregation**

Aggregate port number(1-8):

Please select the port to join the aggregate port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 |

☐ Optional 
 ☐ Not optional 
 ☒ Selected 
 ☒ Aggregation 
 ☐ Trunk 
 ☒ IP source enable port 
 Tips : drag to select multiple ports

**Port aggregation list**

| Aggregate port |
|----------------|
|                |

### 【parameter description】

| parameter        | description  |
|------------------|--|
| Aggregation port | 52GE switch can be set up eight link trunk group, group_1 to group_8                         |
| Member port      | For each of the members of the group and add your own port, and with members of other groups |

### 【instructions】

Open the port of the ARP check function, the port of the important device ARP, the port of the VLAN MAC function, and the monitor port in the port image can't be

added!

### 【Configuration example】

Such as: set the port 9, 10, for aggregation port 1, lets this aggregation port 1 connected to other switch aggregation port 1 to build switch links .

## 4.2.3 Port mirroring

In the navigation bar to select **“PORT>port mirroring”**, Open port mirror feature, All packets on the source port are copied and forwarded to the destination port, Destination port is usually connected to a packet analyzer to analyze the source port, Multiple ports can be mirrored to a destination port, the following picture:

### 【parameter description】

| parameter        | description   |
|------------------|---|
| Source port      | To monitor the port in and out of flow  |
| Destination port | Set destination port, All packets on the source port are copied and forwarded to the destination port |

|              |            |
|--------------|------------|
| Mirror group | Range :1-4 |
|--------------|------------|

**【instructions】**

The port of the aggregate port can not be used as a destination port and the source port, destination port and source port can not be the same.

**【Configuration example】**

Such as: set a mirror group for port 10 regulatory port 4, 6, 8 on and out flow conditions

**Port Mirroring**

Mirror group number(1-4) : 3

Please choose the source port:(Allow multiple ports to select, Too much of the source port will be filtered out)

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |

Optional Not optional Selected 1 Aggregation Trunk Eip source

Please choose the destination port:(Can only choose one port)

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |

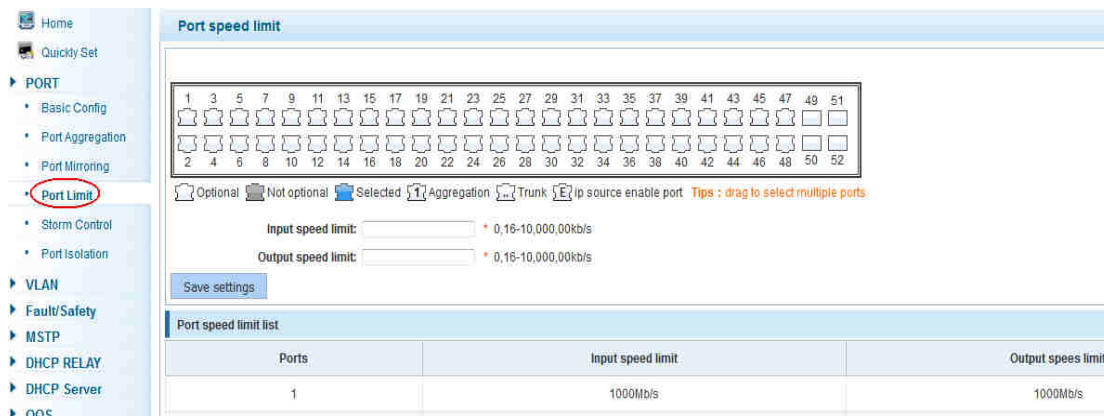
Optional Not optional Selected 1 Aggregation Trunk Eip source

Save edit Refresh

**4.2.4 Port rate-limit**

In the navigation bar to select **“PORT>port rate-limit”**.

To port output, input speed limit, the following picture:



### 【parameter description】

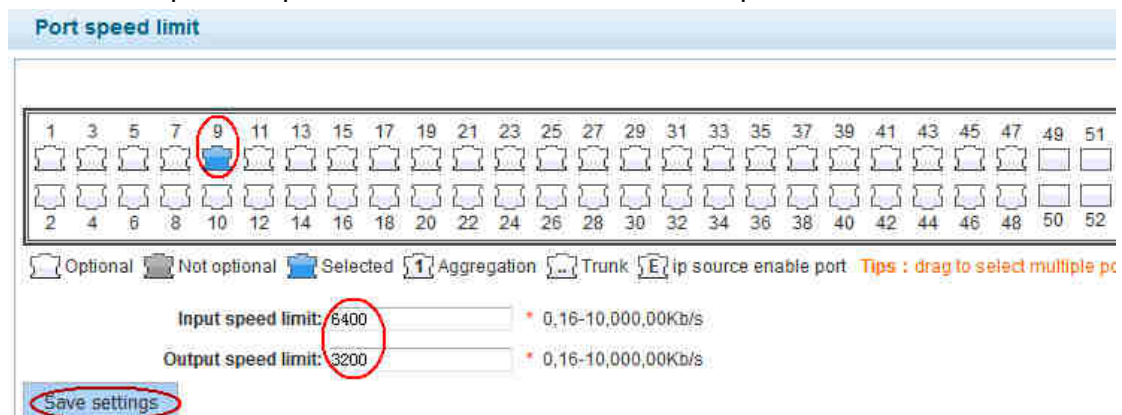
| parameter          | description           |
|--------------------|-----------------------|
| Input speed limit  | Set port input speed  |
| Output speed limit | Set port output speed |

### 【instructions】

1 Mbit/s = 1000 Kbit/s = 1000 / 8 KB/s = 125 KB/s . That is, the theoretical rate of 1M bandwidth is 125KB/s .

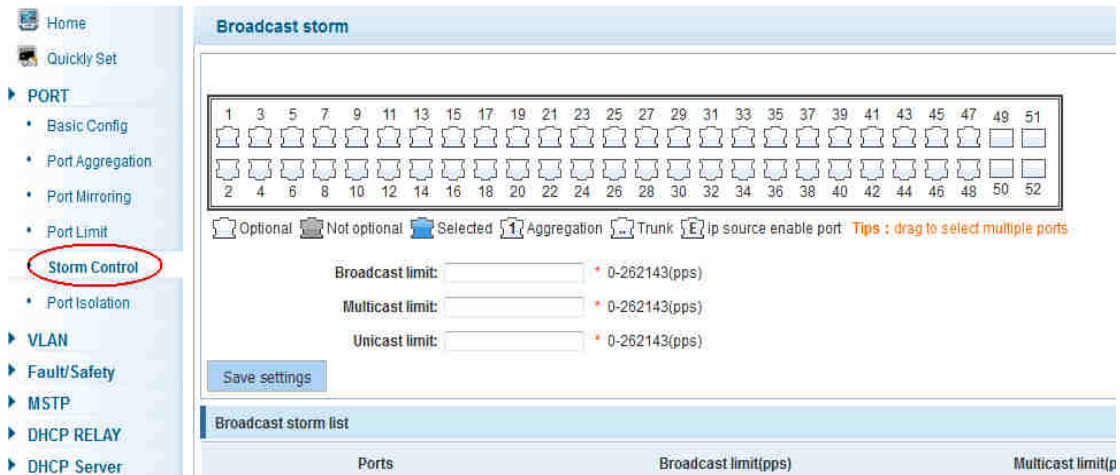
### 【Configuration example】

Such as: the port 9 input rate is set to 6400 KB/s, the output rate is set to 3200 KB/s



## 4.2.5 Storm control

In the navigation bar to select **“PORT>Storm control”**,  
To port storm control config, the following picture:



### 【parameter description】

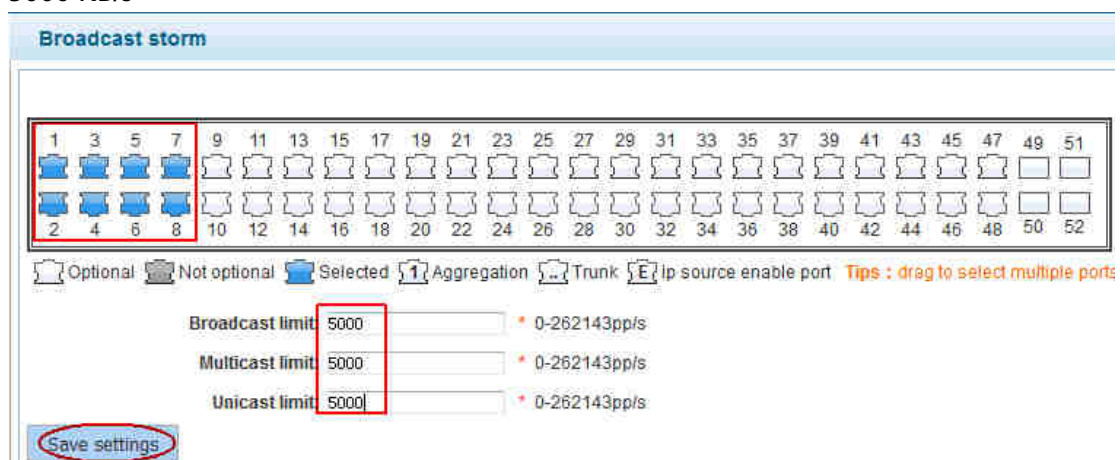
| parameter                   | description                                      |
|-----------------------------|--|
| Broadcast suppression value | Storm suppression value of the broadcast packets |
| Multicast suppression value | Storm suppression value of the multicast packets |
| Unicast suppression value   | Storm suppression value of the unicast packets   |

### 【instructions】

1 Mbit/s = 1000 Kbit/s = 1000 / 8 KB/s = 125 KB/s. That is, the theoretical rate of 1M bandwidth is 125KB/s.

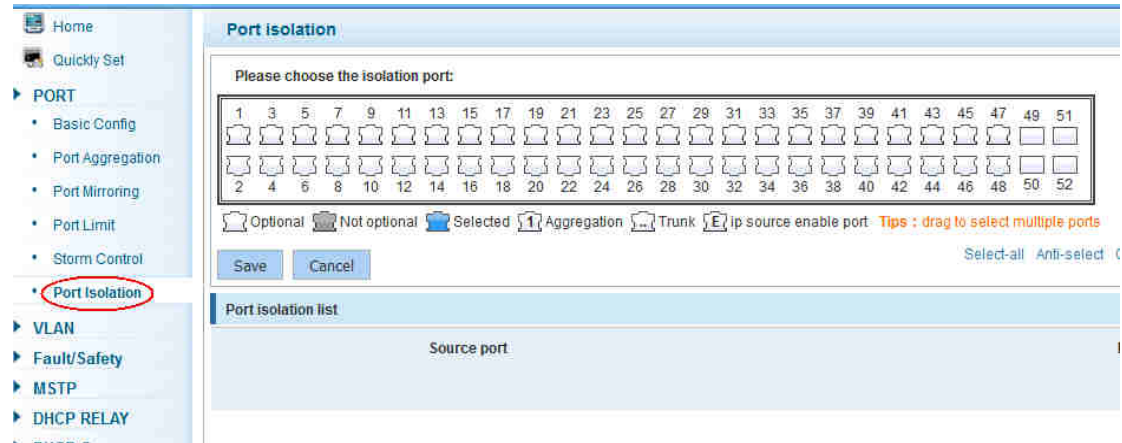
### 【Configuration example】

Such as: should be forwarded to the port 1-8 of all kinds of packet forwarding rate is 5000 KB/s



## 4.2.6 Port isolation

In the navigation bar to select **"PORT>port isolation"**, ports are isolated. The following picture:



### 【parameter description】

| parameter     | description                                   |
|---------------|---|
| Source port   | Choose a port, to configure the isolated port |
| Isolated port | Port will be isolated                         |

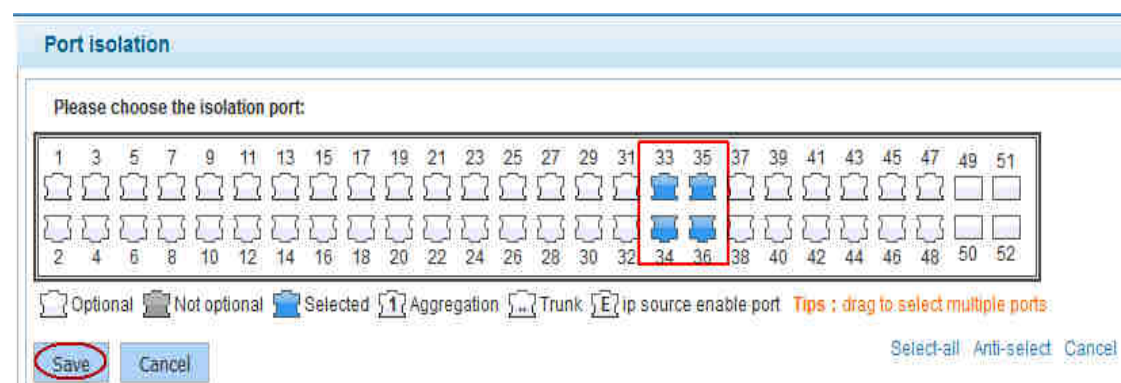
### 【instructions】

Open port isolation function, All packets on the source port are not forwarded from the isolated port, the selected ports are isolated.

Ports that have been added to the aggregate port aren't also capable of being a destination port and source port, destination port and source port cannot be the same

### 【Configuration example】

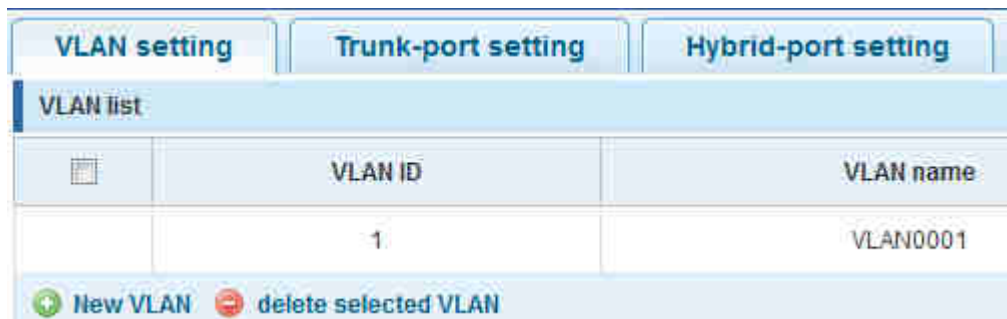
Such as: the port 3, 4, 5, and 6 ports are isolated



| Port isolation list |              |           |
|---------------------|--------------|-----------|
| Source port         | Isolate port | Operation |
| 33                  | 34 35 36     | ✗         |
| 34                  | 33 35 36     | ✗         |
| 35                  | 33 34 36     | ✗         |
| 36                  | 33 34 35     | ✗         |

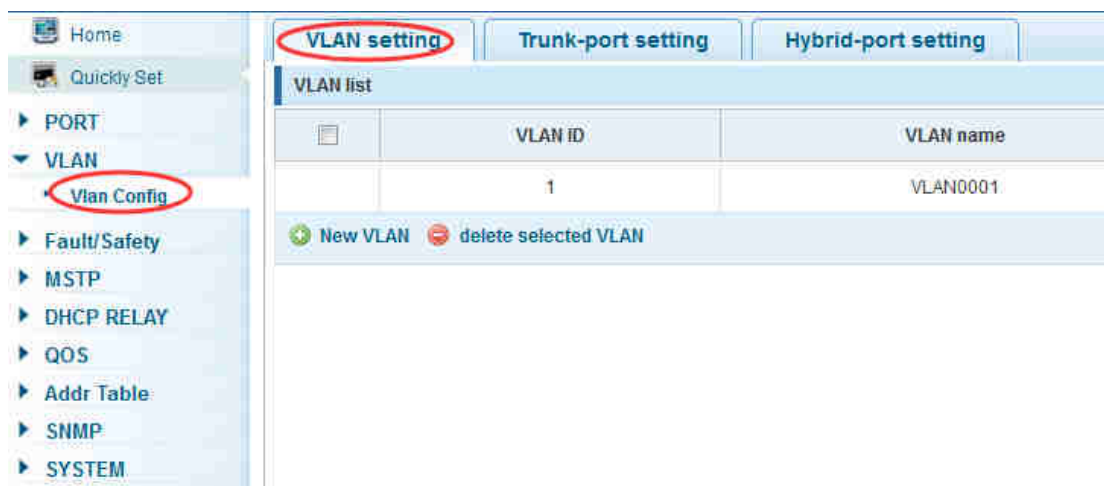
## 4.3 VLAN

In the navigation bar to select **"VLAN"**. You can manage the **VLAN config**, **Trunk Settings** and **Hybrid Settings**. The following picture:



### 4.3.1 VLAN config

In the navigation bar to select **"VLAN config"**. VLANs can be created and set the port to the VLAN (port default state for the access mode) ,the following picture



#### 【parameter description】

| parameter | description                     |
|-----------|---------------------------------|
| VLAN ID   | VLAN number,48GE default VLAN 1 |
| VLAN name | VLAN mark                       |

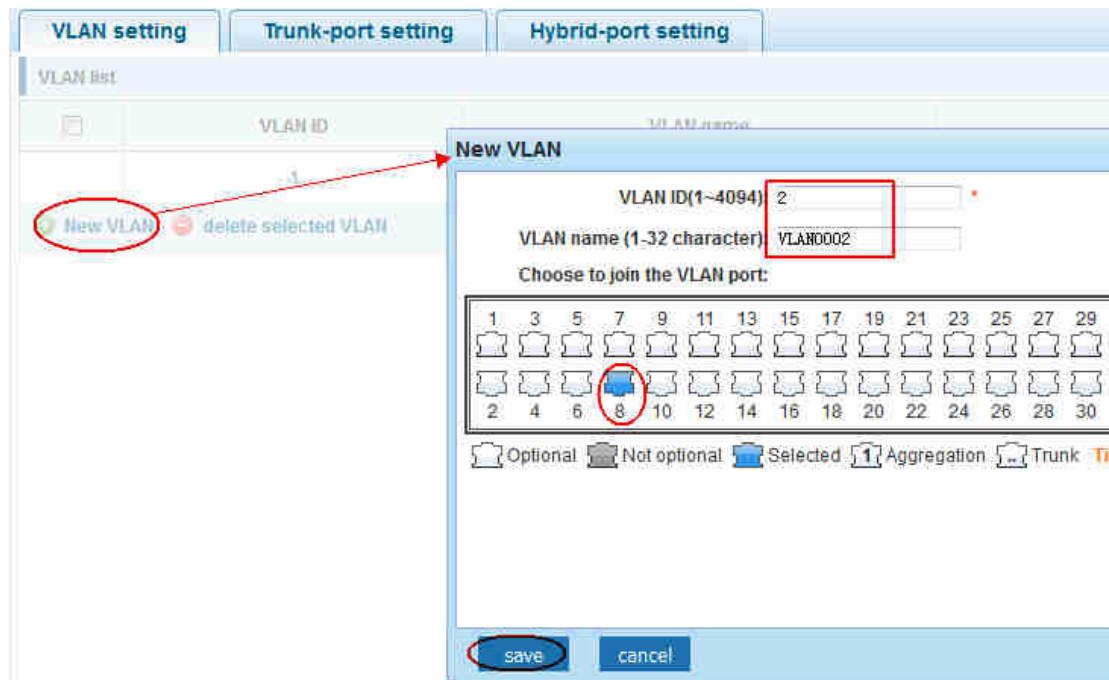
|                 |                          |
|-----------------|--------------------------|
| VLAN IP address | Manage switch ip address |
|-----------------|--------------------------|

### 【instructions】

Management VLAN, the default VLAN cannot be deleted. Add ports to access port, port access mode can only be a member of the VLAN.

