8-Port Gigabit + 2-Port Gigabit SFP L2 Managed PoE Switch

User's Manual

V1.0.0

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Cybersecurity Recommendations

Mandatory actions to be taken towards cybersecurity

1. Change Passwords and Use Strong Passwords:

The number one reason systems get “hacked” is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

2. Update Firmware

As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

“Nice to have” recommendations to improve your network security

1. Change Passwords Regularly

Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

2. Change Default HTTP and TCP Ports:

● Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.

● These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

3. Enable HTTPS/SSL:

Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

4. Enable IP Filter:

Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

5. Change ONVIF Password:

On older IP Camera firmware, the ONVIF password does not change when you change the system’s credentials. You will need to either update the camera’s firmware to the latest revision or manually change the ONVIF password.

6. Forward Only Ports You Need:

● Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.

● You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a different username and password for your security system will make it more difficult for someone to guess their way into your system.

9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

10. UPnP:

● UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.

● If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

General

This user’s manual introduces the functions and operations of 8-Port Gigabit + 2-Port Gigabit SFP L2 Managed PoE Switch devices.

Models

DH-PFS4210-8GT-150

Safety Instructions

The following categorized signal words with defined meaning might appear in the Manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

Revision History

No.	Version	Revision Content	Release Time
1	V1.0.0	First Release.	June 1, 2018

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others' such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

About the Manual

- The Manual is for reference only. If there is inconsistency between the Manual and the actual product, the actual product shall govern.
- We are not liable for any loss caused by the operations that do not comply with the Manual.
- The Manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper User's Manual, CD-ROM, QR code or our official website. If there is inconsistency between paper User's Manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the Manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The product must be grounded to reduce the risk of electric shock.
- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

Installation

- Keep upwards. Handle with care.
- Do not apply power to the Device before completing installation.
- Do not place objects on the Device.

Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers. We are not liable for any problems caused by unauthorized modifications or attempted repair.

Environment

The Device should be installed in a cool, dry place away from conditions such as direct sunlight, inflammable substances, and explosive substances.

Accessories

- Be sure to use all the accessories recommended by manufacturer.
- Before installation, please open the package and check all the components are included.
- Contact your local retailer ASAP if something is broken in your package.

Battery

- Improper battery use might result in fire, explosion, or personal injury.
- When replacing the battery, please make sure you are using the same type. Risk of explosion if battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.
- Please make sure to use the same battery model if possible.
- We recommend replace battery regularly (such as one-year) to guarantee system time accuracy. Before replacement, please save the system setup, otherwise, you may lose the data completely.

Table of Contents

1 Introduction

1.1 Overview

The Switch is a new generation designed for high security and high performance network the second layer switch. Provides eight 10/100/1000Mbps self-adaption RJ45 port, and two 100/1000Mbps SFP ports, all ports support wire-speed forwarding, can provide you with larger network flexibility. All 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.

The Switch supports VLAN ACL based on port, easily implement network monitoring, traffic regulation, priority tag and traffic control. Support traditional STP/RSTP/MSTP 2 link protection technology; greatly improve the ability of fault tolerance, redundancy backup to ensure the stable operation of the network. Support ACL control based on the time, easy control the access time accurately. Support 802.1x authentication based on the port and MAC, easily set user access. Perfect QOS strategy and plenty of VLAN function, easy to maintenance and management, meet the networking and access requirements of small and medium-sized enterprises, intelligent village, hotel, office network and campus network.

The Switch all UTP ports support PoE power supply function, support IEEE802.3at standard, 802.3af downward compatibility, power supply equipment for Ethernet, can automatically detect identification standard of electrical equipment, and through the cable for the power supply.

1.2 Features

- Comply with 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3z, IEEE802.1Q , IEEE802.1p, IEEE802.3af, IEEE802.3at
- Supports PoE power up to 30W for each PoE port, total power up to 140W for all PoE ports
- 8 x 10/100/1000Mbps Auto MDI/MDI-X Ethernet port
- 2 x 100/1000Mbps SFP port
- 8K entry MAC address table of the switch with auto-learning and auto-aging
- Supports IEEE802.3x flow control for Full-duplex Mode and backpressure for Half-duplex Mode
- Support Web interface management
- supports QoS (quality of service), port mirror, Link aggregation protocol
- LED indicators for monitoring Power, System, link/activity/Speed, PoE

1.3 External Component Description

1.3.1 Front Panel

The front panel of the Switch consists of AC power connector, one marker, 1 x Reset button, a series of LED indicators, 8 x 10/100/1000Mbps RJ-45 ports, 2 x SFP ports and 1x Console port as shown as below.

Figure 1-1 Front panel

AC Power Connector:

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

Grounding Terminal:

Located on the right side of the power supply connector, use wire grounding to lightning protection.

Reset button (Reset):

Keep the device powered on and push a paper clip into the hole. Press down the button for 5 seconds to restore the Switch to its original factory default settings.

10/100/1000Mbps RJ-45 ports (1~8):

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding Link/Act/Speed and PoE indicator.

SFP ports (9, 10):

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

Console port (Console):

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

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.

Table 1-1 Front panel

LED Indicator	Faceplate Marker	Status	Indication
Power Indicator	PWR	Off	Power Off
		Solid green	Power On

LED Indicator	Faceplate Marker	Status	Indication
System indicator	SYS	Off	System not started
		Blinking green	System is starting or the system starts successfully
10/100/1000 BASE-T adaptive Ethernet port indicators (1-8)	Link/Act /Speed	Off	The port is NOT connected.
		Solid green	The port is connected at 1000Mbps.
		Solid orange	The port is connected at 100/10Mbps
		Blinking	The port is transmitting or receiving data.
SFP port indicators (9-10)	Link/Act /Speed	Off	The port is NOT connected.
		Solid green	The port is connected at 1000Mbps.
		Solid orange	The port is connected at 100Mbps
		Blinking	The port is transmitting or receiving data.
PoE status indicators (1-8)	PoE	Off	No PD is connected to the corresponding port, or no power is supplied according to the power limits of the port
		Solid orange	A Powered Device is connected to the port, which supply power successfully.
		Blinking	The PoE power circuit may be in short or the power current may be overloaded

1.3.2 Rear Panel

The rear panel of the Switch contains Heat vent shown as below.

Figure 1-2 Real panel

Heat vent:

The Heat vent is located in the middle position of the rear panel of the switch. It is used for heat dissipation and ventilation. Do not cover it.

1.4 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 PoE Web Smart Ethernet Switch
- One Installation Component
- One AC power cord
- One User’s Manual

2 Installation and Connection

This part describes how to install your PoE 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

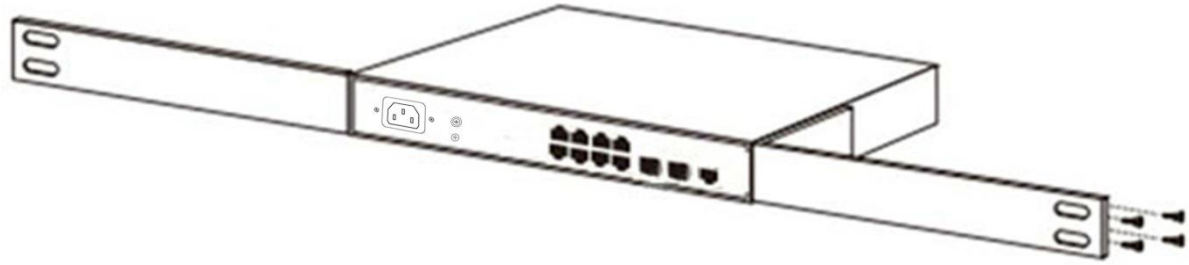
The Switch can be mounted in an EIA standard-sized, 19-inch rack, which can be placed in a wiring closet with other equipment. To install the Switch, please follow these steps:

Step 1 Attach the mounting brackets on the Switch's side panels (one on each side) and secure them with the screws provided.