### 【Configuration example】

Such as: connect switches pc1, pc2 couldn't ping each other, will be one of the PC connection port belongs to a VLAN 2



## 4.3.2 Trunk-port setting

In the navigation bar to select **“VLAN config>trunk-port setting”**, Can set port to Trunk port, the following picture:



### 【parameter description】

| parameter   | description  |
|-------------|--------------|
| Native VLAN | Only set one |

|               |                     |
|---------------|---------------------|
| Allowing VLAN | Can set up multiple |
|---------------|---------------------|

### 【instructions】

**Native VLAN:** as a Trunk, the mouth will belong to a Native VLAN. The so-called Native VLAN, is refers to UNTAG send or receive a message on the interface, is considered belongs to the VLAN. Obviously, the interface of the default VLAN ID (PVID) in the IEEE 802.1 Q VLAN ID is the Native VLAN. At the same time, send belong to Native VLAN frame on the Trunk, must adopt UNTAG way.

**Allowed VLAN list:** a Trunk can transport the equipment support by default all the VLAN traffic (1-4094). But, also can by setting the permission VLAN Trunk at the mouth of the list to limit the flow of some VLAN can't through the Trunk.

### 【Configuration example】

Such as: PVID=VLAN2

PC1: 192.168.2.122, port 8, access VLAN2

PC2: 192.168.2.123, port 9, Trunk allowed VLAN 1-2

PC3: 192.168.2.124, port 10, access VLAN1 (The default port belongs to VLAN1)

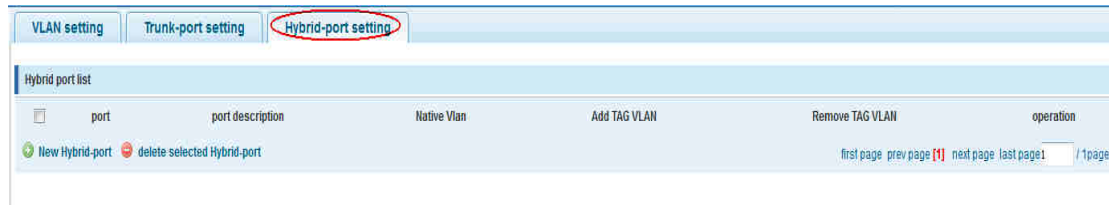
Can let the PC2 PING PC1, cannot PING PC3

The screenshot displays the 'VLAN setting' tab of a network configuration interface. The 'VLAN list' table shows two entries: VLAN 1 (VLAN0001) and VLAN 2 (VLAN0002). A red box highlights the 'port' column for VLAN 2, showing '8'. Below the table, there are buttons for 'New VLAN' and 'delete selected VLAN'. A red arrow points from the 'New Trunk-Port' button in the 'Trunk port list' section to a modal dialog box titled 'New Trunk-Port'.

The 'New Trunk-Port' dialog box contains a grid of port selection buttons (1-26). Port 9 is selected and highlighted with a red circle. Below the grid, there are radio buttons for 'Optional', 'Not optional', and 'Selected' (which is selected). There are also buttons for 'Aggregation' and 'Trunk'. The 'Native Vlan (1-4094):' field is set to '2', and the 'Allowing VLAN(such as 3-5,8,10):' field is set to '1-2'. At the bottom, there are 'save' and 'quit' buttons.

### 4.3.3 Hybrid-port setting

In the navigation bar to select **"VLAN config>hybrid-port setting"**, Can set the port to take the tag and without the tag ,the following picture:



#### 【instructions】

Hybrid port to packet:

Receives a packet, judge whether there is a VLAN information: if there is no play in port PVID, exchanged and forwarding, if have, whether the Hybrid port allows the VLAN data into: if can be forwarded, or discarded (untag on port configuration is not considered, untag configuration only work when to send it a message)

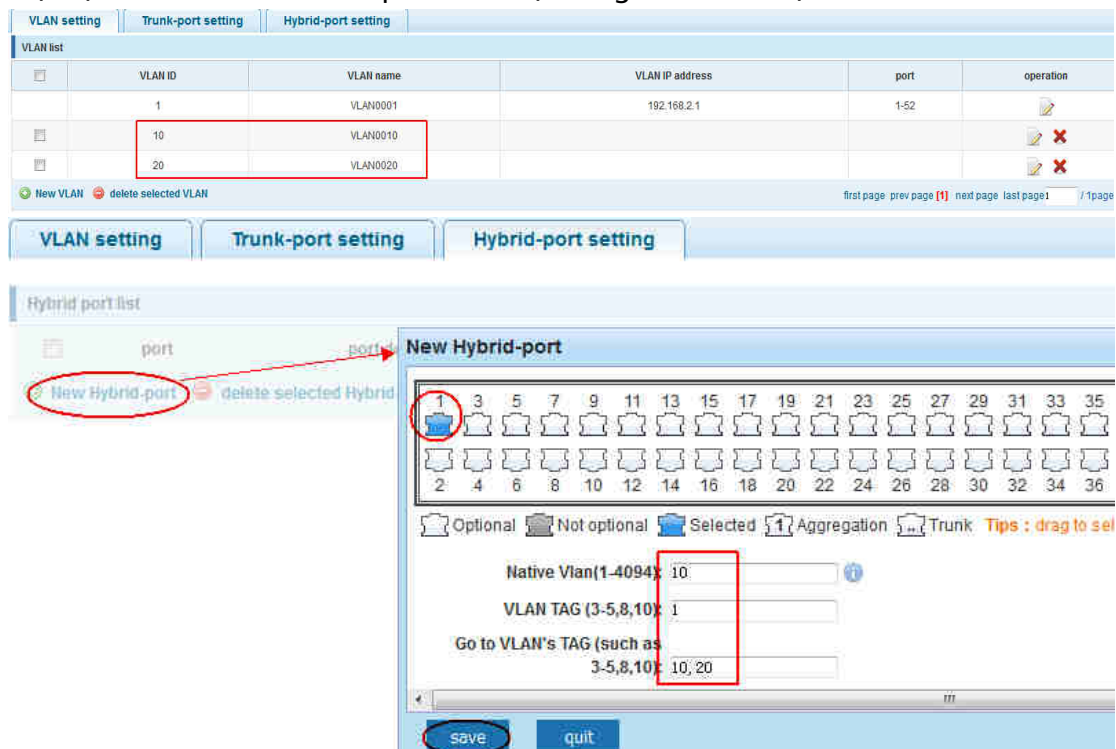
Hybrid port to send packet:

1, determine the VLAN in this port attributes (disp interface can see the port to which VLAN untag, which VLAN tag)

2, if it is untag stripping VLAN information, send again, if the tag is sent directly

#### 【Configuration example】

Such as: create vlans 10, 20, VLAN sets the Native VLAN port 1 to 10, to tag VLAN for 10, 20, sets the Native VLAN port 2 to 20, to tag VLAN for 10, 20



VLAN setting

Trunk-port setting

Hybrid-port setting

explain:

If a port is allowed to pass through a plurality of VLAN packets, and can set the packet to carry the VLAN header, the port is set to the Hybrid port.

Hybrid port list

|  | port | port description | Native Vlan | Add TAG VLAN | Remove TAG VLAN | operation |
|--|------|------------------|-------------|--------------|-----------------|-----------|
|  | 1    |                  | 10          | 1            | 10,20           |           |
|  | 2    |                  | 20          | 1            | 10,20           |           |

New Hybrid-port

delete selected Hybrid-port

first page

prev page

1

next page

last page

1

/ 1page

This system e0/1 and the receive system e0/2 PC can be exchanged, but when each data taken from a VLAN is different.

Data from the pc1, by inter0/1 pvid VLAN10 encapsulation VLAN10 labeled into switches, switch found system e0/2 allows 10 data through the VLAN, so the data is forwarded to the system e0/2, because the system e0/2 VLAN is untagged 10, then switches at this time to remove packet VLAN10 tag, in the form of ordinary package sent to pc2, pc1 -> pc2 is VLAN10 walking at this time

Again to analyze pc2 gave pc1 package process, data from the pc2, by inter0/2 pvid VLAN20 encapsulation VLAN20 labeled into switch, switch found system e0/1 allows VLAN by 20 data, so the data is forwarded to the system e0/1, because the system e0/1 on the VLAN is untagged 20, then switches remove packets on VLAN20 tag at this time, in the form of ordinary package sent to pc1, pc2 at this time -> pc1 is VLAN 20

## 4.4 Fault/Safety

In the navigation bar to select **“fault/safety”**. You can set **anti attack**、**channel detection** and **ACL access control** configuration。



### 4.4.1 Anti attack

#### 4.4.1.1 Anti DHCP attack

In the navigation bar to select **“fault/safety>anti attack>anti dhcp attack”**. Open the DHCP anti-attack function, intercepting counterfeit DHCP server and address depletion attack packets ban kangaroo DHCP server, the following picture:



### 【instructions】

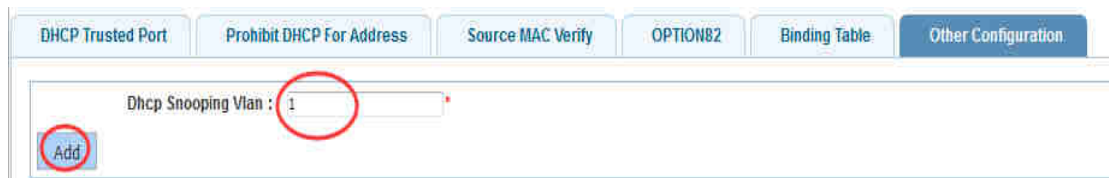
DHCP trusted port configuration. Select the port as a trusted port. Prohibit DHCP for address, select the port and save, you can disable this feature for the port.  
Open DHCP attack prevention function, need to set the DHCP protective vlan simultaneously, other functions to take effect.

### 【Configuration example】

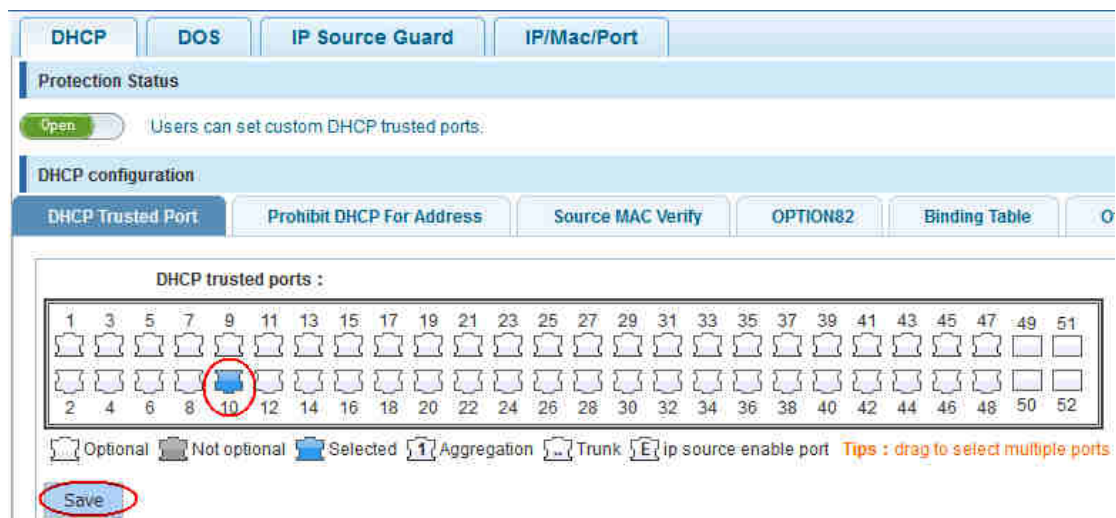
Such as: 1.dhcp snooping open



### 2.Setting dhcp snooping vlan



Set the connection router 10 ports for trust, then 12 port is set to the prohibit



DHCP Trusted Port    Prohibit DHCP For Address    Source MAC Verify    OPTION82

Prohibit DHCP port :

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |

☐ Optional    ☐ Not optional    ☒ Selected     Aggregation    ☐ Trunk     ip source enable port   

3. Verify source mac F0:DE:F1:12:98:D2, set server ip address to 192.168.2.1

DHCP Trusted Port    Prohibit DHCP For Address    Source MAC Verify    OPTION82    Binding Table    Other Configuration

Source MAC Verify Enable : ☒

Mac Address :

---

DHCP Trusted Port    Prohibit DHCP For Address    Source MAC Verify    OPTION82    Binding Table    Other Configuration

Dhcp Snooping Vlan :

Server IP address :

4. Set option82 information

DHCP Trusted Port    Prohibit DHCP For Address    Source MAC Verify    OPTION82    Binding Table    Other Configuration

Option82 Enable : ☒

Client Option82 Enable : ☒

Circuit Name :     VLAN ID :

---

Option82 Enable : ☒    Client Option82 Enable : ☒

Remote Name :     VLAN ID :

Option82 Enable : ☒

Client Option82 Enable : ☒

**Circuit control**   **Remote Agent**   **IP address**

IP Address : 192.168.2.37 \*   VLAN ID : 1 \*

**Add**

#### 5.The port 7 for binding

DHCP Trusted Port   Prohibit DHCP For Address   Source MAC Verify   OPTION82   **Binding Table**   Other Configuration

Mac Address : 00:01:15:09:37:35 \*

VLAN ID : 1 \*

Port Number : 7 \*

**add**

Dhcp Binding Binding Table

#### 4.4.1.2 Anti DOS

In the navigation bar to select **“fault/safety>anti attack>anti dhcp attack”**, Open the anti DOS attack function, intercept Land attack packets, illegal TCP packets, to ensure that the device or server to provide normal service to legitimate users.,the following picture:

**Anti DHCP Attack**   **Anti DOS**   IP Source Guard   Anti Three Bind

DOS attack protection

**explain:** Open the anti DOS attack function, intercept Land attack packets, illegal TCP packets, to ensure that the device or server to provide normal service to legitimate users.

**Closed**

#### 【instructions】

Open the anti DOS attack function, intercept Land attack packets, illegal TCP packets, to ensure that the device or server to provide normal service to legitimate users.

#### 【Configuration example】

Such as: Open the anti DOS attack function

**Anti DHCP Attack**   **Anti DOS**   IP Source Guard   Anti Three Bind

DOS attack protection

**explain:** Open the anti DOS attack function, intercept Land attack packets, illegal TCP packets, to ensure that the device or server to provide normal service to legitimate users.

**Open**

### 4.4.1.3 IPsource guard

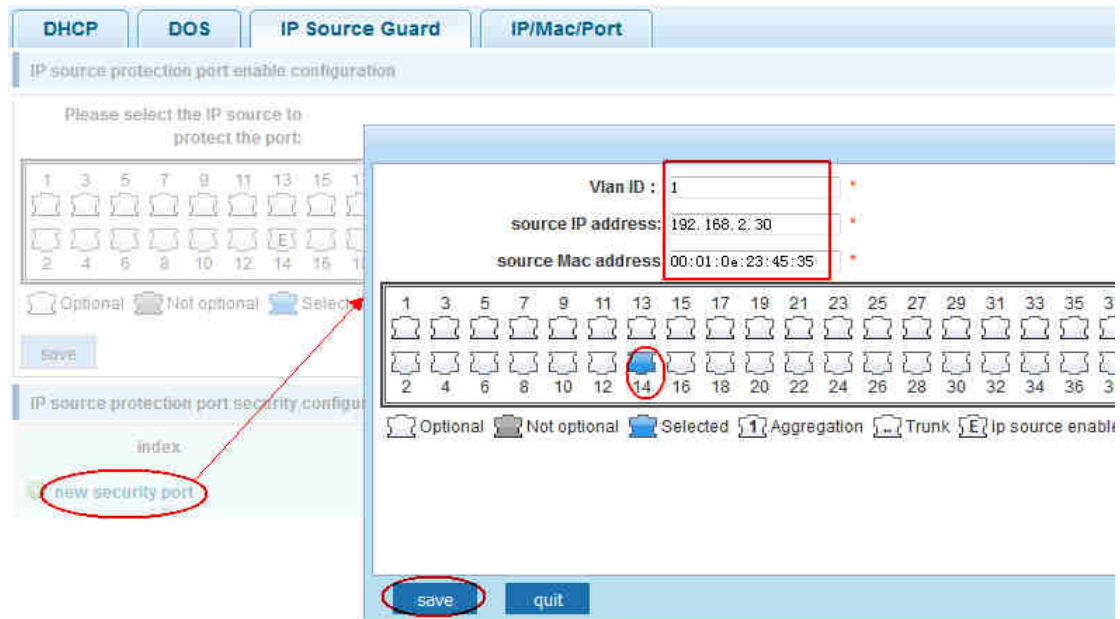
In the navigation bar to select “**fault/safety>anti attack>ip source guard**”, Through the source port security is enabled, on port forwarding the packet filter control, prevent illegal message through the port, thereby limiting the illegal use of network resources, improve the safety of the port, the following picture:

#### 【instructions】

Add the port that is currently being used as a IP source protection enable port, the port will not be able to use.

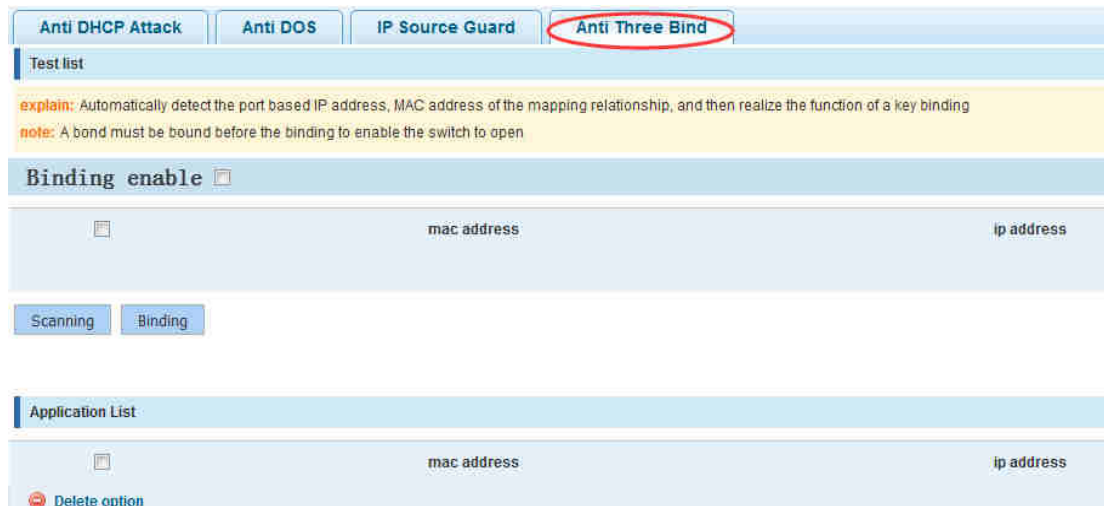
#### 【Configuration example】

Such as: to open source IP protection enabled port first, then to binding



#### 4.4.1.4 Anti three bind

In the navigation bar to select **“fault/safety>anti attack>anti three bind”**, Automatically detect the port based IP address, MAC address of the mapping relationship, and then realize the function of a key binding, the following picture:



#### 【instructions】

A bond must be bound before the binding to enable the switch to open, And if you want to access shall be binding and switch the IP address of the same network segment .

#### 【Configuration example】

Such as: the binding to make first can open, must be a key bindings port 7



| Binding enable <input checked="" type="checkbox"/> |                   |                 |             |
|--|-------------------|-----------------|-------------|
| <input type="checkbox"/>                           | mac address       | ip address      | Port number |
| <input type="checkbox"/>                           | 3C:97:0E:4F:57:F2 | 10.10.10.111    | 10          |
| <input type="checkbox"/>                           | 3C:97:0E:4F:57:F2 | 192.168.1.112   | 10          |
| <input type="checkbox"/>                           | 3C:97:0E:4F:57:F2 | 192.168.168.22  | 10          |
| <input checked="" type="checkbox"/>                | 3C:97:0E:4F:57:F2 | 192.168.2.11    | 10          |
| <input type="checkbox"/>                           | 00:01:15:09:37:35 | 169.254.131.107 | 4           |

first page prev page **[1]** next page last page 1 / 1page

Scanning **Binding**

| Application List         |                   |              |             |
|--------------------------|-------------------|--------------|-------------|
| <input type="checkbox"/> | mac address       | ip address   | Port number |
| <input type="checkbox"/> | 3C:97:0E:4F:57:F2 | 192.168.2.11 | 10          |

Delete option

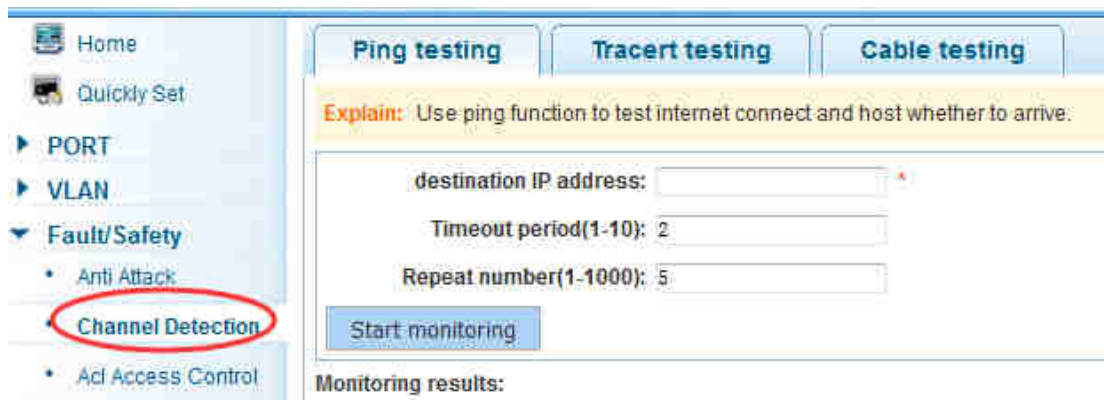
first page prev page **[1]** next page last page 1 / 1page

Can check the delete option.

## 4.4.2 Channel detection

### 4.4.2.1 Ping testing

In the navigation bar to select “**fault/safety> channel detection>ping testing**”, Use ping function to test internet connect and host whether to arrive. The following picture :



## 【parameter description】

| parameter              | description                                  |
|------------------------|--|
| destination IP address | Fill in the IP address of the need to detect |
| Timeout period         | Range of 1 to 10                             |
| Repeat number          | Testing number                               |

## 【instructions】

Use ping function to test internet connect and host whether to arrive.

## 【Configuration example】

Such as: PING connect the IP address of the PC

The screenshot shows a web-based interface for network testing. At the top, there are three tabs: "Ping testing" (selected), "Tracert testing", and "Cable testing". Below the tabs, a yellow box contains the text: "Explain: Use ping function to test internet connect and host whether to arrive." The main configuration area has three input fields: "destination IP address:" with the value "192.168.2.1", "Timeout period(1-10):" with the value "2", and "Repeat number(1-1000):" with the value "5". A red box highlights these three input fields. Below the fields is a blue button labeled "Start monitoring" which is circled in red. Underneath the button, the "Monitoring results:" section displays the following text:
   
PING 192.168.2.1 (192.168.2.1): 56 data bytes
   
64 bytes from 192.168.2.1: icmp\_seq=0 ttl=64 time=0.0 ms
   
64 bytes from 192.168.2.1: icmp\_seq=1 ttl=64 time=0.0 ms
   
64 bytes from 192.168.2.1: icmp\_seq=2 ttl=64 time=0.0 ms
   
64 bytes from 192.168.2.1: icmp\_seq=3 ttl=64 time=0.0 ms
   
64 bytes from 192.168.2.1: icmp\_seq=4 ttl=64 time=0.0 ms
   
— 192.168.2.1 ping statistics —
   
5 packets transmitted, 5 packets received, 0% packet loss
   
round-trip min/avg/max = 0.0/0.0/0.0 ms

## 4.4.2.2 Tracert testing

In the navigation bar to select "**fault/safety> channel detection>tracert testing**", Tracert detection can detect to the destination through the following picture :

**Tracert testing**

**explain:** Tracert detection can detect to the destination through the gateway, the function is used to detect more is up to and reach the destination path. If a destination unreachable, diagnose problem

destination IP address:

Timeout period(1-10):

testing results

### 【parameter description】

| parameter              | description                                  |
|------------------------|--|
| destination IP address | Fill in the IP address of the need to detect |
| Timeout period         | Range of 1 to 10                             |

### 【instruction】

the function is used to detect more is up to and reach the destination path. If a destination unreachable, diagnose problems.

### 【Configuration example】

Such as: PING connect the IP address of the PC

**Tracert testing**

**explain:** Tracert detection can detect to the destination through the gateway, t

destination IP address:

Timeout period(1-10):

testing results

### 4.4.2.3 Cable testing

In the navigation bar to select **“fault/safety> channel detection>cable tracert testing”**, Can detect connection device status ,the following picture:

Ping Tracert **Cable test**

Select port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |

☐ Optional 
 ☐ Not optional 
 ☒ Selected 
 1 Aggregation 
 ☐ Trunk 
 ☒ ip source enable port

Start test

### 【Configuration example】

Ping Tracert **Cable test**

Select port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |

☐ Optional 
 ☐ Not optional 
 ☒ Selected 
 1 Aggregation 
 ☐ Trunk 
 ☒ ip source enable port

Start test

## 4.4.3 ACL

In the navigation bar to select **"fault/safety>ACL"**, Can be applied to port ACL rules and Settings to take effect in time

Home Quickly Set

- PORT
- VLAN
- Fault/Safety
  - Anti Attack
  - Channel Detection
  - ACL Access Cont...**
- MSTP
- DHCP RELAY
- QOS
- Addr Table
- SNMP
- SYSTEM

ACL effective time ACL access control Application ACL

**note:** Time object is used to define the effective time of the policy.

☒ Create a new object 
 ☐ Select an existing object

New object name:

Selection date: ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday

Time slot:  -  +

Save configuration

Time object list:

Time week

### 【instruction】

The ACL rules are sequenced, row in front of the match will be priority rule. Many, if the strategy items operating time is relatively longer.

Basic principles:

- 1, according to the order, as long as there is a meet, will not continue to find
- 2, implied refused, if don't match, so must match the final implied refused entry, cisco default
- 3, any only under the condition of the minimum permissions to the user can satisfy their demand
- 4, don't forget to apply the ACL to the port

### 【Configuration example】

such as: test time is every Monday to Friday 9 to 18 points, set port 1-8 cannot access the network

steps: building ACL time - building ACL rules - is applied to the port

**ACL effective time** | **ACL access control** | **Application ACL**

**note:** Time object is used to define the effective time of the policy.

☒ Create a new object ☐ Select an existing object

New object name: working-time

Selection date: ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☐ Saturday ☐ Sunday

Time slot: 9:00 - 18:00

**Save configuration**

**Time object list:** working-time

---

**ACL effective time** | **ACL access control** | **Application ACL**

**explain:** ACL(access control list/Access Control Lists) By configuring a series of matching rules, the execution of the specified data stream (such as the IP address, port number, etc.) is allowed or forbidden.

**note:** The ACL rule is in the order of precedence, the row in front of the rules will give priority to match. If there are a lot of policy entries, the operating time is relatively long.

**Wildcard:** The wildcard mask stipulates that when preserved. If you do not configure the wildcard mask, it is preserved.

**Create ACL**

Choose the ACL access control list for the view

Rule order: action

delete ACL

ACL number: 100

action: forbid

Matching protocol: TCP

Effective time: working-time

source IP address arbitrary: ☒

source port arbitrary: ☒

destination IP address arbitrary: ☒

destination port arbitrary: ☐

the range of source port(0-65535): 80

**Save**

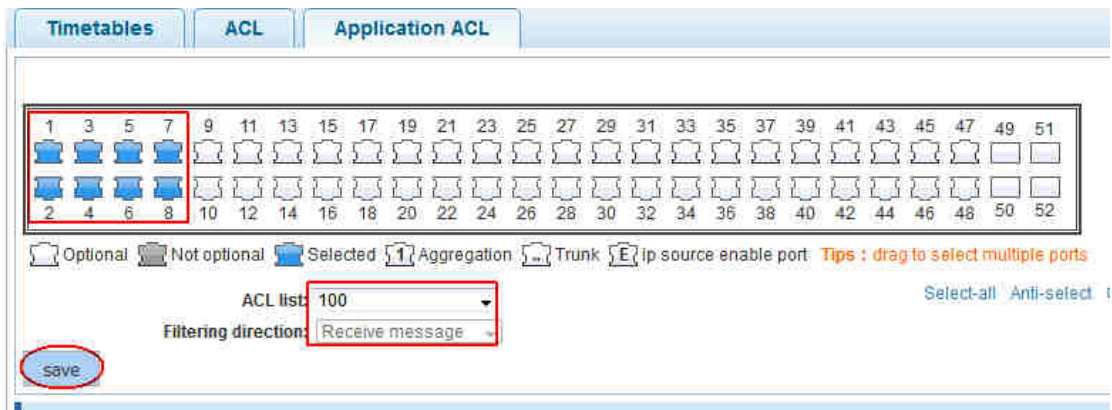
---

Choose the ACL access control list for the view 100 Rule list

| Rule order | action | Agreement | source IP/mask | source port | destination IP/mask | destination port | Object of effective time | state    |
|------------|--------|-----------|----------------|-------------|---------------------|------------------|--------------------------|----------|
| 1          | deny   | tcp       | any/any        | any         | any/any             | 80               | working-time             | inactive |
| 2          | permit | ip        | any/any        | any         | any/any             | any              | none                     | active   |

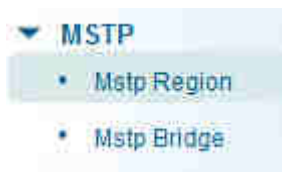
delete ACL

first page prev page 11 next page last page 1 / 1 page



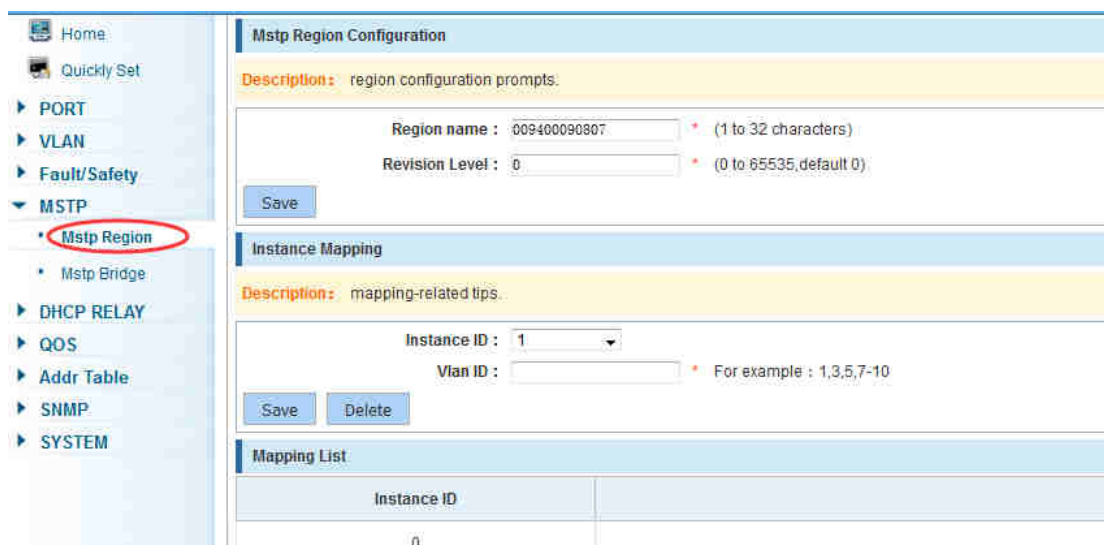
## 4.5 MSTP

In the navigation bar to select **"MSTP"**, you can set to the **MSTP region** and **MSTP bridge configuration**.



### 4.5.1 MSTP region

In the navigation bar to select **"MSTP>MSTP region"**, Can modify the domain and domain name, add instance is mapped to a VLAN. the following picture



**【parameter description】**

| parameter      | description                                |
|----------------|--|
| Region name    | Configure the region name                  |
| Revision level | Parameter configuration revision level     |
| Instance ID    | Select configuration instance ID           |
| VLAN ID        | Mapping of the VLAN configuration instance |

**【instruction】**

An instance can only be mapped to a VLAN, instance and VLAN is a one-to-one relationship.

**【Configuration example】**

Such as: change the region to DEADBEEF0102, region name is 123, instance 4 is mapped to a VLAN 2, in the first need to create a VLAN 2

The image shows two screenshots of a network configuration interface. The first screenshot is titled "Mstp Region Configuration" and shows fields for "Region name" (DEADBEEF0102) and "Revision Level" (123). A "Save" button is circled in red. The second screenshot is titled "Instance Mapping" and shows fields for "Instance ID" (4) and "Vlan ID" (2). A "Save" button is circled in red. Below the "Instance Mapping" section is a "Mapping List" table.

| Instance ID | Mapping Vlan |
|-------------|--------------|
| 0           | 1-4094       |

**4.5.2 MSTP bridge**

In the navigation bar to select "**MSTP>MSTP bridge**", Can be related to bridge, port configuration, the following picture:

**Mstp Region Configuration**

Region name : 00B04C000000 \* (1 to 32 characters)

Revision Level : 0 \* (0 to 65535, default 0)

Save

**Instance Mapping**

Instance ID : 1

Vlan ID : \* For example : 1,3,5,7-10

Save Delete

**Mapping List**

| Instance ID | Mapping Vlan |
|-------------|--------------|
| 0           | 1-4094       |

### 【parameter description】

| parameter       | description  |
|-----------------|--|
| inst-priority   | Whether open instance priority setting   |
| Instance ID     | Select the created instance id is configured   |
| enable          | Whether to open the STP bridge function  |
| Bridge priority | Priority setting bridge example, the default instance bridge priority for 32768                |
| mode            | The model is divided into: the STP, RSTP, MSTP   |
| Hello-time      | Switches sends bpdus in packet interval  |
| Max-age         | Ports are not yet received a message in the time, will initiate topology changes               |
| Forward-delay   | The state of the port switch time  |
| Port-priority   | Set port instance priority, defaults to 128, you must enter multiple of 16, the range of 0-240 |
| Path-cost       | Configure port costs   |
| Port-fast       | Select configuration state   |
| Auto-ege        | Select configuration state   |
| Point-to-point  | Select configuration state   |
| Bpdu guard      | Select configuration state   |
| Bpdu filter     | Select configuration state   |
| compatible      | Select configuration state   |
| Root guard      | Select configuration state   |
| TC guard        | Select configuration state   |
| TC filter       | Select configuration state   |

### 【instruction】

- (1)  $(\text{hello\_time}+1) \times 2 \leq \text{max\_age} \leq (\text{f\_delay}-1) \times 2$  ,enable the switch to set instance priority.
- (2) Enable STP or switch mode would spend 2 times of the forward delay time.

### 【Configuration example】

Such as: 1) Open the STP, configuration has to create an instance of the priority, configuration time parameters, set the pattern to MSTP

**Mstp Bridge Config**

**Tips:**  $(\text{hello\_time}+1) \times 2 \leq \text{max\_age} \leq (\text{f\_delay}-1) \times 2$ , enable the switch to set instance priority.

**Attention:** Enable STP or switch mode would spend 2 times of the forward delay time.

inst-priority: ☒   
 inst-id: 4   
 priority: 8192   
 enable: ☒ on ☐ off   
 mode: ☐ stp ☐ rstp ☒ mstp   
 hello-time: 2 (1-10s)   
 f-delay: 10 (4-30s)   
 max-age: 15 (6-40s)   
 max-hops: 20 (1-40)   
 save show bridge info

**Mstp Bridge Config**

**Tips:**  $(\text{hello\_time}+1) \times 2 \leq \text{max\_age} \leq (\text{f\_delay}-1) \times 2$ , enable the switch to set instance priority.

**Attention:** Enable STP or switch mode would spend 2 times of the forward delay time.

inst-priority: ☒   
 inst-id: 4   
 enable: ☒ on ☐ off   
 hello-time: 2 (1-10s)   
 f-delay: 10 (4-30s)   
 save show bridge info

**Mstp Bridge Information**

StpVersion: mstp  
 SysStpStatus: disable  
 BridgeMaxAge: 20  
 BridgeHelloTime: 2  
 BridgeForwardDelay: 15  
 MaxHops: 20  
 TxHoldCount: 6

Instance [0]  
 LocalBridge: 32768-00:94:00:09:08:07  
 TimeSinceTopologyChange: 0d:0h:0m:0s  
 TopologyChanges: 0  
 DesignatedRoot: 0-00:00:00:00:00:00  
 RootCost: 0  
 RootPort: 0  
 CistRegionRoot: 0-00:00:00:00:00:00  
 CistPathCost: 0

quit

2) Set MSTP has launched port configuration, select the created instance, set priority (port configuration is not online, on-line configuration will only take effect, can click on the "view the current configuration" button to view the configured completed)

**Mstp Port Config**

inst : 4

port-fast : ☒ off ☐ on

auto-edge : ☐ off ☒ on

bpdu-guard : ☒ off ☐ on

bpdu-filter : ☒ off ☐ on

tc-guard : ☒ off ☐ on

priority : 128 (0-240, step 16)

path-cost : auto (auto or 1-200000000)

point-to-point : ☐ off ☐ on ☒ auto

compatible : ☒ off ☐ on

rootguard : ☒ none ☐ root

tc-ignore : ☒ off ☐ on

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 |

Optional Not optional Selected Aggregation Trunk Ip source enable port

save show current port

**Mstp Port Information [ Gi0/4 ]**

[Gi0/4]

PortAdminPortFast: disable

PortOperPortFast: disable

PortAdminAutoEdge: enable

PortOperAutoEdge: disable

PortAdminLinkType: auto

PortOperLinkType: share

PortBPDUGuard: disable

PortBPDUFilter: disable

PortTCGuard: disable

quit

show current port

## 4.6 DHCP relay

In the navigation bar to select **"DHCP relay"**, you can set to the **DHCP relay** and **option82**.