Figure 2-1 Bracket installation

Step 2 Use the screws provided with the equipment rack to mount the Switch on the rack and tighten it.

Figure 2-2 Rack installation



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 LINK/ACT/Speed status indicator lights corresponding ports of the Switch.

2.3 Switch connection to the PD

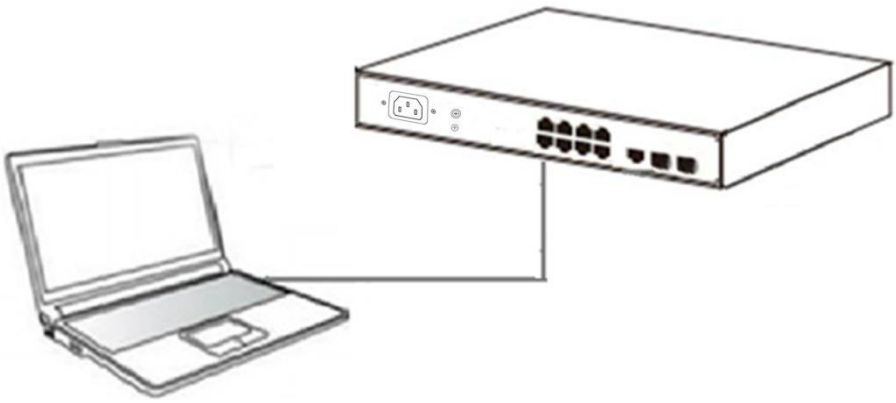
1-8 ports of the Switch have PoE power supply function, the maximum output power up to 30W each port, it can make PD devices, such as internet phone, network camera, wireless access point work. You only need to connect the Switch PoE port directly connected to the PD port by network cable.

3 Login to 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.

Figure 3-1 Connect PC to switch



3.2 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.

Table 3-1 Default value

Parameter	Default Value
Default IP address	192.168.1.110
Default user name	admin
Default password	admin123

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

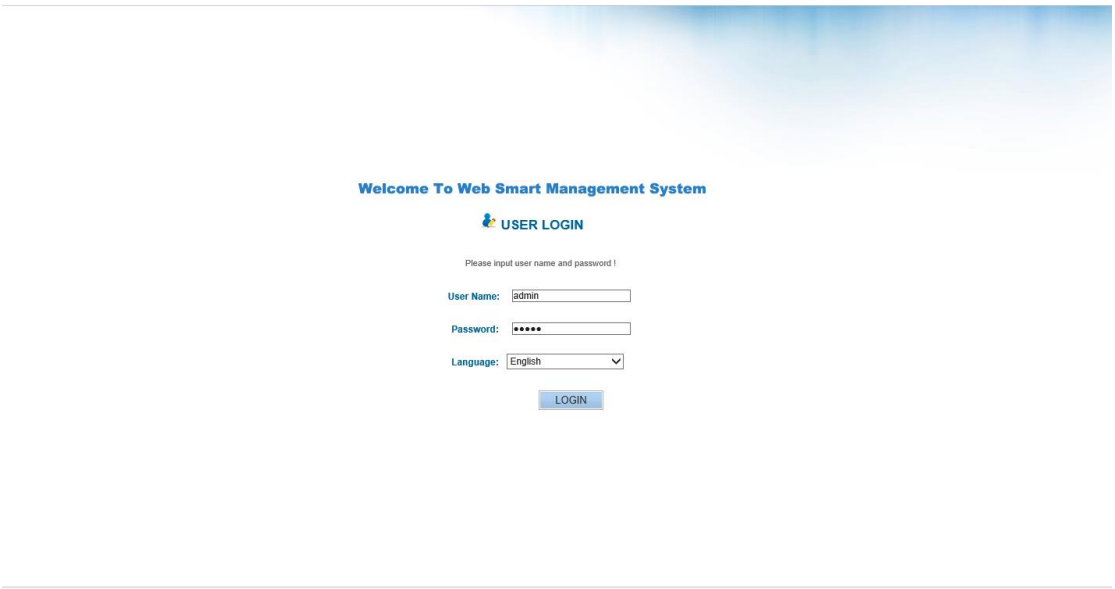
Step 1 Connect the Switch with the computer NIC interface.

Step 2 Power on the Switch.

Step 3 Check whether the IP address of the computer is within this network segment: 192.168.1.xxx ("xxx" ranges 0~254, except 110), for example, 192.168.1.100.

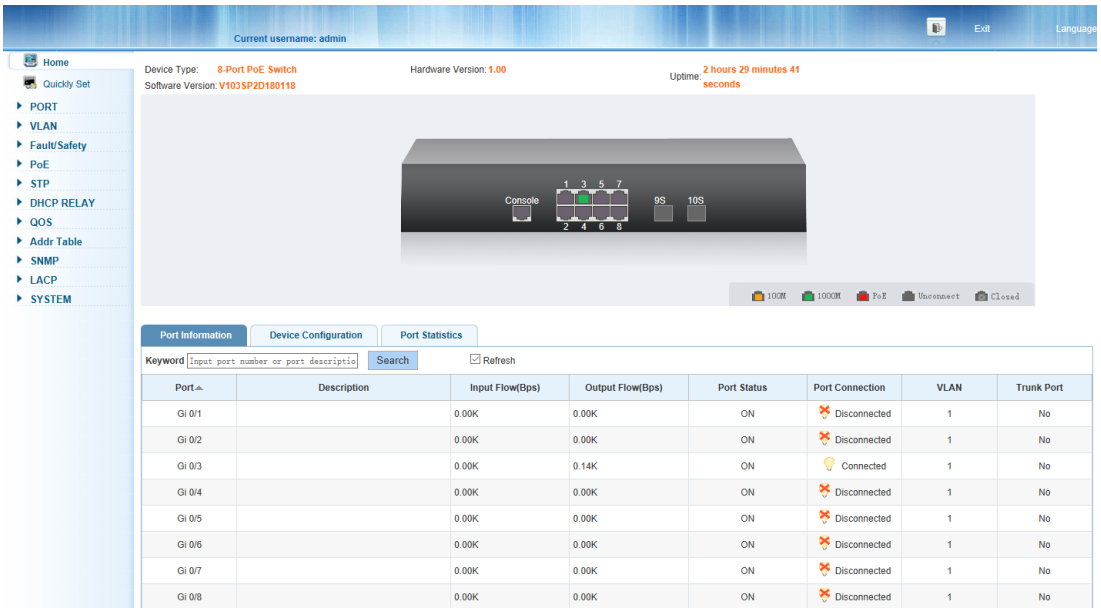
Step 4 Open the browser, and enter http://192.168.1.110 and then press "Enter". The Switch login window appears, as shown below.

Figure 3-2 Login windows



Step 5 Switching language to English .Enter the Username and Password (The factory default Username is **admin** and Password is **admin123**), and then click "**LOGIN**" to log in to the Switch configuration window.

Figure 3-3 Switch configuration window

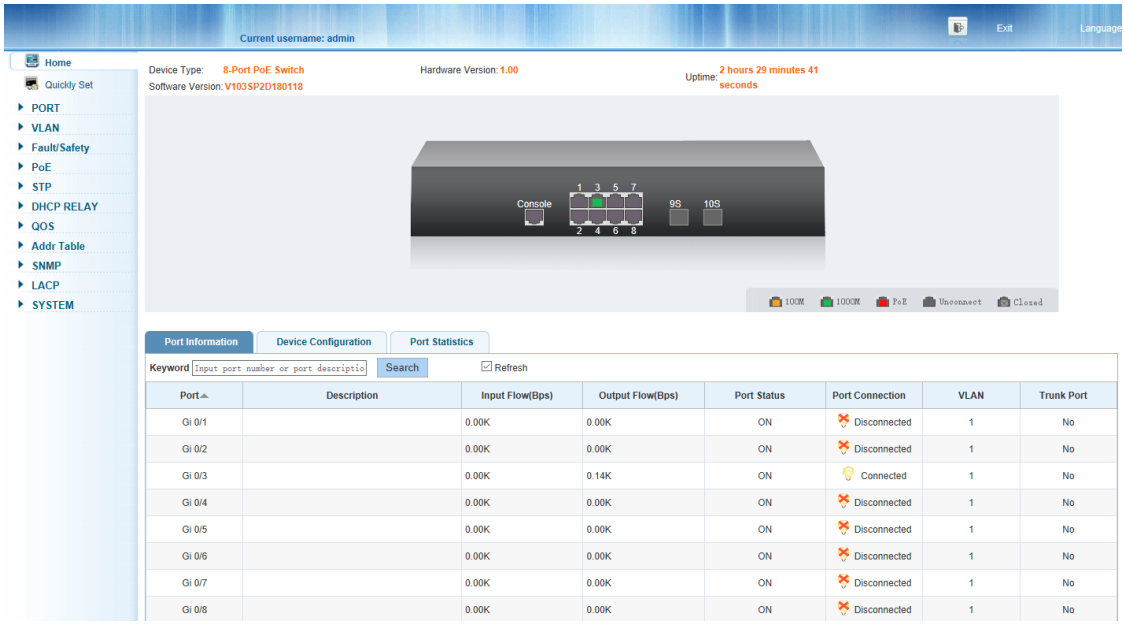


4 Switch Configuration

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.

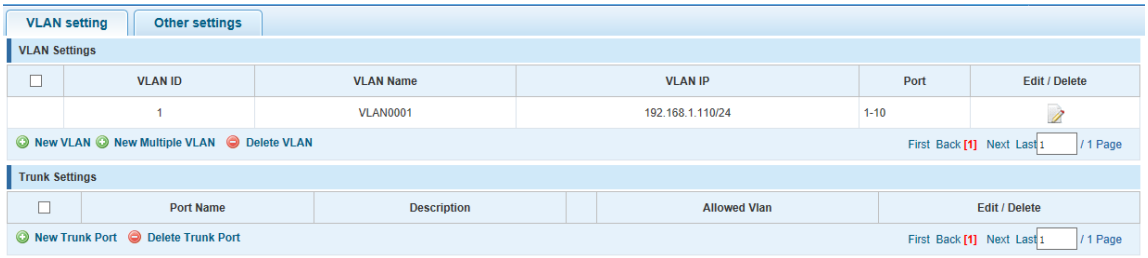
Figure 4-1 Switch configuration window



4.1 Quickly Setting

In the navigation bar to select "**quickly setting**", 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:

Figure 4-2 Quickly setting



【Parameter Description】

Parameter	Description
VLAN ID	VLAN number
VLAN Name	VLAN mark
VLAN IP	Manage the IP address of the VLAN
Device Name	Switch name
Management VLAN	Switch's 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】

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

Figure 4-3 VLAN setting I

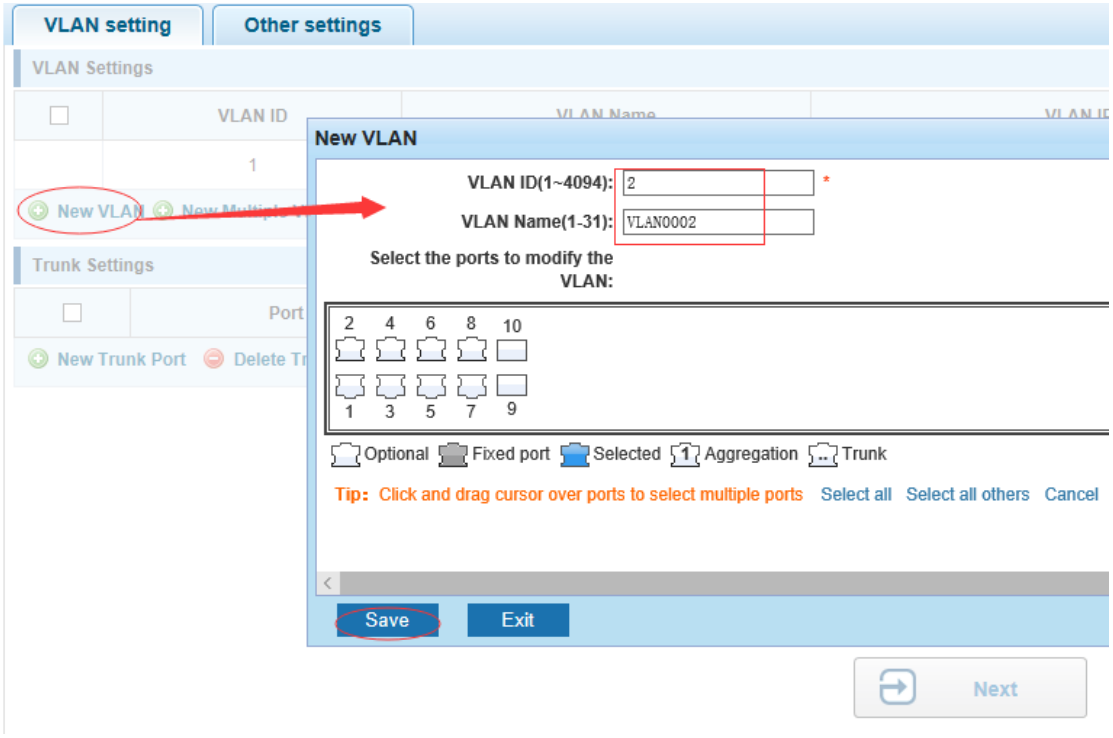
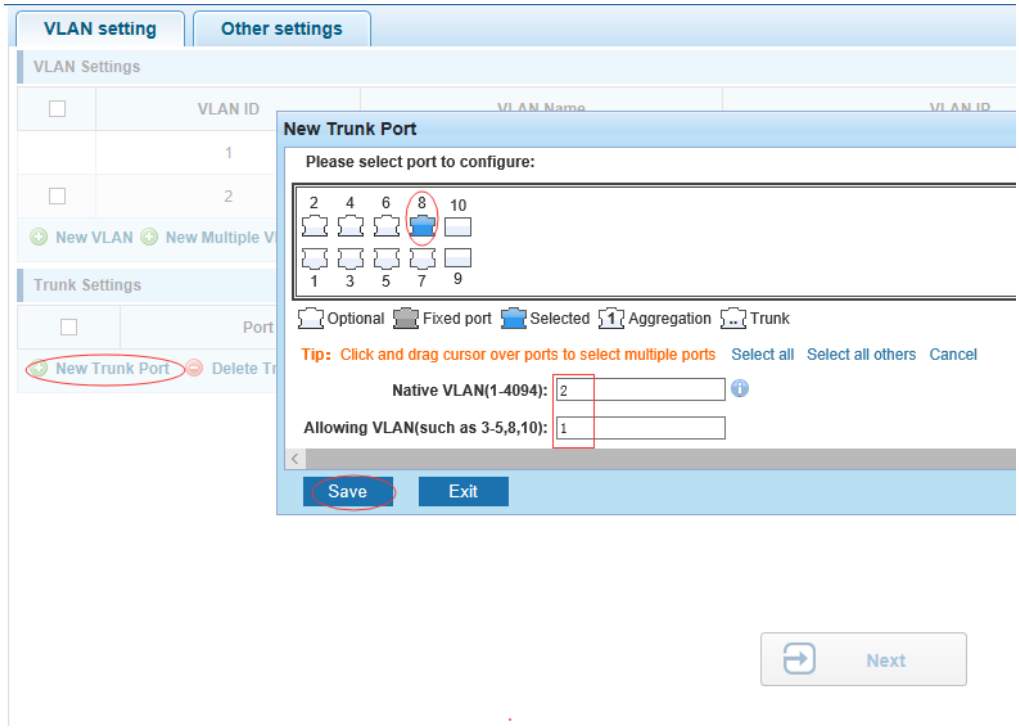
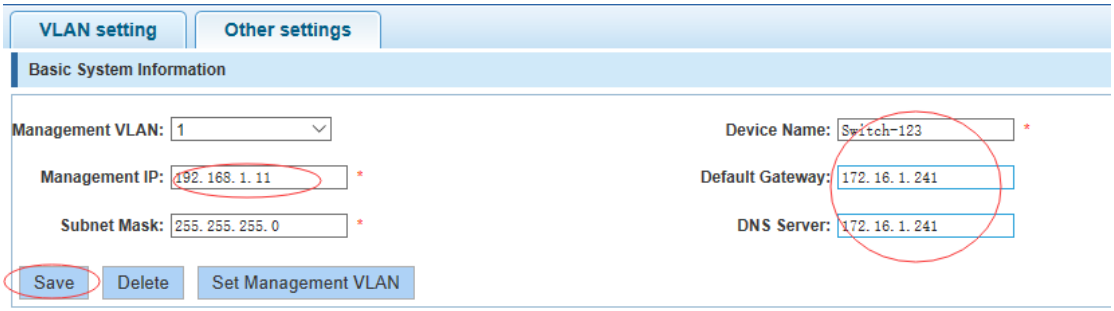