### 4.6.1 DHCP relay

In the navigation bar to select **"DHCP relay"**, Open the DHCP relay function, set up and view the relay server IP address and its status. the following picture



#### 【parameter description】

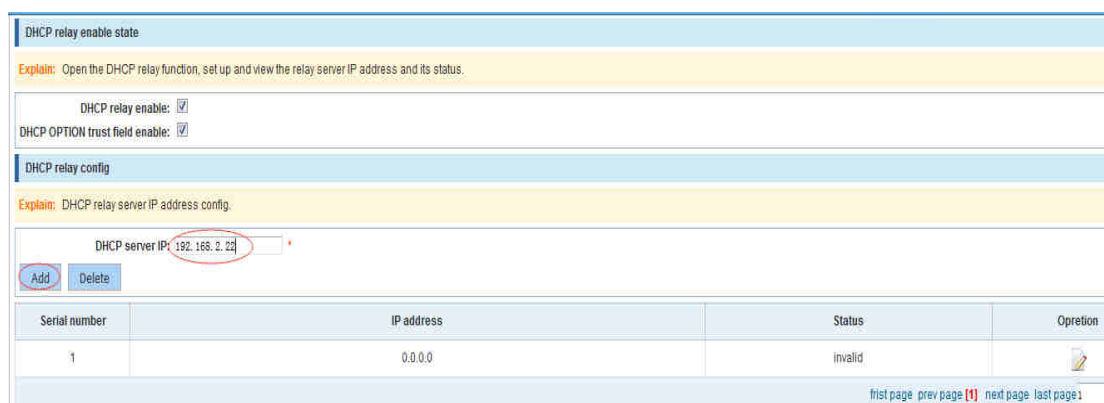
| parameter  | description         |
|------------|---------------------|
| IP address | DHCP server address |
| status     | Invalid and vaild   |

#### 【instruction】

If open the function of relay agent, then receives the broadcast DHCP message, to be delivered in the form of unicast to configure on the server. The DHCP server to IP and switches in the same network segment will only take effect.

#### 【Configuration example】

Such as: setting DHCP server ip for 192.168.2.22



## 4.6.2 Option82

In the navigation bar to select “**DHCP relay>option82**”, can set to OPTION82 circuit control、proxy remote 、ip address。 the following picture:

### 【parameter description】

| parameter       | description  |
|-----------------|--|
| VLAN id         | the DHCP request message in the VLAN, value range is 1 ~ 4094                    |
| Circuit control | Circuit ID to populate the user custom content, scope of string length is 3 ~ 63 |
| Proxy remote    | Configuration ASCII remote id string value, the length of the range of 1 ~ 63    |
| IP address      | Decimal IP address   |

### 【instruction】

Switches, relay information to the DHCP server will take option82, VLAN ID must be configured to DHCP message taken VLAN can bring option82 information.

### 【Configuration example】

Sach as: add circuit control、proxy remote、ip address information

**Proxy remote:** In general, an access layer switch for the MAC information is inserted into the option82.

**Circuit control** **Proxy remote** **IP address**

Proxy remote:  VLAN ID:

| Serial number | Proxy remote name | Proxy remote ID |
|---------------|-------------------|-----------------|
|---------------|-------------------|-----------------|

---

**Circuit control** **Proxy remote** **IP address**

IP address:  VLAN ID:

| Serial number | IP address |
|---------------|------------|
|---------------|------------|

## 4.7 DHCP Server

### 4.7.1 DHCP Config

In the navigation bar to select **"DHCP server"**, Can open the DHCP server function, setting up the network parameters. the following picture:

Home  
Quickly Set

- ▶ PORT
- ▶ VLAN
- ▶ Fault/Safety
- ▶ MSTP
- ▶ DHCP RELAY
- ▶ DHCP Server
- ▶ **Dhcp Config**
- ▶ QOS
- ▶ Addr Table
- ▶ SNMP
- ▶ LACP
- ▶ SYSTEM

**Enable Config** **Pool Config** **Option Config** **Bind Config** **Gateway Config** **DNS Config**

DHCP Enable

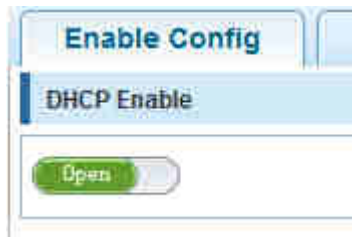
#### 【instruction】

If open the DHCP server function, can't open the DHCP relay function; Open a DHCP server is enabled, need to configure and manage the IP in the same network segment address pool.

### 【Configuration example】

Such as: to switch a 192.168.2.30-192.168.2.35 bottom allied equipment distribution within the scope of the IP address, the lease time for 1 day, the default network management, the DNS server is configured to 192.168.2.22, package option to carry information from the server.

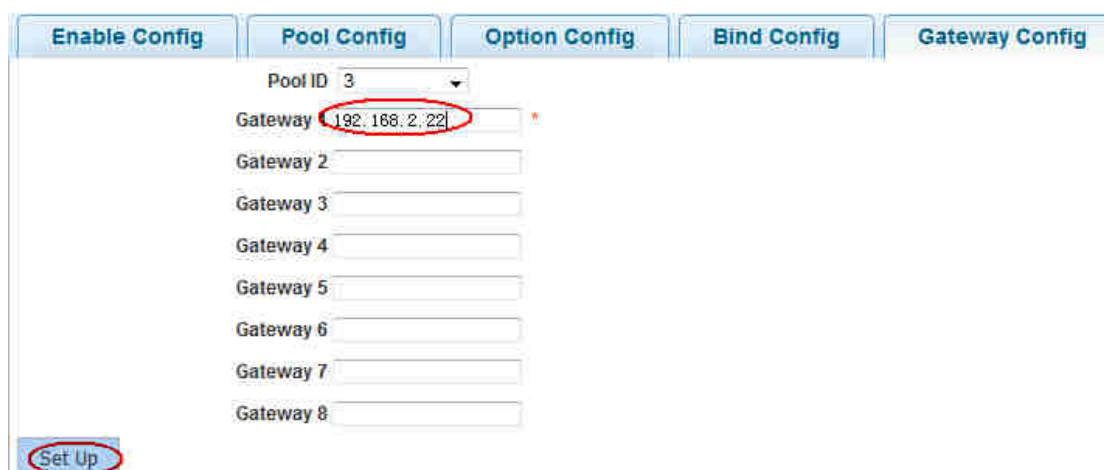
1) Open the DHCP server;



2) set the address pool network 192.168.2. X, start IP for 192.168.2.30, end IP for 192.68.2.35, the lease time is 1 day;



2) Set the gateway config is 192.168.2.22



3) Set the DNS config is 192.168.2.22

Enable Config Pool Config Option Config Bind Config Gateway Config DNS Config

Pool ID: 3

DNS Server 1: 192.168.2.30 \*

DNS Server 2:

DNS Server 3:

DNS Server 4:

DNS Server 5:

DNS Server 6:

DNS Server 7:

DNS Server 8:

Set Up

4) port to a PC, ip set to automatic

| IP Address   | Hardware Type | Hardware Address  | Expire time       | Operate |
|--------------|---------------|-------------------|-------------------|---------|
| 192.168.2.30 | Ethernet      | 3c:97:0e:4f:57:f2 | 0Day 21Hour 41Min | X       |

first page prev page 1/1 next page last page 1 / 1 page

4) the information package with the option to set up a server;

Enable Config Pool Config Option Config

Pool ID: 3

Code: 43 (1-255)

Code Value Type: hex

Code Value: 0101 \*

Set Up

## 4.8 QoS

In the navigation bar to select **“QoS”**, you can set to the **Remark**, **queue config** and **mapping the queue**.



### 4.8.1 Remark

In the navigation bar to select **“QoS>Remark”**, According to the rules for port traffic bag tag or queue map. the following picture

### 【parameter description】

| parameter             | parameter   |
|-----------------------|---|
| Rule index            | By setting the rule of heavy tag index number, the current switch can be set up 32 rule   |
| Operation type        | Choose always said - match the match, all the data for tags<br>Choose can be set to equal matching rules, comply with the rules of heavy tag data |
| Server class mapping  | Adaptable to the rules of the heavy tag which data is mapped to a queue   |
| Priority reliable     | Conform to the rules of heavy tag data to the marked priority values  |
| Value tye             | Set heavy tag matching rules, such as choice goal Mac, just check the data destination Mac address is in accordance with the rules                |
| value                 | Set the value of matching, such as choice goal Mac for HH: HH: HH: HH: HH: HH   |
| Choose port to config | The application of heavy tag on which interface   |
| apply                 | Click on the application of heavy marking rules to take effect  |

### 【instruction】

According to the different matching rules to map different packages to different cos, and then according to the mapping relationship cos and queue queue to map different packages to different queue, can also set the priority value of a tag heavy bag.

### 【Configuration example】

Such as: will the destination address for 00:02:03:0b:89:12 packets are forwarded to the port 3, 4, 5, 6, priority of remarked as 3

**Qos Multi-Label**

rule index: 1 (1-32)

Operation type: Equal

value type: dst-Mac

value: 00:02:03:06:89:12 \*

cos mapping: 0

priority remark: 3

choose port to config:

|   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 |

Optional Not optional Selected 1 Aggregation Trunk E ip source enable port Tips : drag to select multiple ports

Apply Cancel Select-all Anti-select

## 4.8.2 Queue config

In the navigation bar to select “ **QoS>queue config**”, Can be set up queue scheduling policy . the following picture:

Home

Quickly Set

PORT

VLAN

Fault/Safety

MSTP

DHCP RELAY

**QOS**

- Remark
- Queue Config**
- Mapping the Queue

**Queue setting**

queue mode: SP

Apply

### 【parameter description】

| parameter           | description  |
|---------------------|--|
| Scheduling strategy | Can choose four kinds of modes:<br>RR round-robin scheduling<br>SP absolute priority scheduling<br>WRR weighted round-robin scheduling<br>WFQ weighted fair scheduling |

|             |  |
|-------------|--|
| WRR-weights | Set the weights of each queue, they will be in proportion to occupy the bandwidth to send data |
|-------------|--|

### 【instruction】

Queue 7 can not for 0.

### 【Configuration example】

Such as: set the scheduling strategy for WRR, weight value respectively, 10, 11, 12, 12, 14, 15, 16, 17.

Queue setting

Scheduling strategy: WRR

Byte weight(0~127): 10 11 12 13 14 15 16 17

Apply

## 4.8.3 Mapping the queue

### 4.8.3.1 Service class queue mapping

In the navigation bar to select “**QoS>mapping the queue**”, Service category can be mapped to the corresponding queue. the following picture

cos-queue-map dscp-cos-map port-cos-map

Mapping queue status information

|           |   |   |   |   |   |   |   |   |
|-----------|---|---|---|---|---|---|---|---|
| server ID | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| queue ID  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

save

Navigation bar: Home, Quickly Set, PORT, VLAN, Fault/Safety, MSTP, DHCP RELAY, QoS (Mapping the Que. is circled), Addr Table

### 【parameter description】

| parameter | description   |
|-----------|---|
| Server ID | COS the VLAN priority fields (0 to 7)               |
| Queue ID  | Set each cosine value mapping queue number (0 to 7) |

### 【Configuration example】

Such as: cos 3 mapping to the queue 7, set the queue weight 7 to 10

Service class to queue mapping

Differential service to service class mapping

Port to service class mapping

Mapping queue status information

|           |   |   |   |   |   |   |   |   |
|-----------|---|---|---|---|---|---|---|---|
| server ID | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| queue ID  | 0 | 1 | 2 | 7 | 4 | 5 | 6 | 7 |

save

Queue setting

Scheduling strategy: WRR

Byte weight(0~127): 0 0 0 0 0 0 0 10

Apply

#### 4.8.3.2 Differential service class mapping

In the navigation bar to select **“QoS>mapping the queue>differential service class mapping”**, Differential service can be mapped to the corresponding service categories. the following picture:

Service class to queue mapping

Differential service to service class mapping

Port to service class mapping

Differential service code point mapping team list

|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| server ID     | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| server list 1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| server ID     | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| server list 2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| server ID     | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| server list 3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| server ID     | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| server list 4 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

save

#### 【parameter description】

| parameter   | description   |
|-------------|---|
| Server list | DSCP field has seven (0-63) is divided into four tables                       |
| Queue ID    | Map the DSCP to COS fields (0 to 7), based on the cosine is mapped to a queue |

#### 【instruction】

Cos priority is greater than the DSCP, DSCP priority is greater than the port

#### 【Configuration example】

Such as: the DSCP value of 3, 12, 23 mapping to cos 5

| Service class to queue mapping                    |    |    |    | Differential service to service class mapping |    |    |    | Port to service class mapping |    |    |    |    |    |    |    |    |
|---|----|----|----|---|----|----|----|-------------------------------|----|----|----|----|----|----|----|----|
| Differential service code point mapping team list |    |    |    |   |    |    |    |                               |    |    |    |    |    |    |    |    |
| server ID   | 0  | 1  | 2  | 3   | 4  | 5  | 6  | 7                             | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| server list 1                                     | 0  | 0  | 0  | 5   | 0  | 0  | 0  | 0                             | 0  | 0  | 0  | 0  | 0  | 5  | 0  | 0  |
| server ID   | 16 | 17 | 18 | 19  | 20 | 21 | 22 | 23                            | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| server list 2                                     | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 5                             | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| server ID   | 32 | 33 | 34 | 35  | 36 | 37 | 38 | 39                            | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| server list 3                                     | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0                             | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| server ID   | 48 | 49 | 50 | 51  | 52 | 53 | 54 | 55                            | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| server list 4                                     | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0                             | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| <input type="button" value="save"/>               |    |    |    |   |    |    |    |                               |    |    |    |    |    |    |    |    |

### 4.8.3.3 Port to service class mapping

In the navigation bar to select **“QoS>mapping the queue>port to service class mapping”**, Port can be mapped to the corresponding service categories. the following picture:

| Service class to queue mapping  |           |   |   | Differential service to service class mapping |   |   |   | Port to service class mapping |  |  |  |
|---|-----------|---|---|---|---|---|---|-------------------------------|--|--|--|
| port COS mapping  |           |   |   |   |   |   |   |                               |  |  |  |
| port: <input type="text" value="1"/><br>server ID: <input type="text" value="0"/><br><input type="button" value="apply"/> |           |   |   |   |   |   |   |                               |  |  |  |
| control list  |           |   |   |   |   |   |   |                               |  |  |  |
| port  | server ID |   |   |   |   |   |   |                               |  |  |  |
|   | 0         | 1 | 2 | 3   | 4 | 5 | 6 | 7                             |  |  |  |
| 1   | T         |   |   |   |   |   |   |                               |  |  |  |
| 2   | T         |   |   |   |   |   |   |                               |  |  |  |
| 3   | T         |   |   |   |   |   |   |                               |  |  |  |
| 4   | T         |   |   |   |   |   |   |                               |  |  |  |
| 5   | T         |   |   |   |   |   |   |                               |  |  |  |
| 6   | T         |   |   |   |   |   |   |                               |  |  |  |
| 7   | T         |   |   |   |   |   |   |                               |  |  |  |
| 8   | T         |   |   |   |   |   |   |                               |  |  |  |
| first page prev page 1 2 3 4 next page last page 1 / 4page  |           |   |   |   |   |   |   |                               |  |  |  |

#### 【parameter description】

| parameter  | description   |
|------------|---|
| Port       | Select the port number (0-52)   |
| Service ID | Mapped to the service ID, and then according to the service ID into the queue |

#### 【instruction】

Cos priority is greater than the DSCP, DSCP priority is greater than the port

#### 【Configuration example】

Such as: port 4、5、6 respectively cos4、cos5、cos6.

port COS mapping

port: 4

server ID: 4

apply

port COS mapping

port: 5

server ID: 5

apply

port COS mapping

port: 6

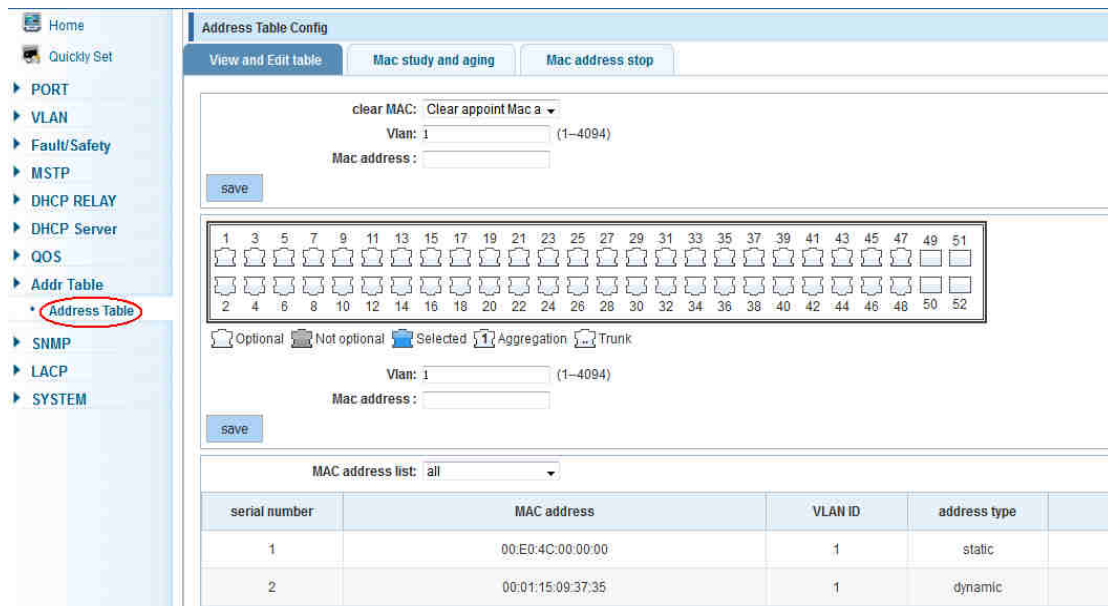
server ID: 6

apply

| control list |           |   |   |   |   |   |   |  |
|--------------|-----------|---|---|---|---|---|---|--|
| port         | server ID |   |   |   |   |   |   |  |
|              | 0         | 1 | 2 | 3 | 4 | 5 | 6 |  |
| 1            | T         |   |   |   |   |   |   |  |
| 2            | T         |   |   |   |   |   |   |  |
| 3            | T         |   |   |   |   |   |   |  |
| 4            |           |   |   |   | T |   |   |  |
| 5            |           |   |   |   |   | T |   |  |
| 6            |           |   |   |   |   |   | T |  |
| 7            | T         |   |   |   |   |   |   |  |
| 8            | T         |   |   |   |   |   |   |  |