Figure 4-4 VLAN setting II



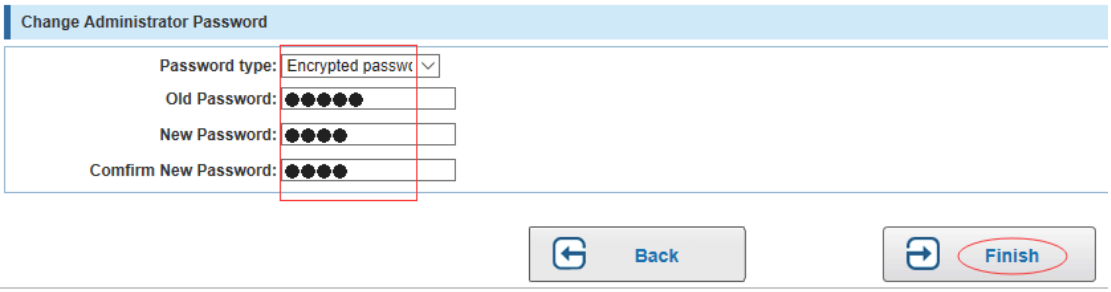
Step 2 Click "next step" button, into other settings, such as: manage ip address set as 192.168.1.11, device name set as switch-123, default gateway with the dns server set as 172.16.1.241.

Figure 4-5 Save



Step 3 Use 192.168.1.11 to log in, set a new password for admin1234.

Figure 4-6 Finish



4.2 Port

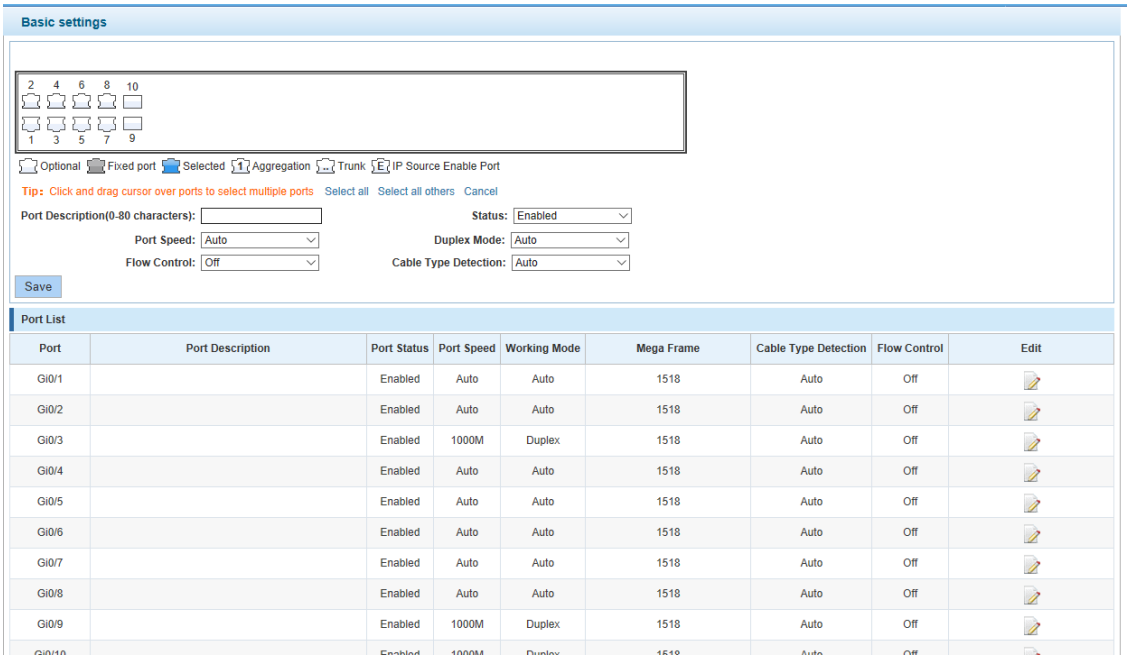
In the navigation bar to select "**PORT**", you may conduct **Basic config**, **Port aggregation**, **Port mirroring**, **Port limit** and **port isolation**.

Figure 4-7 Port

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:

Figure 4-8 Basic settings I



【Parameter Description】

Parameter	Description
Port	Select the current configuration port number
Status	Choose whether to close link port
Flow Control	Whether open flow control
Port Speed	Can choose the following kinds: Auto 10 M 100 M 1000 M
Duplex Mode	Can choose the following kinds: Auto Duplex Half duplex
Port Description	The port is described
Cable Type Detection	Can choose the following kinds: Auto MDI MDIX

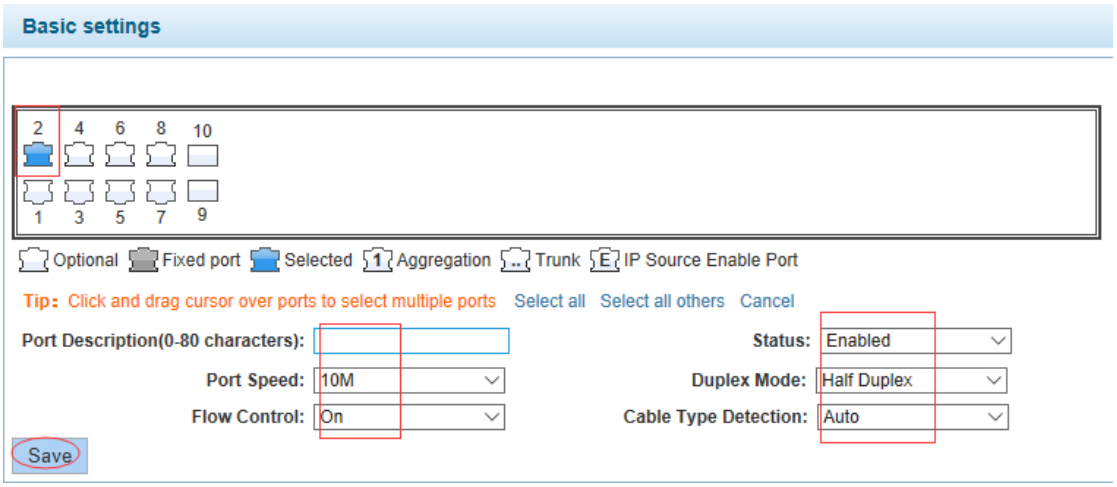
【Instructions】

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.

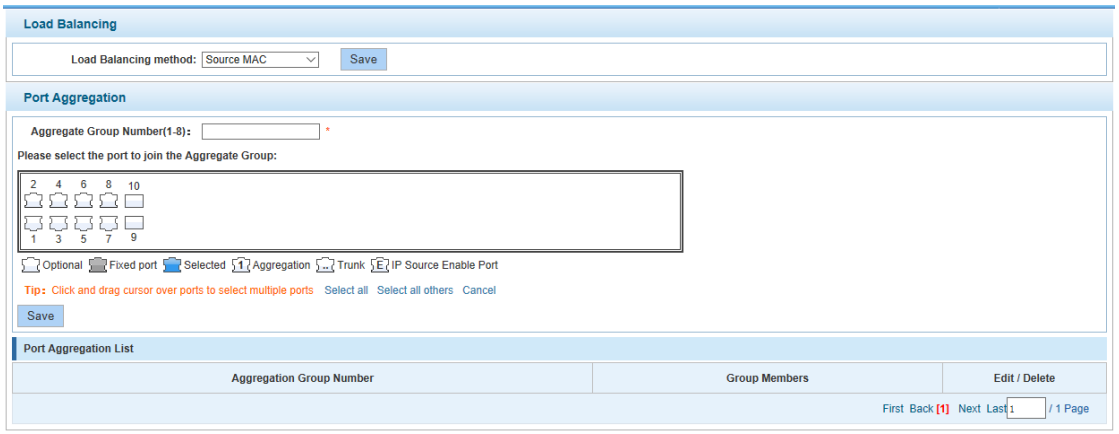
Figure 4-9 Basic settings II



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:

Figure 4-10 Port aggregation



【Parameter Description】

Parameter	Description
Aggregation Group Number	Switch can be set up 8 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

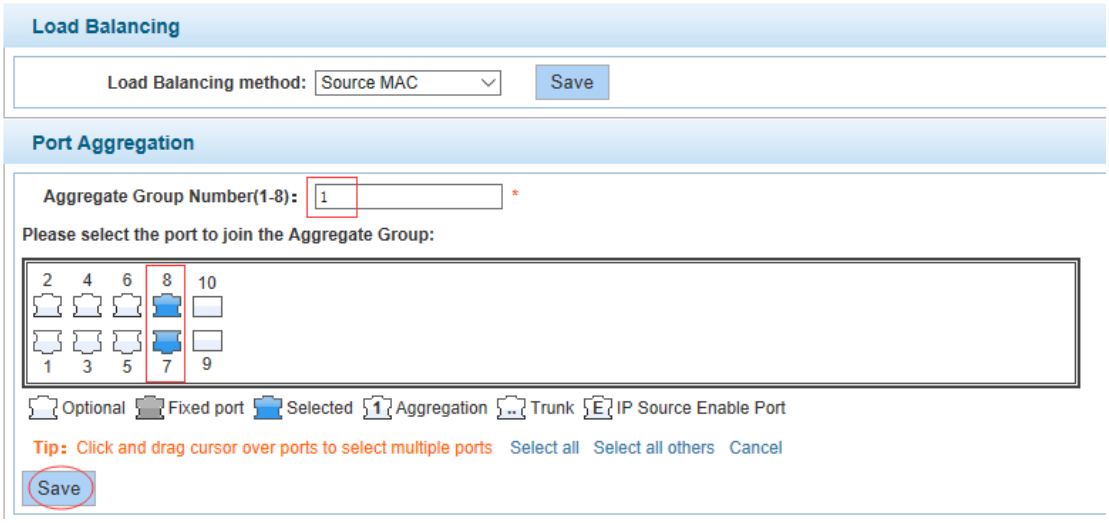
【Instructions】

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 cannot be added!

【Configuration Example】

Such as: set the port 7, 8, for aggregation port 1, lets this aggregation port 1 connected to other switch aggregation port 1 to build switch links.

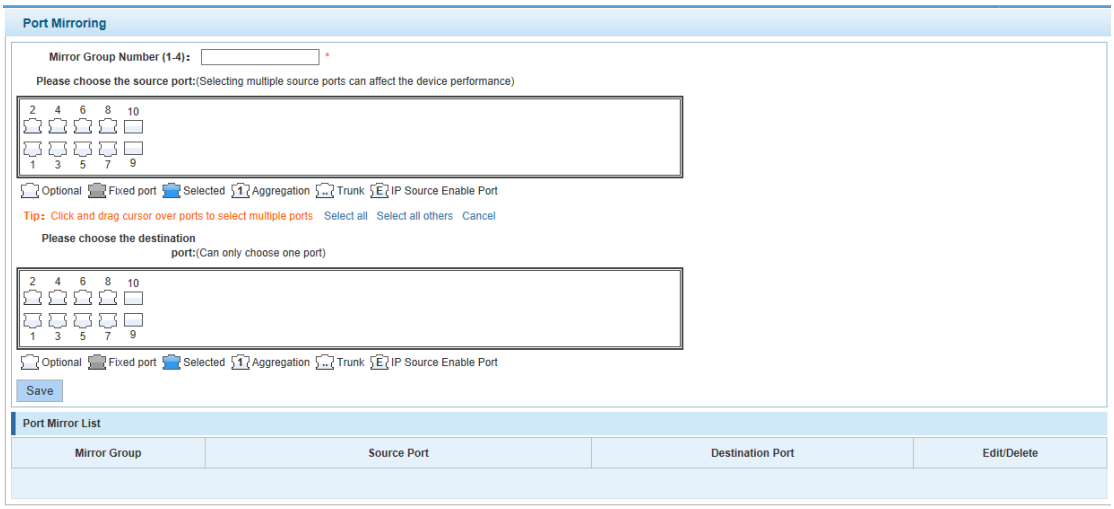
Figure 4-11 Configuration example



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:

Figure 4-12 Port mirroring



【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

Parameter	Description
Mirror group	Range: 1-4

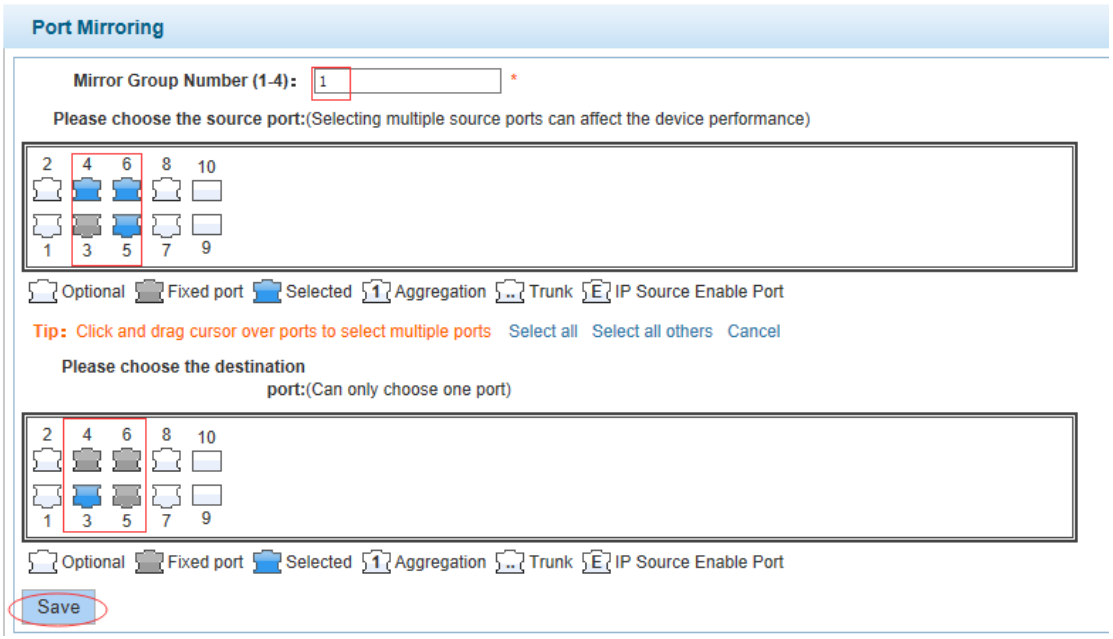
【Instructions】

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

【Configuration Example】

Such as: set a mirror group for port 3 regulatory port 4, 5, 6 on and out flow conditions.