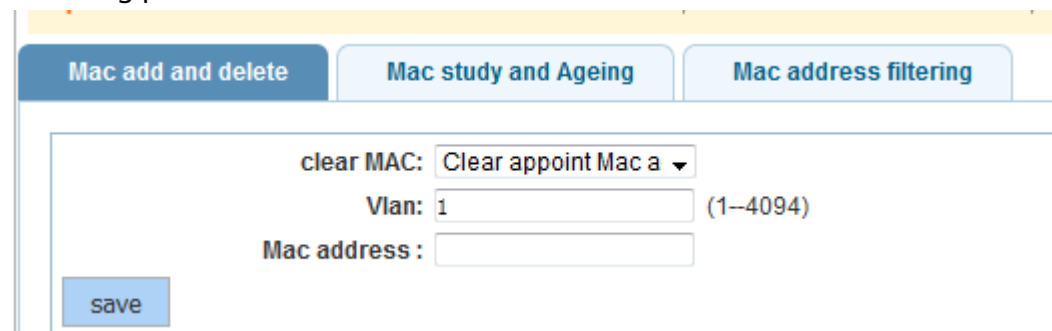
## 4.9 Address table

In the navigation bar to select **“Address table”**, you can set to **MAC add and delete**、**MACstudy and aging** and **MAC address filtering**。



### 4.9.1 Mac add and delete

In the navigation bar to select **“Address table>Mac add and delete”**, You can add static Mac and delete Mac and view to the current of the Mac address table. the following picture:



#### 【parameter description】

| parameter | description  |
|-----------|--|
| Clear Mac | Can choose to clear the multicast Mac address, clear dynamic unicast Mac address, clear static unicast Mac address, clear the specified Mac address, Mac address table |
| VLAN      | Fill in the need to add or delete VLAN id, not create vlans to create can only take effect   |

#### 【instruction】

According to different conditions to clear Mac address, view/add/learn the Mac address, Mac address filtering

#### 【Configuration example】

Such as: 1) the port 6 Mac set to static Mac

Optional Not optional Selected Aggregation Trunk

Vlan: 1 (1-4094)

Mac address: 00:01:15:09:37:35

save

2) clear port 6 static Mac addresses

Mac add and delete Mac study and Ageing Mac address filtering

clear MAC: Clear appoint Mac a

Vlan: 1 (1-4094)

Mac address: 00:01:15:09:37:35

save

## 4.9.2 Mac study and laging

In the navigation bar to select **“address table>Mac study and laging”**, Can be set up port Mac address study limit and Mac address aging time . the following picture:

Address Table Config

View and Edit table Mac study and aging Mac address stop

Optional Not optional Selected Aggregation Trunk Tips : drag to select multiple ports

Mac address study limit: 8191 (0 indicates no limit, 0-8191)

Mac address Aging time: 300 (0 indicates no aging, 10-1000000 second)

| serial number | port  |
|---------------|-------|
| 1             | Gi0/1 |
| 2             | Gi0/2 |

### 【parameter description】

| parameter               | description               |
|-------------------------|---------------------------|
| Mac address             | Range 0-8191,default 8191 |
| Mac address study limit | Default 300               |

### 【Configuration example】

Such as: 1) setting port 5, 6, 7, 8 address study limit for 2000

The screenshot shows the 'Address Table Config' interface. It has three tabs: 'View and Edit table', 'Mac study and aging', and 'Mac address stop'. The 'Mac study and aging' tab is active. Below the tabs is a grid of 52 ports arranged in two rows of 26. Ports 5, 6, 7, and 8 are highlighted with a red box and blue icons, indicating they are selected. Below the grid, there are checkboxes for 'Optional', 'Not optional', 'Selected', 'Aggregation', and 'Trunk'. A text input field for 'Mac address study limit' is set to '2000'. A 'save' button is at the bottom left.

2) will be dropped or learn the Mac address of the port equipment after 2 minutes disappear automatically from the Mac address table

This screenshot shows the 'Mac address Aging time' configuration field. The value '120' is entered in the text box. A 'save' button is located at the bottom left.

## 4.9.3 Mac address filtering

In the navigation bar to select “**address table>Mac address table**”, Can be filtered according to the condition does not need the Mac address. the following picture:

The screenshot shows the 'Mac address filtering' configuration interface. It has three tabs: 'Mac add and delete', 'Mac study and Ageing', and 'Mac address filtering'. The 'Mac address filtering' tab is active. Below the tabs, there are input fields for 'Mac address' and 'Vlan' (with a range of 1-4094). There are 'save' and 'delete' buttons. Below these is a table with columns: 'serial number', 'MAC address', 'VLAN ID', 'address type', 'port', and 'Aggregation group'. At the bottom right, there are pagination controls: 'first page', 'prev page', 'next page', 'last page', and '1 / 1 page'.

### 【parameter description】

| parameter   | description                       |
|-------------|-----------------------------------|
| Mac address | Can not add multicast Mac address |
| VLAN        | VLAN number                       |

### 【Configuration example】

Such as: the Mac address for 00:20:15:09:12:12 added to the filter in the table

Mac address: 00:20:15:09:12:12

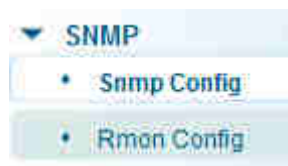
Vlan: 1 (1-4094)

save delete

| serial number | MAC address |
|---------------|-------------|
|---------------|-------------|

## 4.10 Snmp config

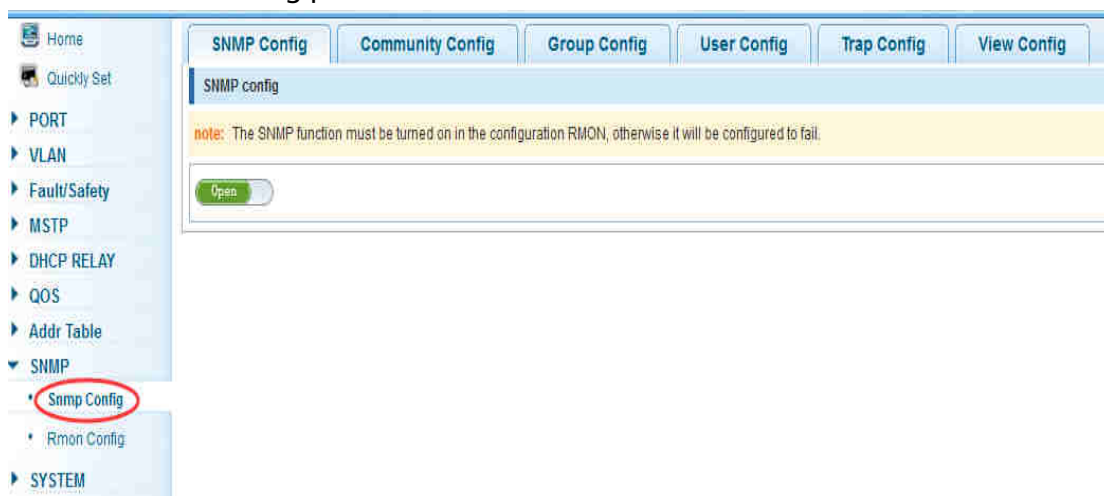
In the navigation bar to select **"Snmp"**, you can set to the **Snmp config and Rmon config**.



### 4.10.1 Snmp config

#### 4.10.1.1 Snmp config

In the navigation bar to select **"Snmp > Snmp config"**, you can Snmp function enable. the following picture:

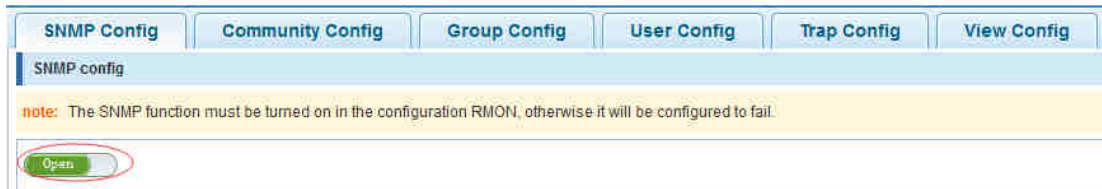


**【instruction】**

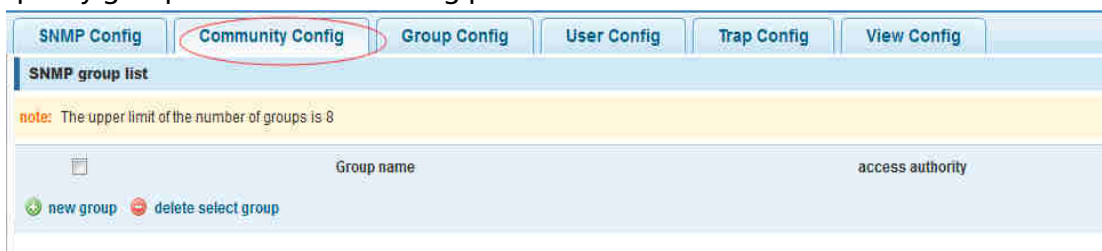
The SNMP function must be turned on in the configuration RMON, otherwise it will be configured to fail

**【Configuration example】**

Such as: open Snmp

**4.10.1.2 Community config**

In the navigation bar to select **"Snmp > Snmp config > community config"**, Can specify group access. the following picture

**【parameter description】**

| parameter        | description   |
|------------------|---|
| group            | Community string, is equal to the NMS and Snmp agent communication between the password               |
| Access authority | Read-only: specify the NMS (Snmp host) of MIB variables can only be read, cannot be modified          |
|                  | Read-only can write: specify the NMS (Snmp host) of MIB variables can only read, can also be modified |

**【instruction】**

The upper limit of the number of groups is 8

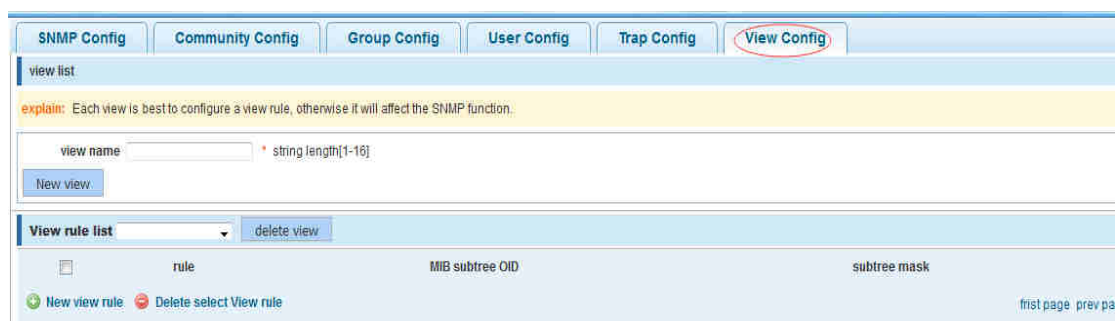
**【Configuration example】**

Such as: add a read-write group called public



#### 4.10.1.3 View config

In the navigation bar to select **"Snm > Snm config > view config"**, Set the view the rules to allow or disable access to some of the MIB object. the following picture



#### 【parameter description】

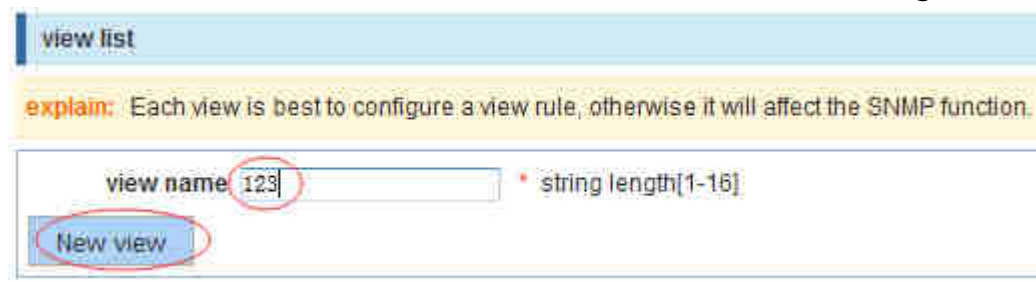
| parameter       | description  |
|-----------------|--|
| View name       | View mane  |
| include         | Indicate the MIB object number contained within the view |
| exclude         | Indicate the MIB object son number was left out of view  |
| MIB subtree OID | View the associated MIB object, is a number of MIB       |
| subtree mask    | MIB OID mask   |

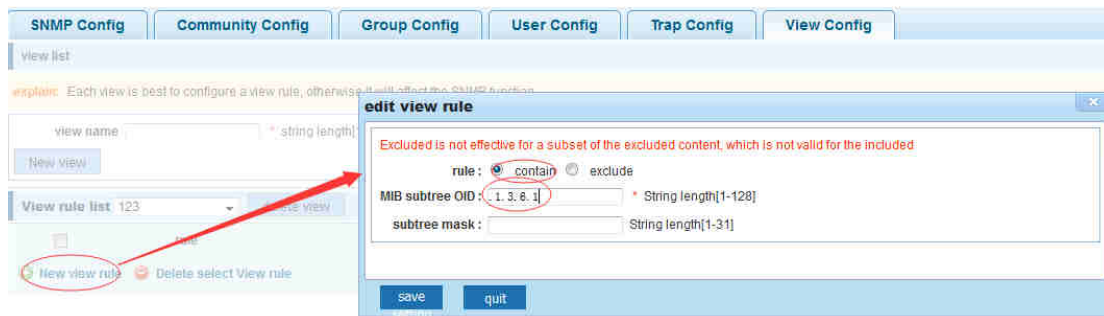
#### 【instruction】

Each view is best to configure a view rule, otherwise it will affect the SNMP function

#### 【Configuration example】

such as: establish a view 123 , MIB subtree oid .1.3.6.1 contain among them





#### 4.10.1.4 Group config

In the navigation bar to select **"Snmpp>Snmpp config>group config"**, setting Snmp group. the following picture



#### 【parameter description】

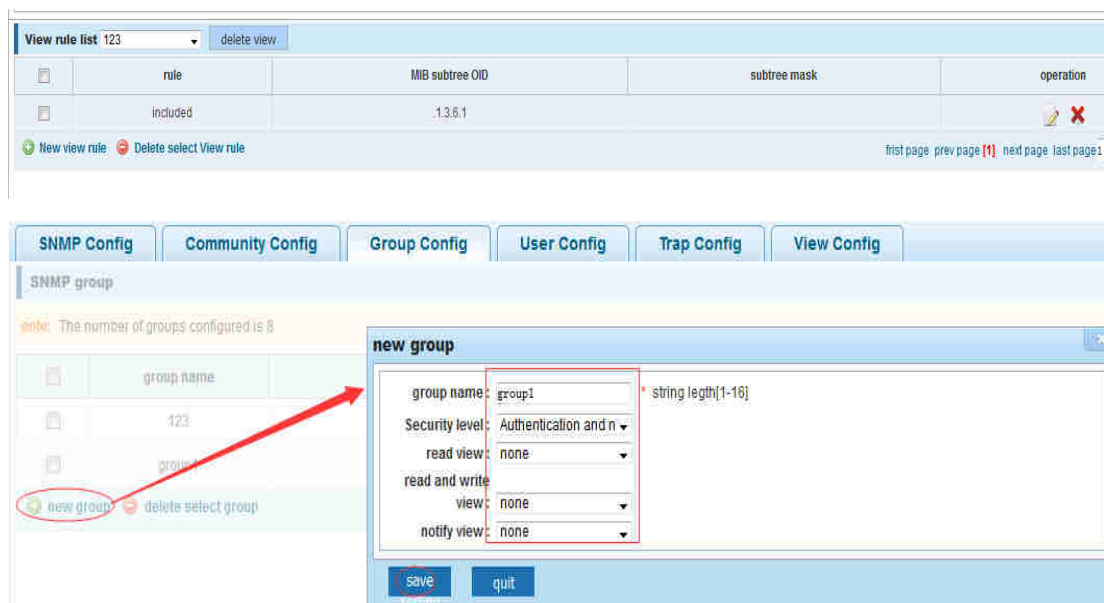
| parameter                                 | description  |
|---|--|
| Group name                                | Group name   |
| Security level                            | <p>Attestation not only encryption: this group of users transmission of the message need to verify the data don't need to confidential</p> <p>No authentication encryption: this group of users' messages don't need to verify data transmission also does not need to be kept secret</p> <p>Both authentication and encryption: this group of users need to verify the news of transmission and transmission of data need to be kept secret</p> |
| Read view、read and write view 、study view | The associated view name   |

#### 【instruction】

Before the cap on the number set of configuration of 8, the new group needs a new view to create a group.

#### 【Configuration example】

Such as: firstly, new view 123, then new group of goup1



#### 4.10.1.5 User config

In the navigation bar to select **"Snmpp>Snmpp config>user config"**, setting Snmp user. the following picture:



#### 【parameter description】

| parameter               | description  |
|-------------------------|--|
| User name               | User name,range 1-16   |
| Security level          | <p>Attestation not only encryption: this group of users transmission of the message need to verify the data don't need to confidential</p> <p>No authentication encryption: this group of users' messages don't need to verify data transmission also does not need to be kept secret</p> <p>Both authentication and encryption: this group of users need to verify the news of transmission and transmission of data need to be kept secret</p> |
| Authentication mode     | Specified use MD5 authentication protocol or SHA authentication protocol   |
| Authentication password | Range 8-10   |

|                  |  |
|------------------|--|
| encrypt mode     | Specified using AES encryption protocol or DES encryption protocol |
| Group name       | A user group name  |
| encrypt password | Range 8-60   |

### 【instruction】

Cap on the number configuration of 8, users need a new view and group to use, the user's security level must be consistent with the group level of security. Add a user authentication and encryption, and configure belong to groups of users, the user will be used for Snmpv3 connection.

### 【Configuration example】

Such as: new view 123, the newly built group group1, new users user1

The screenshot shows the 'edit SNMP user' configuration window. The 'user name' field is set to 'user1'. The 'Security level' is set to 'Authentication and n'. The 'group name' is set to 'group1'. The 'Authentication mode' is set to 'MD5'. The 'Authentication password' is set to '12345678'. The 'Confirm Authentication password' is set to '12345678'. The 'encrypt mode' is set to 'DES'. The 'Encrypted password' field is empty. The 'Confirm' field is empty. The 'save' and 'quit' buttons are at the bottom.

### 4.10.1.6 Trap

In the navigation bar to select "Snmp>Snmp config>Trap", Can specify sent the trap messages to Snmp host (NMS). the following picture:

The screenshot shows the 'Trap destination host' configuration window. The 'Trap Config' button in the navigation bar is highlighted. The window shows a table with columns: destination IP address, address type, security name, UDP port number, security mode, and operation. The 'new Trap' and 'delete select Trap' buttons are at the bottom left. The 'first page', 'prev page', 'next page', 'last page', and '1/1 page' links are at the bottom right.