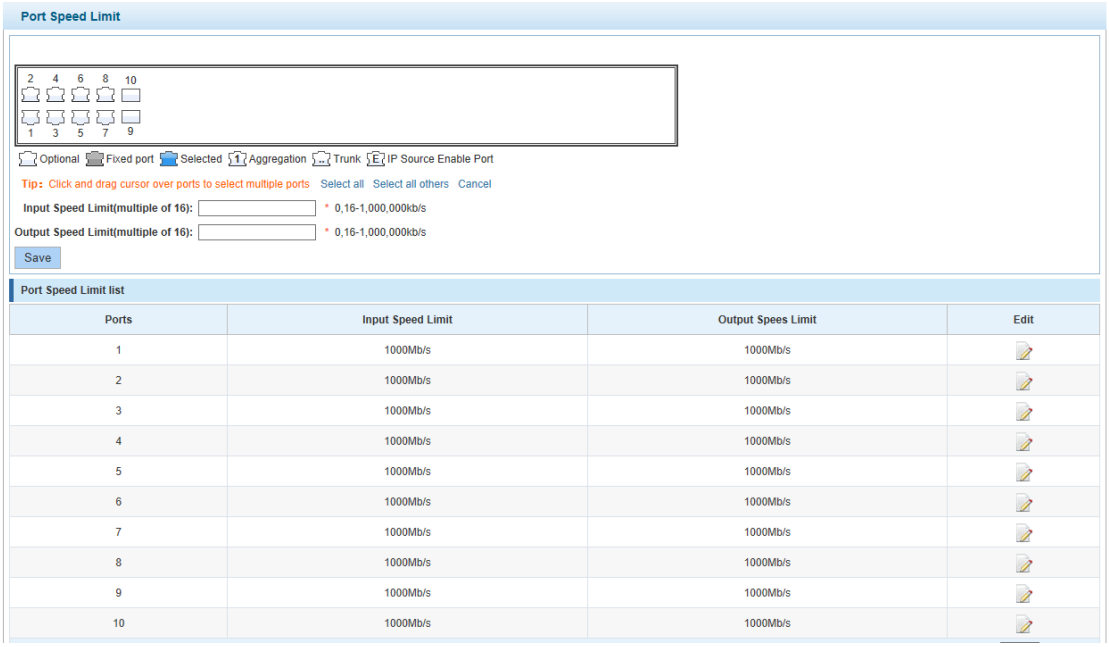
Figure 4-13 Configuration example



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:

Figure 4-14 Port rate-limit



【Parameter Description】

Parameter	Description
Input speed limit	Set port input speed
Output speed limit	Set port output speed

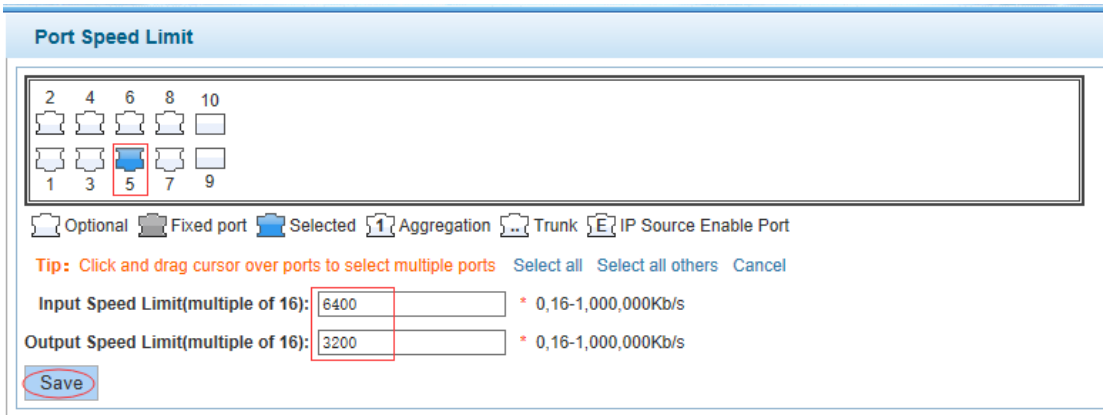
【Instructions】

1 Mbit/s = 1000 Kbit/s = 1000 / 8 KB/s = 125 KB/s. That is, the theoretical rate of 1M bandwidth is125KB/s.

【Configuration Example】

Such as: the port 5 input rate is set to 6400 KB/s, the output rate is set to 3200 KB/s.

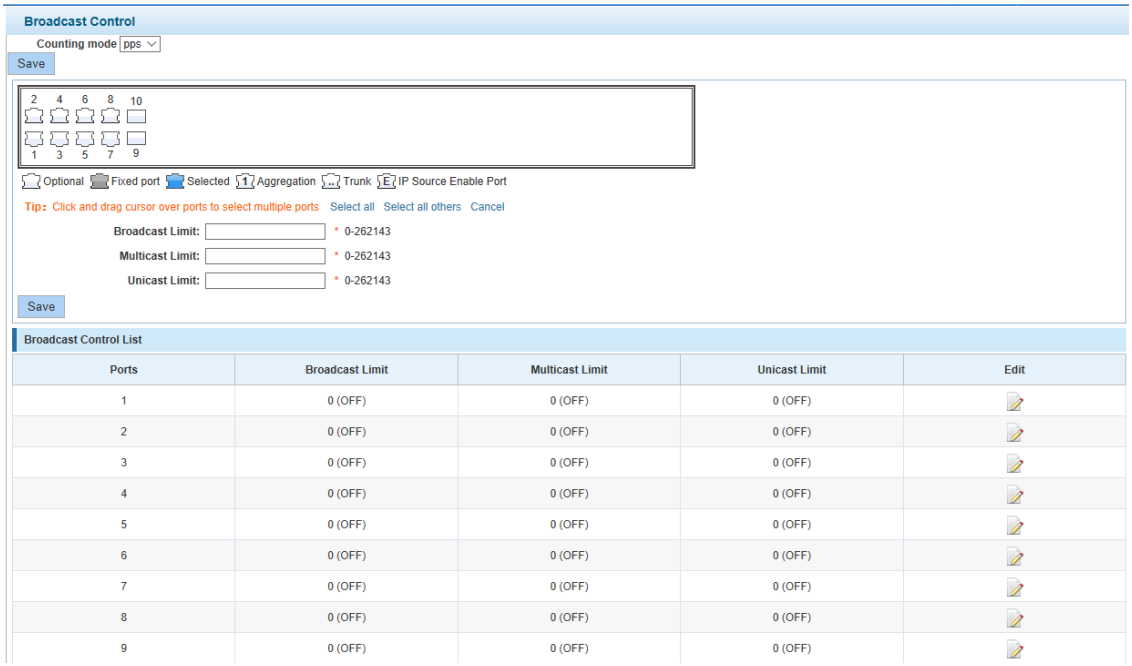
Figure 4-15 Configuration example



4.2.5 Storm control

In the navigation bar to select "**PORT**>**Storm control**", to port storm control config. The following picture:

Figure 4-16 Storm control



【Parameter Description】

Parameter	Description
Broadcast Limit	Storm suppression value of the broadcast packets
Multicast Limit	Storm suppression value of the multicast packets
Unicast Limit	Storm suppression value of the unicast packets

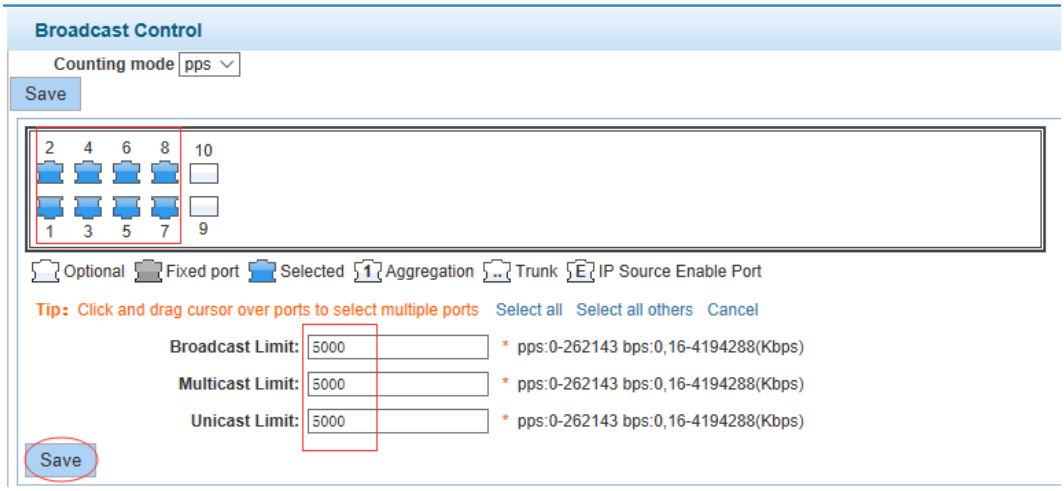
【Instructions】

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.

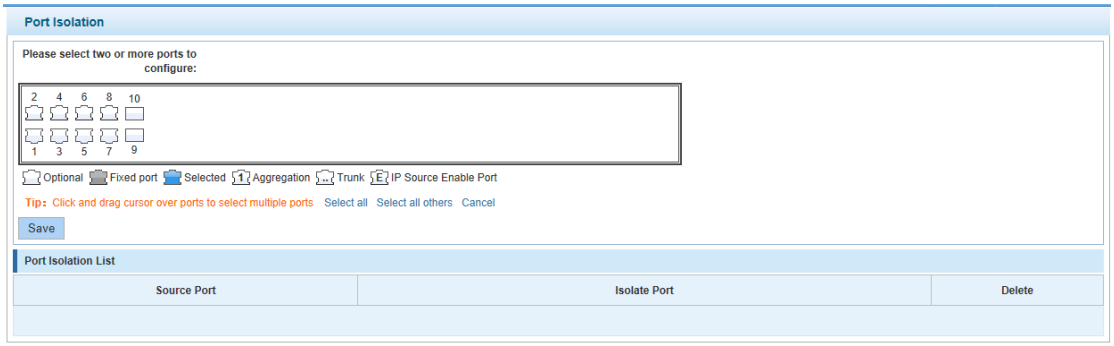
Figure 4-17 Configuration example



4.2.6 Port isolation

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

Figure 4-18 Port isolation



【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 isolated.

Figure 4-19 Configuration example I

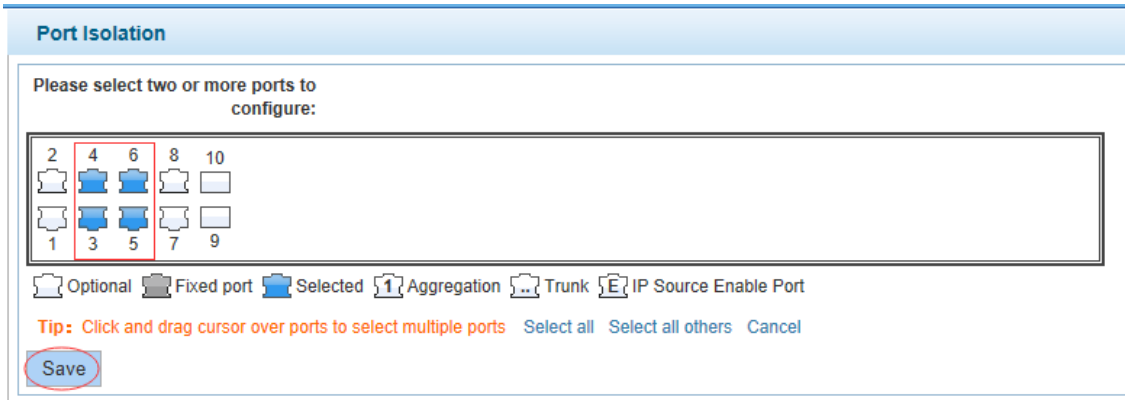
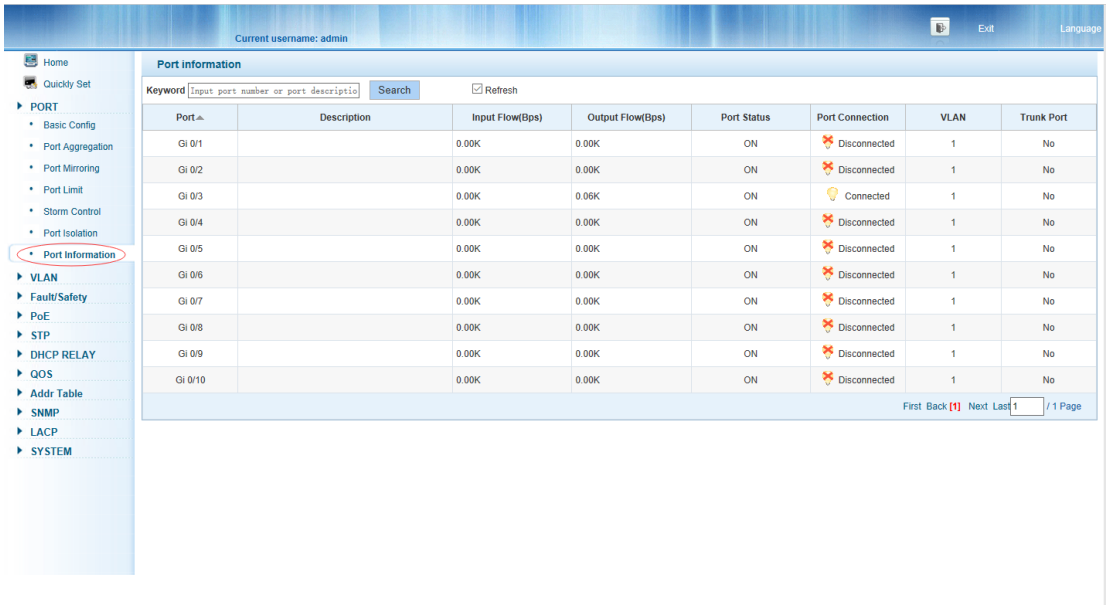


Figure 4-20 Configuration example II

4.2.7 Port information

In the navigation bar to select "**PORT**>**Port Information**", the following picture:

Figure 4-21 Port information



【Parameter Description】

Parameter	Description
Input Flow	Port input flow statistics
Output Flow	Port output flow statistics

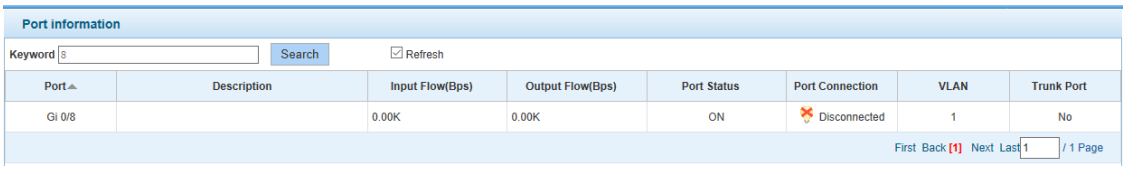
【Instructions】

Show port input and output streams information port connection status, belongs to VLAN.