### 【parameter description】

| parameter              | description            |
|------------------------|------------------------|
| Destination ip address | Snmp host ipv4 address |
| Security name          | Snmp user name         |
| version                | V1、V2、V3               |

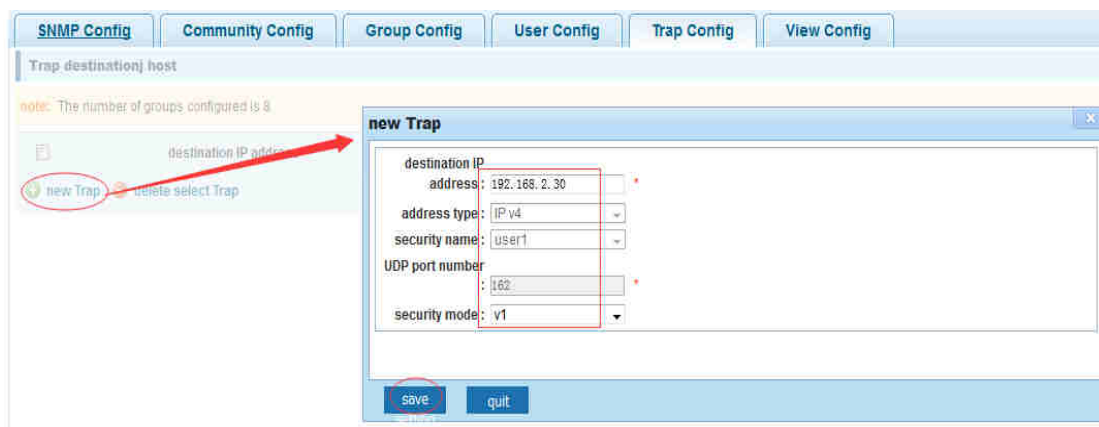
|               |  |
|---------------|--|
| Security mode | Specified using AES encryption protocol or DES encryption protocol |
| Group name    | User group name  |

### 【instruction】

The Trap cap on the number configuration of 8, you can configure a number of different Snmp Trap host used to receive messages. Trigger the trap message time: port Linkup/LinkDown, equipment of cold - start (restart when power supply drop)/warm - start (a warm restart), and Rmon set port port statistical fluctuation threshold.

### 【Configuration example】

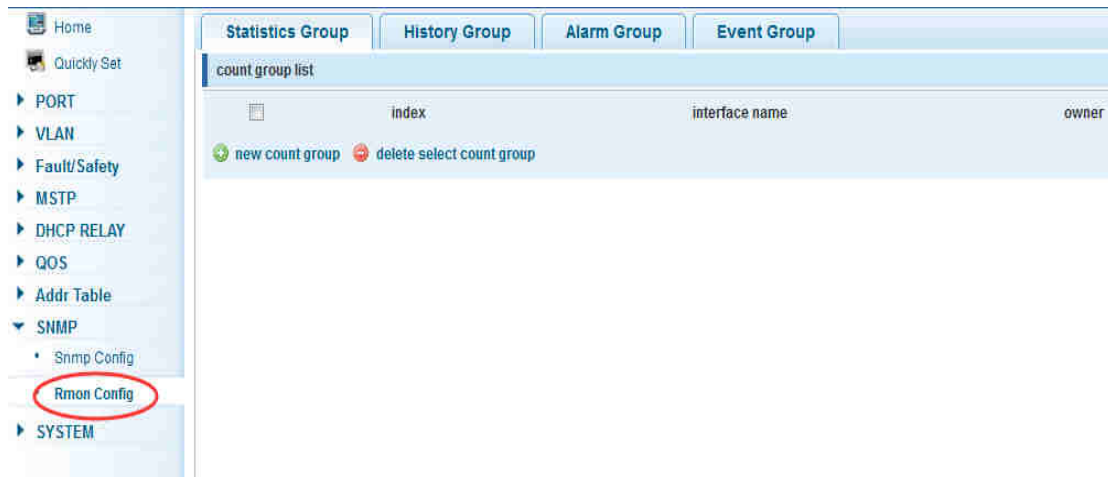
Such as: setting host 192.168.2.30 receive trap information



## 4.10.2 Rmon config

### 4.10.2.1 Statistics group

In the navigation bar to select "**Snmp>Rmon config>statistics group**", Set an Ethernet interface statistics. the following picture:



### 【parameter description】

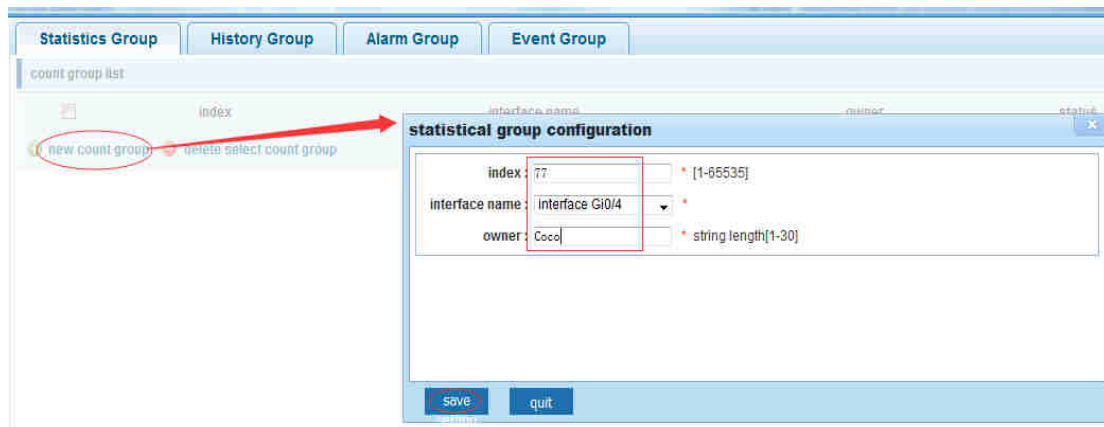
| parameter      | description   |
|----------------|---|
| index          | The index number, the value range of statistical information table is 1 ~ 65535 |
| Interface mane | To monitor the source port  |
| ower           | Set the table creator, range: 1 ~ 30 characters of a string                     |

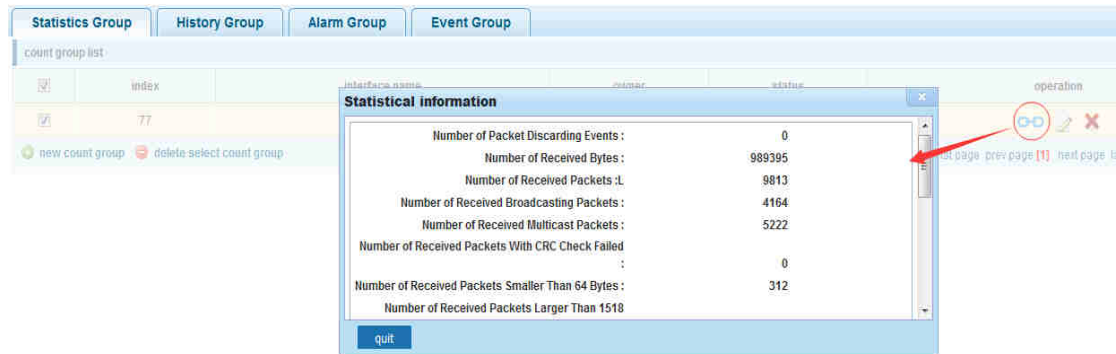
### 【instruction】

At the time of configuration Rmon Snmp functions must be open, otherwise the prompt dialog box will appear.

### 【Configuration example】

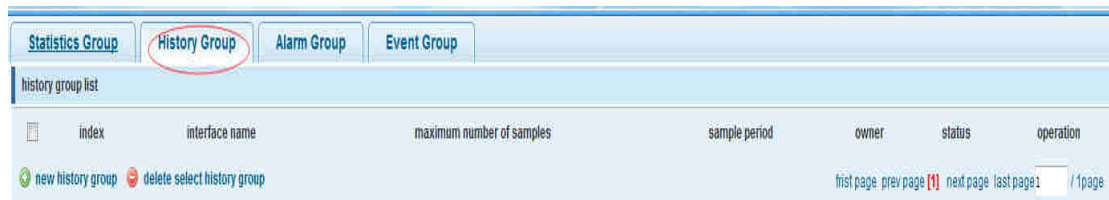
Such as: set up monitoring Ethernet port after 4 to check the data





#### 4.10.2.2 History group

In the navigation bar to select **"Snmp>Rmon config>history group"**, Record the history of an Ethernet interface information. the following picture



#### 【parameter description】

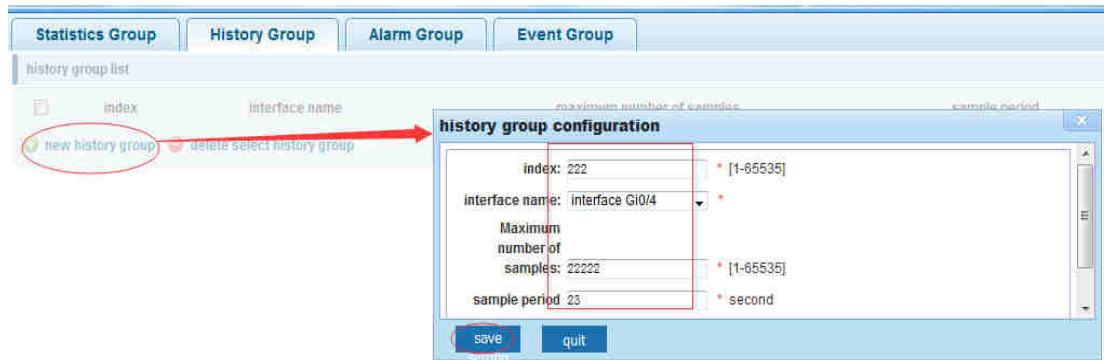
| parameter                 | description  |
|---------------------------|--|
| index                     | Historical control table item index number, value range is 1 ~ 65535   |
| Interface name            | To record the Ethernet interface   |
| Maximum number of samples | Set the history control table item of the corresponding table capacity, namely the Max for number of records the history table, value range is 1 ~ 65535 |
| Sample period             | Set up the statistical period, scope for 5 ~ 3600, the unit is in seconds  |
| owner                     | Set the table creator, range: 1 ~ 30 characters of a string  |

#### 【instruction】

At the time of configuration Rmon Snmp functions must be open, otherwise the prompt dialog box will appear.

#### 【Configuration example】

Such as: monitor Ethernet port 4 historical information



#### 4.10.2.3 Event group

In the navigation bar to select **"Snmp > Rmon config > event group"**, The way in which define events trigger and record them. the following picture



#### 【parameter description】

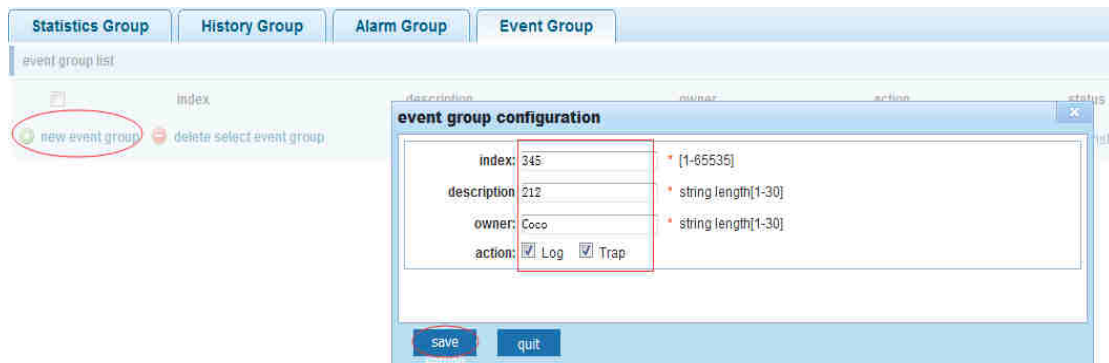
| parameter   | description   |
|-------------|---|
| index       | The index number, the value range of the event table is 1 ~ 65535   |
| description | The Trap events, when the event is triggered, the system will send the Trap message<br>Log events, when the event is triggered, the system will log |
| owner       | Set the table creator, ownername for 1 ~ 30 characters of a string  |

#### 【instruction】

At the time of configuration Rmon Snmp functions must be open, otherwise the prompt dialog box will appear.

#### 【Configuration example】

Such as: create an event to trigger 345, the system sends the trap message and log



#### 4.10.2.4 Alarm group

In the navigation bar to select “ **Snmp>Rmon config>alarm group**”, define alarm group. the following picture



#### 【parameter description】

| parameter                       | description  |
|---------------------------------|--|
| index                           | The alarm list items index number, value range is 1 ~ 65535  |
| Static table                    | Statistical type values : 3:DropEvents; 4:Octets; 5:Pkts; 6:BroadcastPkts; 7:MulticastPkts; 8:CRCAAlignErrors; 9:UndersizePkts; 10:OversizePkts; 11:Fragments; 12:Jabbers; 12:Collisions; 14:Pkts64Octets; 15:Pkts65to127Octets; 16:Pkts128to255Octets; 17:Pkts256to511Octets; 18:Pkts512to1023Octets; 19:Pkts1024to1518Octets |
| statistical index               | Set up the corresponding statistics statistical index number, decided to statistics to monitor the port number   |
| Sampling interval               | Sampling time interval, the scope for 5 ~ 65535, the unit for seconds  |
| The sampling type               | Sample types for the absolute value of sampling, the sampling time arrived directly extracting the value of a variable   |
| The latest sampling             | Sampling type for change value sampling, extraction of the arrival of the sampling time is variable in the change of the sampling interval value   |
| The alarm threshold upper limit | Set the upper limit the parameter values   |

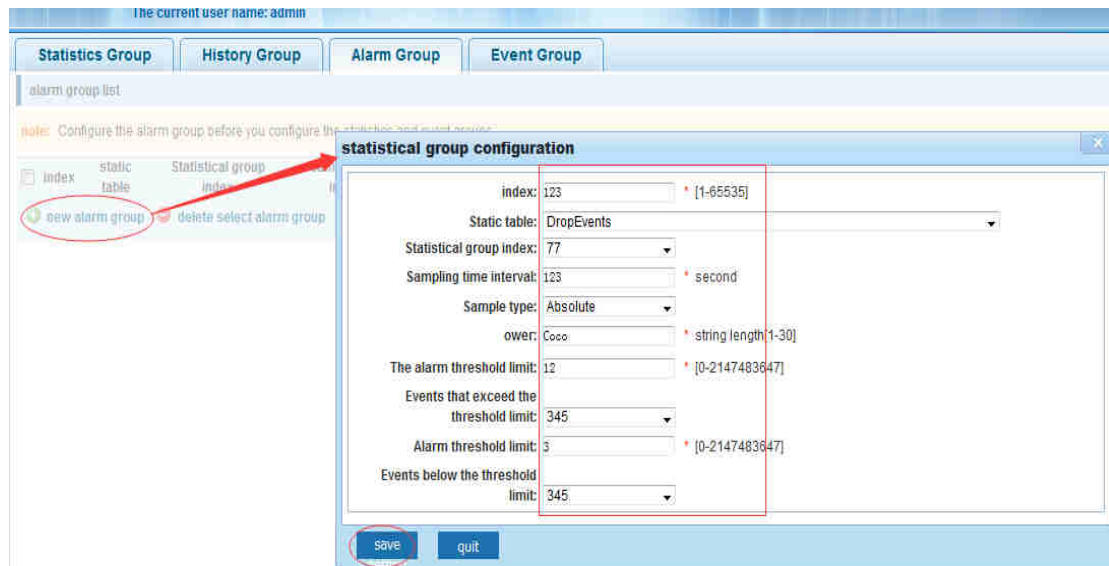
|   |  |
|---|--|
| The alarm threshold lower limit           | Set the lower limit parameter values                               |
| Above/below the threshold limit of events | Upper/lower limit reached, for each event                          |
| owner                                     | Set the table creator, ownername for 1 ~ 30 characters of a string |

### 【instruction】

At the time of configuration Rmon Snmp functions must be open, otherwise the prompt dialog box will appear. This configuration need to configure statistics groups and events.

### 【Configuration example】

Such as: new statistics group of 77 and the event group 345, set up more than 12 and below the lower limit 3 ,Beyond the scope of alarm



## 4.11 LACP

In the navigation bar to select “**LACP>Lacp**”, Can be set up dynamic link together. the following picture:

### 【parameter description】

| parameter            | description                                    |
|----------------------|--|
| Open LACP            | Open lacp fuction configuration to take effect |
| System priority      | Range to 1-65535                               |
| Port priority        | Range to 1-65535                               |
| Sink port number     | 1-8  |
| Polymerization model | Active and passive                             |

### 【instruction】

LACP enabled to open, functional configuration to take effect.

### 【Configuration example】

Such as: the switch A port 10 to 13 and switch B port 10 to 13 dynamic link together

1) switch A/B openLACP

2) switch A/B port 10 to 13 dynamic convergence to the aggregation of group

**LACP activation port parameter settings**

choose port to set up:

|   |   |   |   |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 |
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 |

Optional Not optional Selected 1 Aggregation Trunk E ip:

Port priority: 1 (1-65535)

Sink port number: 2

Polymerization model: active

**Apply**

### 3) show LACP display

| LACP Setting   |         | LACP Display     |       |          |                    |             |                     |                    |           |
|--|---------|------------------|-------|----------|--------------------|-------------|---------------------|--------------------|-----------|
| LACP list  |         |                  |       |          |                    |             |                     |                    |           |
| Aggregate ID   | Port ID | Port status flag | state | Priority | Port operation key | Port number | lACP Protocol state | lACP Partner State | Operation |
| 2  | Gi0/13  | SA               | down  | 1        | 16                 | 13          | 0xcd000000          | 0x43000000         | ✘         |
| 2  | Gi0/12  | SA               | down  | 1        | 16                 | 12          | 0xcd000000          | 0x43000000         | ✘         |
| 2  | Gi0/11  | SA               | down  | 1        | 16                 | 11          | 0xcd000000          | 0x43000000         | ✘         |
| 2  | Gi0/10  | SA               | down  | 1        | 16                 | 10          | 0xcd000000          | 0x43000000         | ✘         |
| first page prev page 11 next page last page1 / 1page |         |                  |       |          |                    |             |                     |                    |           |

### 4) To switch A 10-13 ports are connected to the switch port 10 to 13 C, show LACP display

| LACP Setting |         | LACP Display     |       |          |                    |             |                     |                    |          |           |           |   |         |
|--------------|---------|------------------|-------|----------|--------------------|-------------|---------------------|--------------------|----------|-----------|-----------|---|---------|
| LACP list    |         |                  |       |          |                    |             |                     |                    |          |           |           |   |         |
| Aggregate ID | Port ID | Port status flag | state | Priority | Port operation key | Port number | lACP Protocol state | lACP Partner State | Opretion |           |           |   |         |
| 2            | Gi0/13  | SA               | bndl  | 1        | 10                 | 13          | 0x3d000000          | 0x3d000000         | ✘        |           |           |   |         |
| 2            | Gi0/12  | SA               | bndl  | 1        | 10                 | 12          | 0x3d000000          | 0x3d000000         | ✘        |           |           |   |         |
| 2            | Gi0/11  | SA               | bndl  | 1        | 10                 | 11          | 0x3d000000          | 0x3d000000         | ✘        |           |           |   |         |
| 2            | Gi0/10  | SA               | bndl  | 1        | 10                 | 10          | 0x3d000000          | 0x3d000000         | ✘        |           |           |   |         |
|              |         |                  |       |          |                    |             | first page          | prev page          | 11       | next page | last page | 1 | / 1page |

### 5) show port aggregation page

Home

Quickly Set

PORT

- Basic Config
- Port Aggregation**
- Port Mirroring
- Port Limit
- Storm Control
- Port Isolation

VLAN

Fault/Safety

MSTP

DHCP RELAY

DHCP Server

QOS

**Port aggregation**

Aggregate port number(1-8):

Please select the port to join the aggregate port:

|   |   |   |   |    |    |    |    |    |    |    |    |    |
|---|---|---|---|----|----|----|----|----|----|----|----|----|
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 |
| 1 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 |

Optional Not optional Selected 1 Aggregation Trunk E ip source enable port Tips : drag to select multiple ports

**Add setting**

**Port aggregation list**

| Aggregate port | Member port | Operation |
|----------------|-------------|-----------|
| 2              | 10,11,12,13 | ✗         |

first page prev page 11 next page last page1 / 1page

## 4.12 SYSTEM

In the navigation bar to select **"SYSTEM"**, you can set to the **system config**、**system update**、**config management**、**config save**、**administor privileges** and **info collect**.



### 4.12.1 System config

#### 4.12.1.1 System settings

In the navigation bar to select **"SYSTEM>system config>System settings"**, Basic information set switch. the following picture:

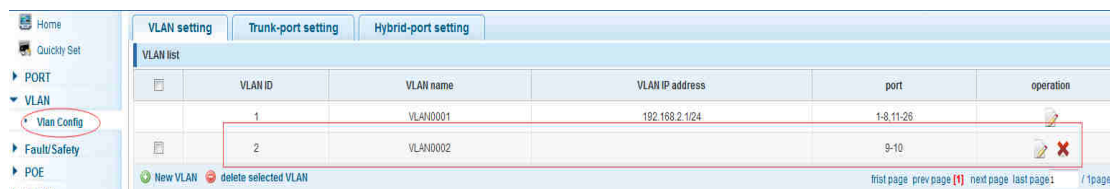
#### 【parameter description】

| parameter   | description                  |
|-------------|------------------------------|
| Device name | switch name                  |
| Manage VLAN | Switches use VLAN management |

|           |   |
|-----------|---|
| Manage ip | Switch IP address management                                  |
| timeout   | Don't use more than login timeout after login to log in again |

### 【Configuration example】

Such as: 1) set up the VLAN 2 is management VLAN, should first created vlan 2 the VLAN Settings, and set a free port in the VLAN 2



**system basic information**

Manage VLAN:  \*

Manage IP:  \*

Mask:  \*

Default gateway:

Jumboframe :  (1518-9216)

DNS server:

Login

timeout(minute):

**system basic information**

Manage VLAN:  \*

Manage IP:  \*

Mask:  \*

Default gateway:

Jumboframe :  (1518-9216)

DNS server:

Login

timeout(minute):

Device MAC:

Device name:

Device position:

Contacts:

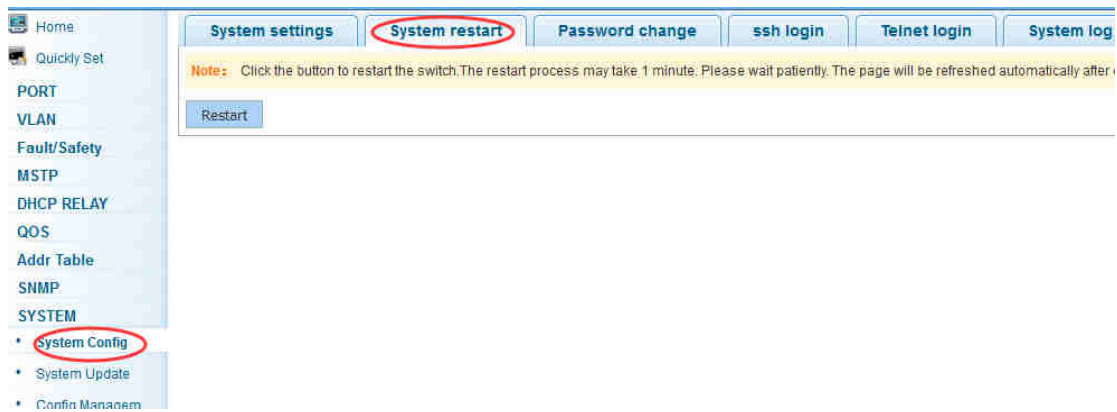
Contact information:

2) insert the PC interface 9 or 10 ports, set up the management IP for 192.168.2.12, device name is yoyo, timeout for 20 minutes ,Jumboframe for 5000.

3) use 192.168.1.12 logging in, sets the system time

#### 4.10.1.2 System restart

In the navigation bar to select **"SYSTEM>system config>system restart"**, equipment can be restarted. the following picture:



### 【instruction】

Click the button to restart the switch. The restart process may take 1 minute. Please wait patiently. The page will be refreshed automatically after device restart.

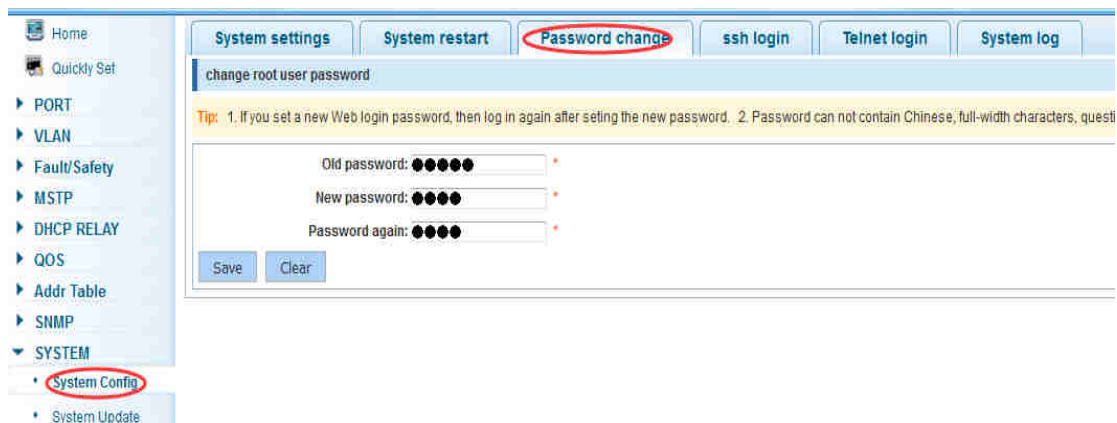
### 【Configuration example】

Such as: click "restart" button



## 4.10.1.3 Password change

In the navigation bar to select "**SYSTEM>system config>password change**", The password change to equipment. the following picture:



### 【instruction】

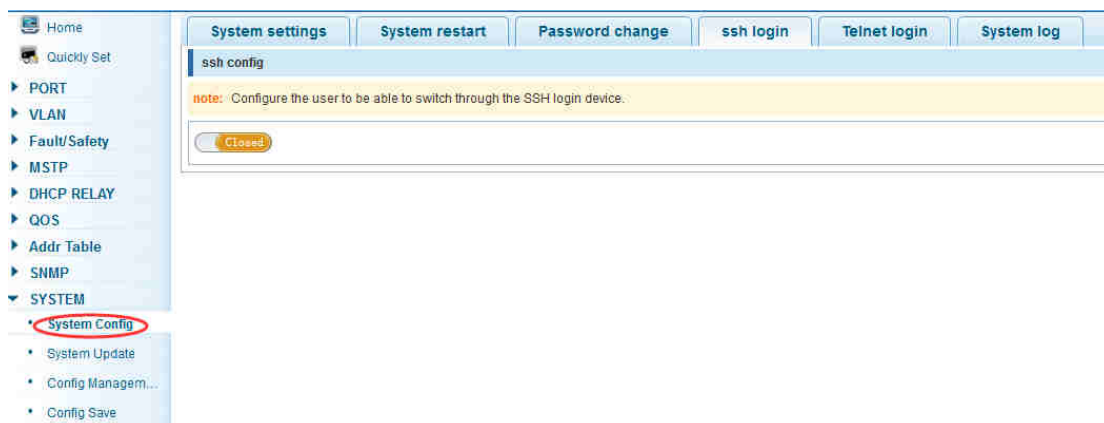
1. If you set a new Web login password, then log in again after setting the new password.
2. Password can not contain Chinese, full-width characters, question marks and spaces.
3. If forget the password reset, can be reset in the console.  
 switch(config)# password admin  
 New Password:3456  
 Confirm Password:3456

### 【Configuration example】

Such as: amend the password to 1234.

#### 4.10.1.4 SSH login

In the navigation bar to select “**SYSTEM>system config>ssh login**”, SSH open。 the following picture:

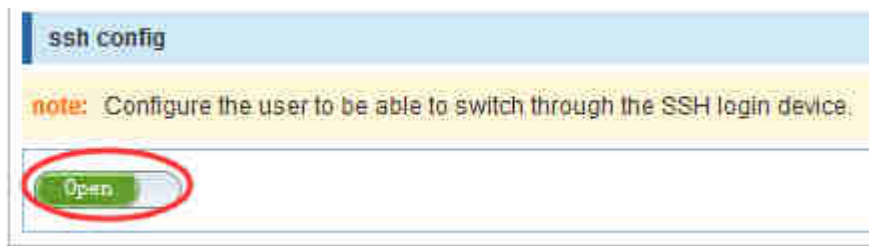


### 【instruction】

Configure the user to be able to switch through the SSH login device.

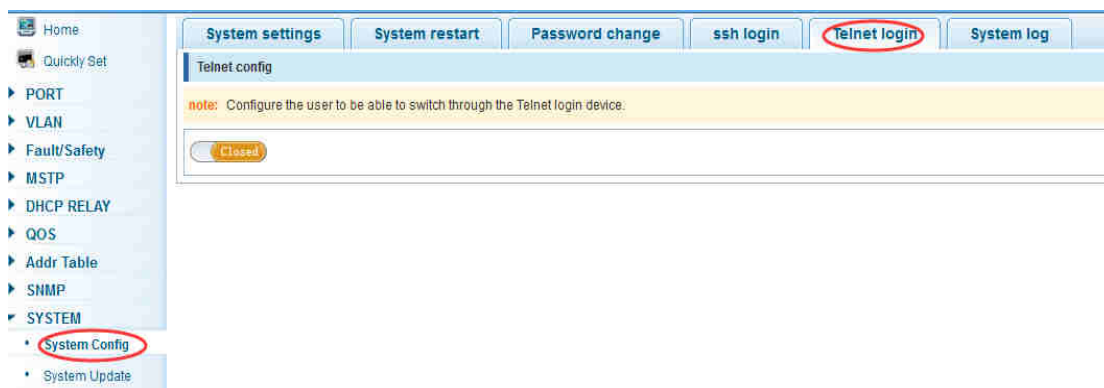
### 【Configuration example】

Such as: SSH open,you can CRT to log in



#### 4.10.1.5 Telnet login

In the navigation bar to select "**SYSTEM>system config>Telnet login**",Telnet open. The following picture:

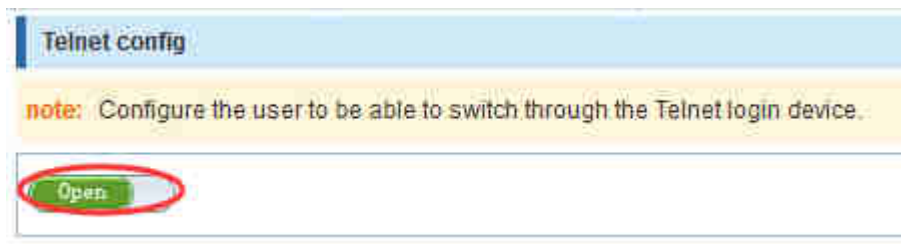


#### 【instruction】

Configure the user to be able to switch through the Telnet login device.

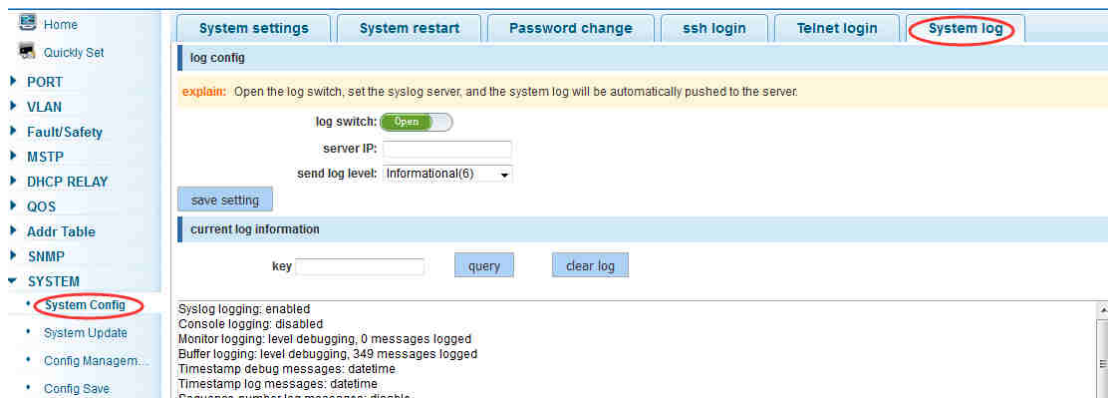
#### 【Configuration example】

Such as: Telnet open,PC Telnet function open,you can log in



#### 4.10.1.6 System log

In the navigation bar to select "**SYSTEM>system config>system log**",to view the log and set up the log server. the following picture:



### 【parameter description】

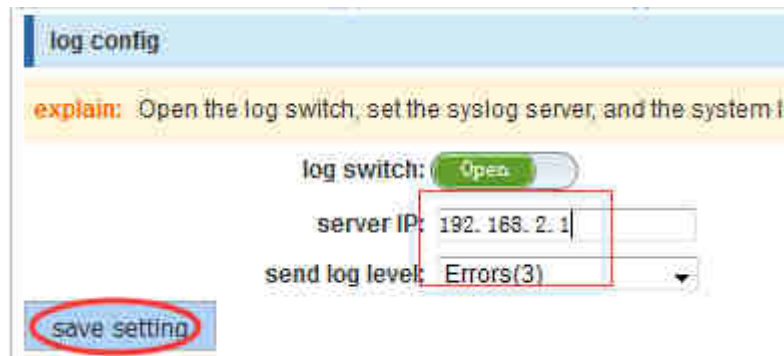
| parameter      | description                            |
|----------------|--|
| Log switch     | Open and close                         |
| Server ip      | Appoint to server address              |
| Send log level | 0-7                                    |
| key            | Enter the required query of characters |

### 【instruction】

Open log switch, set up the syslog server, system log will automatically be pushed to the server.

### 【Configuration example】

Such as: 1) the error log information in 192.168.2.1 pushed to the server



2) input the Mac keywords ,click "query" button, click on the "clear log" button, can clear the log

current log information

key

---

Syslog logging: enabled  
 Console logging: disabled  
 Monitor logging: level debugging, 0 messages logged  
 Buffer logging: level debugging, 444 messages logged  
 Timestamp debug messages: datetime  
 Timestamp log messages: datetime  
 Sequence-number log messages: disable  
 Sysname log messages: disable  
 Trap logging: level informational, 444 message lines logged, 0 fail  
 Log Buffer (Total 4096 Bytes):  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: vlan-filter enable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: mac-vlan enable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: subnet-vlan enable  
 Jan 01 00:00:22 %PORTMANAGE-Informational-PORT: set port 26 flow control off  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: rate-limit input 262143  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: rate-limit output 262143  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: cylan-trusted enable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: vlan-translation ingress disable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: vlan-translation egress disable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: vlan-filter enable  
 Jan 01 00:00:22 %CLI-Errors-CLIERRINFO: CLI load config excute cmd error: mac-vlan enable

## 4.12.2 System upgrade

In the navigation bar to select **“SYSTEM>system upgrade”**, Optional upgrade file to upgrade. the following picture

System Upgrade

note: 1, please confirm that the upgraded version of the same model and the same model.  
 2, in the upgrade process, you may encounter flash to make the page is temporarily unable to respond to the page, this time can not power off or restart the device, until prompted to upgrade successfully!

file name:  未选择文件

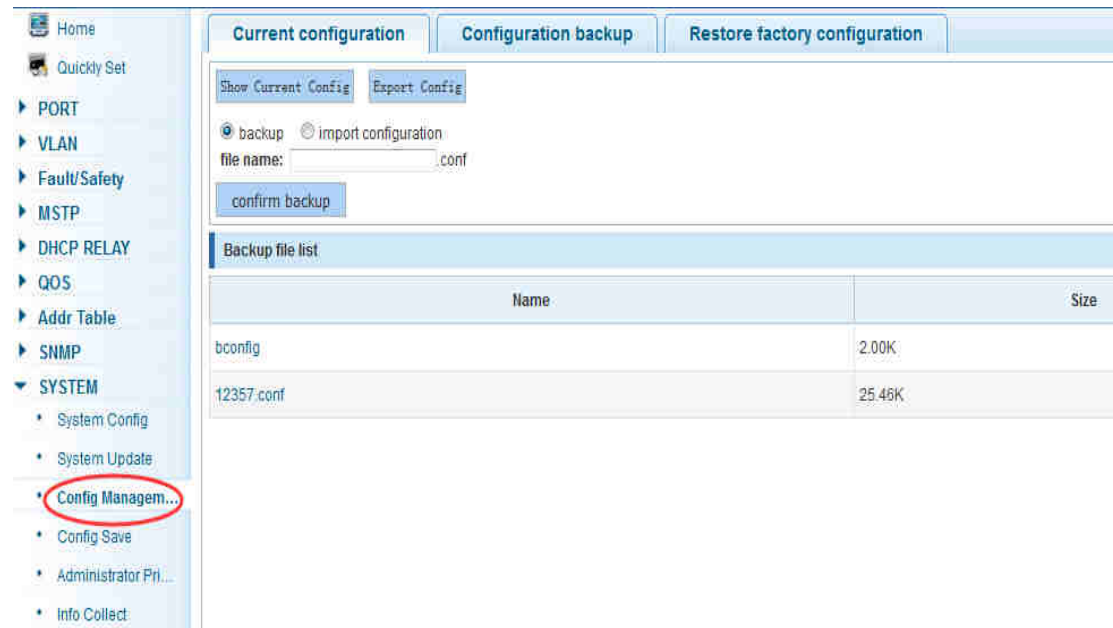
### 【instruction】

- 1 please confirm that the upgraded version of the same model and the same model.
- 2 in the upgrade process, you may encounter flash to make the page is temporarily unable to respond to the page, this time can not power off or restart the device, until prompted to upgrade successfully!

## 4.12.3 Config management

### 4.12.3.1 Current configuration

In the navigation bar to select **“SYSTEM>config management>current configuration”**, can import and export configuration files, the backup file. the following picture:



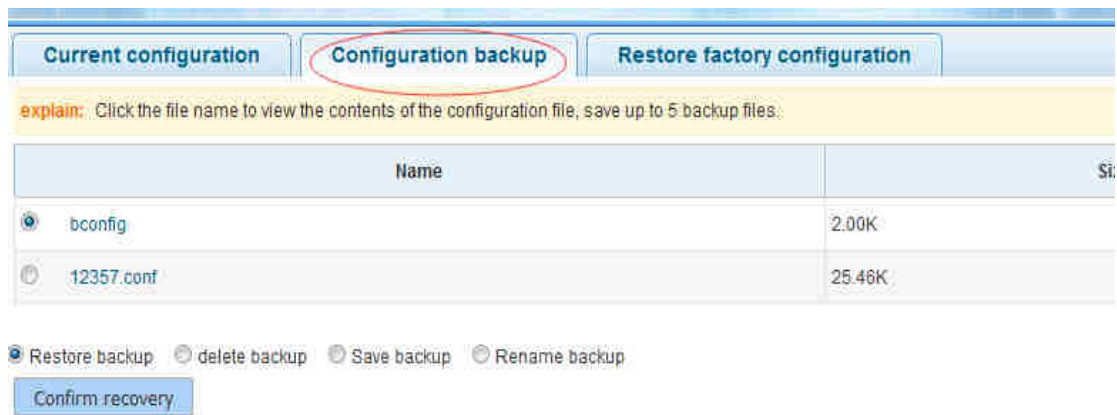
#### 【instruction】

Import process can not be closed or refresh the page, or import will fail!

After the introduction of configuration, to enable the new configuration, please in this page [Restart device](#) Otherwise configuration does not take effect.

### 4.12.3.2 Configuration backup

In the navigation bar to select **“SYSTEM>config management>configuration backup”**, you can configure backup file. the following picture:

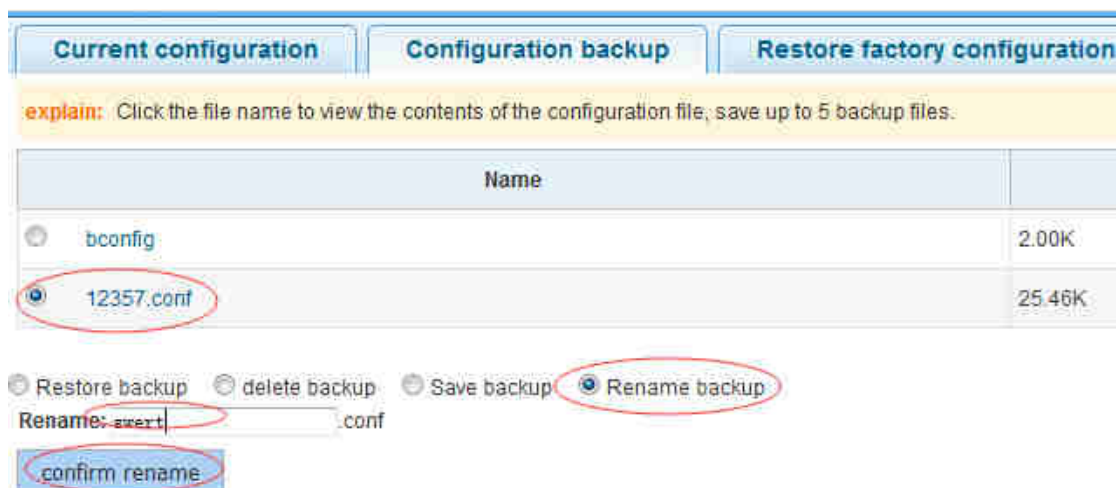


### 【instruction】

Operating this page should be in the current configuration page first, the backup file.

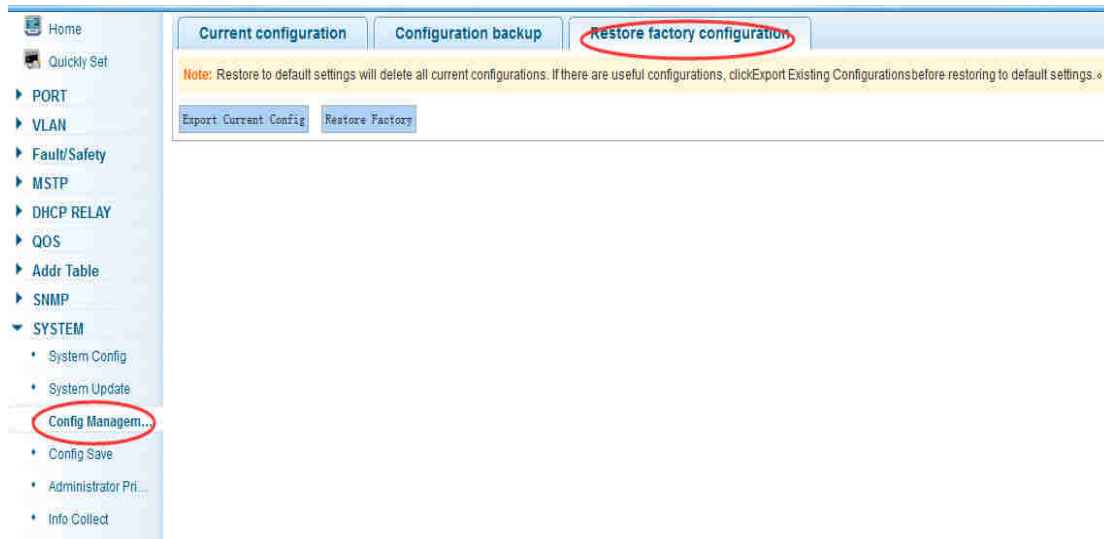
### 【Configuration example】

Such as: restore backup



### 4.12.3.3 Restore factory configuration

In the navigation bar to select "**SYSTEM>config management>restore factory configuraton**", Can export the current configuration and restore factory configuration .the following picture:

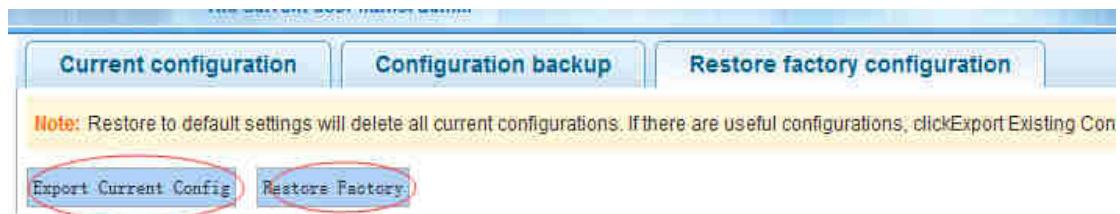


### 【instruction】

Restore the factory configuration, will delete all the current configuration. If you have any useful configuration, the current system can lead the factory configuration again after the current configuration.

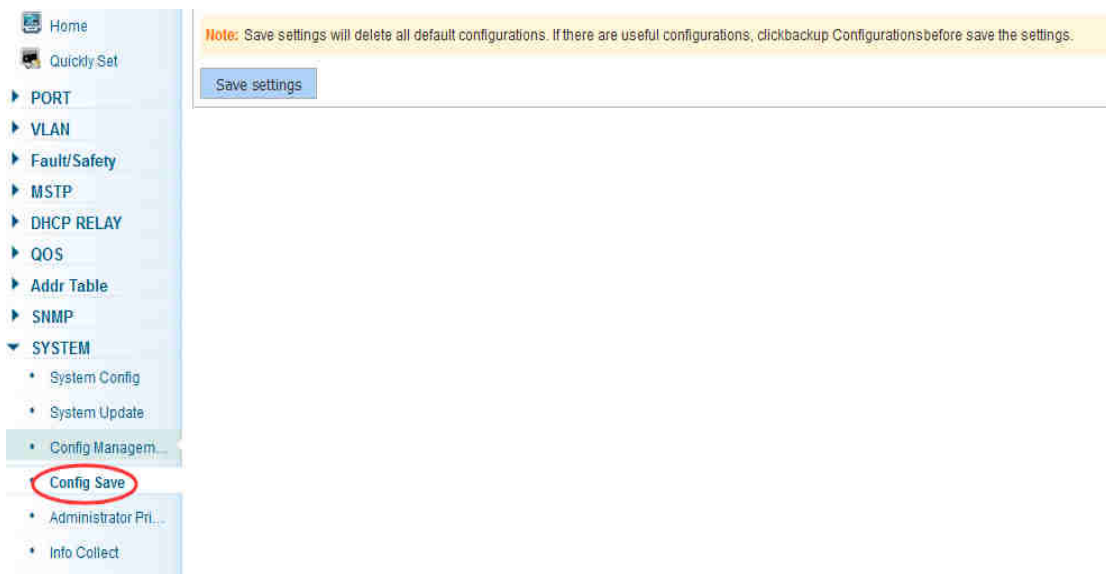
### 【Configuration example】

Such as: restore configuration can be the guide before they leave the current configuration



## 4.12.4 Config save

In the navigation bar to select **"SYSTEM >config save"**, you can save current configuration. the following picture

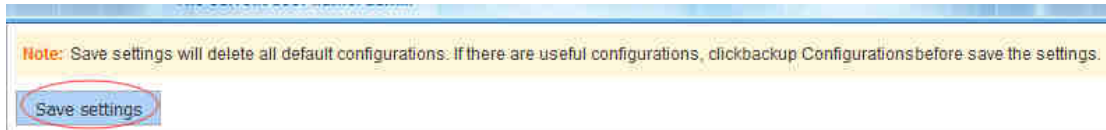


### 【instruction】

Save settings will delete all default configurations. If there are useful configurations, click backup Configurations before save the settings.

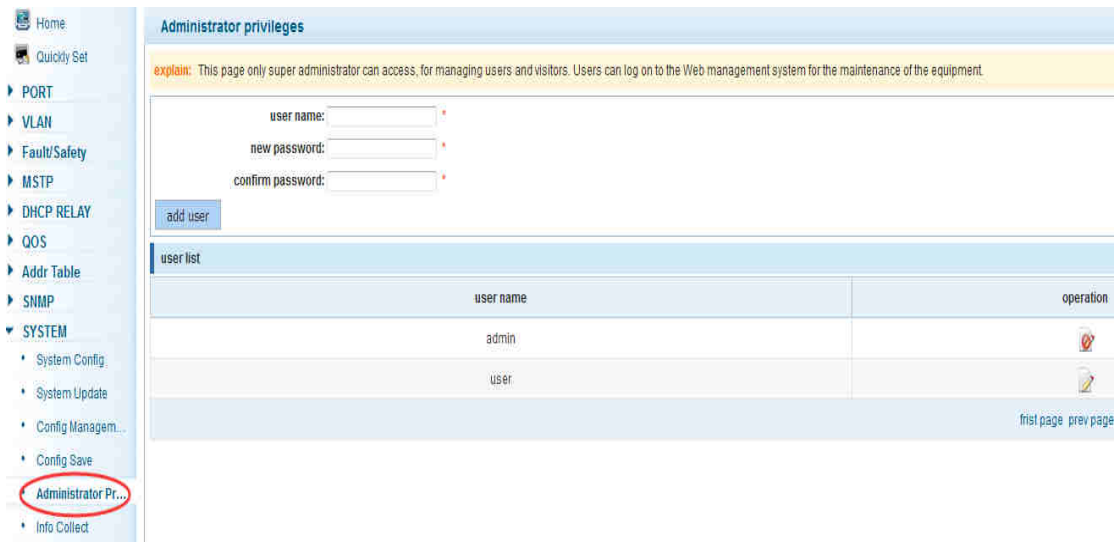
### 【Configuration example】

Such as: click "save settings" button



## 4.12.5 Administrator privileges

In the navigation bar to select "**SYSTEM>administrator privileges**", Configurable ordinary users. the following picture

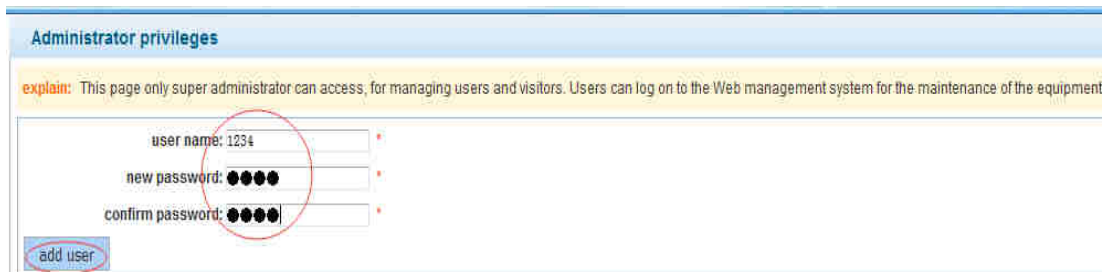


### 【instruction】

Only the admin of the super administrator can access this page is used to manage users and visitors. The user can log in the Web management system of equipment for routine maintenance. In addition to the admin and user, can add up to five users. Ordinary users can only access information system home page.

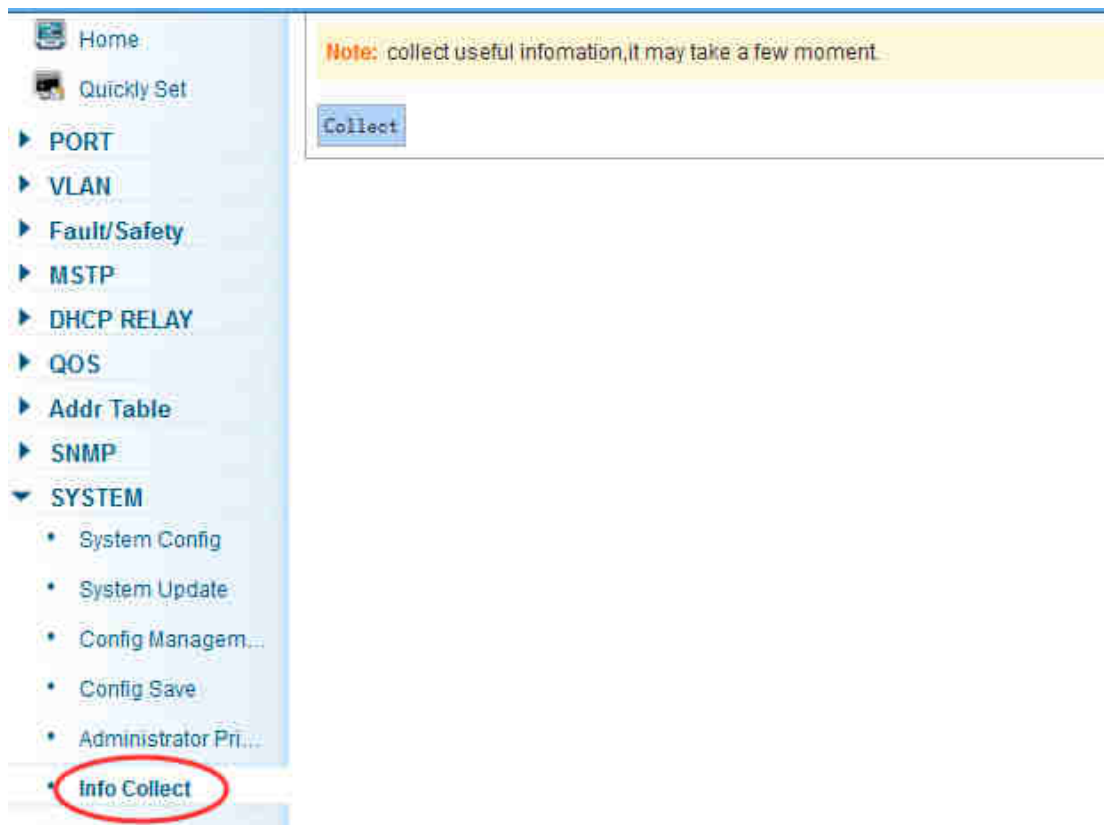
### 【Configuration example】

Such as:



## 4.12.6 Info collect

In the navigation bar to select **“SYSTEM>info collect”**, you can collect to the system debug information. the following picture

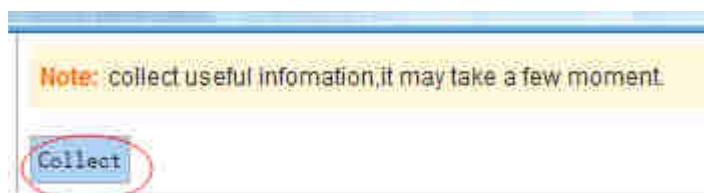


### 【instruction】

collect useful information, it may take a few moment.

### 【Configuration example】

Such as: click on "collect" button



## **Appendix: Technical Specifications**

| <b>Hardware Specification</b>    |   |
|----------------------------------|---|
| Standards                        | IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE802.3x, IEEE802.3z, IEEE802.3ad, IEEE802.1q, IEEE802.1p  |
| Network Media (Cable)            | 10BASE-T: UTP category 3,4,5 cable (maximum 100m)<br>100BASE-Tx: UTP category 5,5e cable (maximum 100m)<br>1000BASE-T: UTP category 5e,6 cable (maximum 100m)<br>100BASE-FX: MMF, SMF<br>1000BASE-X: MMF, SMF |
| Number of Ports                  | 48 x 10/100/1000Mbps Auto-Negotiation port<br>4 x 100/1000Mbps SFP port<br>1 x RJ45 Console Port  |
| Transfer Method                  | Store-and-Forward   |
| Switching Capacity               | 104G  |
| MAC Address Learning             | Automatically learning, automatically Update 16K Table  |
| Frame Filtering and Forward Rate | 10Mbps: 14880pps<br>100Mbps: 148800pps<br>1000Mbps: 1488000pps  |
| Dimensions (W × D × H)           | 440*330*44mm  |
| Environment                      | Operating Temperature: 0°C~40°C<br>Storage Temperature: -10°C~70°C<br>Operating Humidity: 10%~90% non-condensing<br>Storage humidity: 5%~90% non-condensing   |
| Power Supply                     | AC 100V~240V 50/60HZ (12V—4A)   |
| Power consumption                | 29.28W(MAX)   |

| <b>Software Specification</b> |                             |
|-------------------------------|-----------------------------|
| System                        | IP Configuration(IPV4、IPV6) |
|                               | User Configuration          |
|                               | Time Settings(SNTP)         |
|                               | Log Management              |
|                               | SNMP Management(V2)         |
|                               | RMON                        |

|                   |  |
|-------------------|--|
| Port              | Port Configuration                           |
|                   | Link Aggregation(static、LACP)                |
|                   | Port Mirroring                               |
|                   | Jumbo Frame                                  |
|                   | Port Error Disabled Configuration            |
| VLAN              | Port based VLAN                              |
|                   | Protocol based VLAN                          |
| IGMP              | IGMP Snooping (V2、V3)                        |
|                   | Multicast group (256)                        |
| STP               | IEEE 802.1D STP                              |
|                   | IEEE 802.1W RSTP                             |
|                   | IEEE 802.1S MSTP                             |
| Security          | Broadcast / Uncast / Multicast Storm Control |
|                   | IEEE 802.1x                                  |
|                   | DHCP Snooping (IP、MAC、Port)                  |
| ACL               | MAC-Based ACL                                |
|                   | MAC-Based ACE                                |
|                   | IPv4-Based ACL                               |
|                   | IPv4-Based ACE                               |
| QoS               | WRR (Weighted Round Robin)                   |
|                   | Port based QoS                               |
|                   | IEEE 802.1p Class of Service                 |
|                   | DSCP-based QoS                               |
|                   | QoS basic mode                               |
|                   | QoS advanced mode (Policy based)             |
| Bandwidth Control | Ingress Port                                 |
|                   | Ingress VLAN                                 |
|                   | Egress Port                                  |
|                   | Egress Queue                                 |

|                     |                               |
|---------------------|-------------------------------|
| MAC Address Setting | Static Mac Setting            |
|                     | MAC Filtering                 |
|                     | Dynamic Address Learn/Setting |
|                     | RMA Setting                   |
| LLDP                | LLDP Port Setting             |
|                     | MED Network Policy            |
| Management          | System Status                 |
|                     | Ping Test                     |
|                     | Factory Reboot Switch         |
|                     | Backup/Upgrade Manager        |
|                     | Configuration Manager         |

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- Do not expose your device to dust or corrosive liquids.
- Do not use this product near water sources.
- Make sure to connect the cables to the correct ports.
- Do not obstruct the ventilation slots on the device.

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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#### **Version 2.1, February 1999**

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