【Configuration Example】

Enter port number 8 for the query.

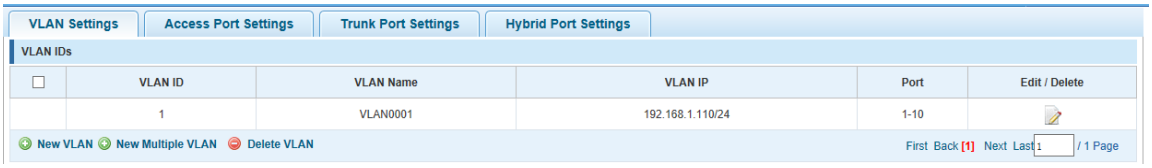
Figure 4-22 Configuration example



4.3 VLAN

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

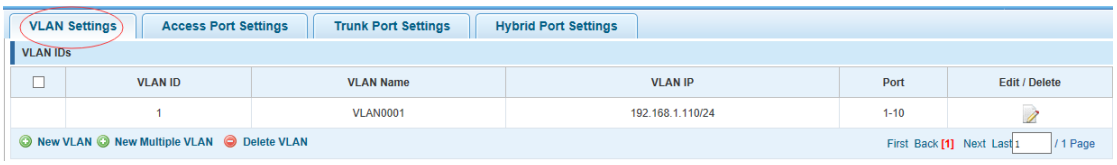
Figure 4-23 VLAN settings



4.3.1 VLAN Settings

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

Figure 4-24 VLAN settings



【Parameter Description】

Parameter	Description
VLAN ID	VLAN number
VLAN name	VLAN mark
VLAN IP address	Manage switch IP address

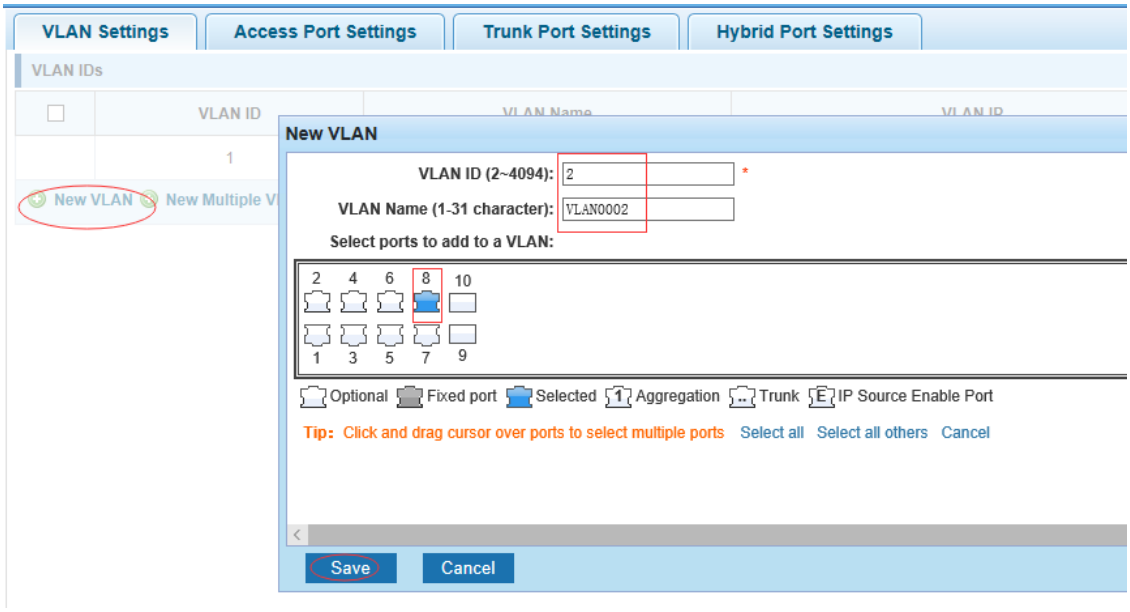
【Instructions】

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.

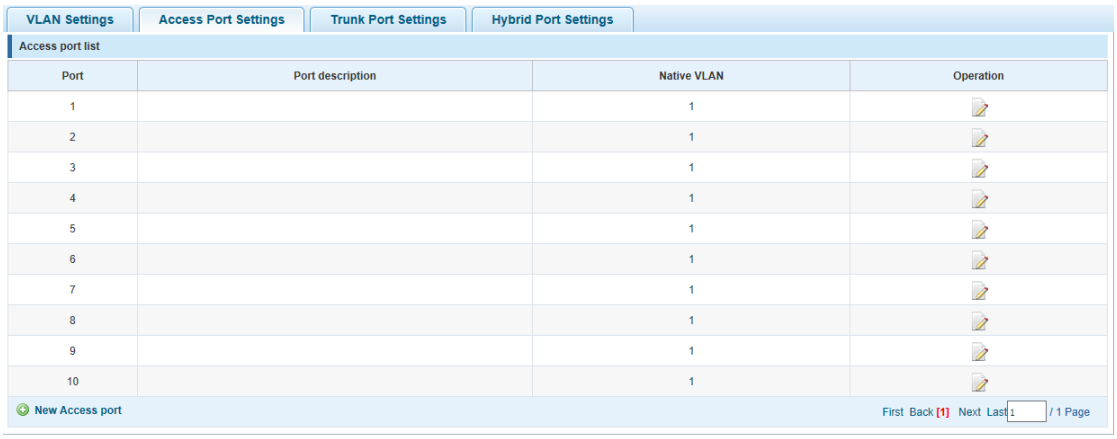
Figure 4-25 Configuration example



4.3.2 Access Port Settings

In the navigation bar to select "**VLAN config**>**Access-port setting**", can set port to Access port, the following picture:

Figure 4-26 Access port settings



【Parameter Description】

Parameter	Description
Native VLAN	Only set one

【Instructions】

Native VLAN: Refers to the default Access VLAN, must be the same as the end of the VLAN Native port, otherwise it can't work.

【Configuration Example】

Such as: Port 8, Access VLAN2.

Figure 4-27 Configuration example I

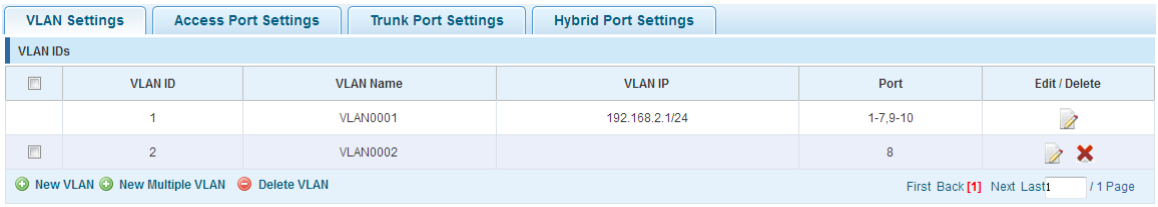
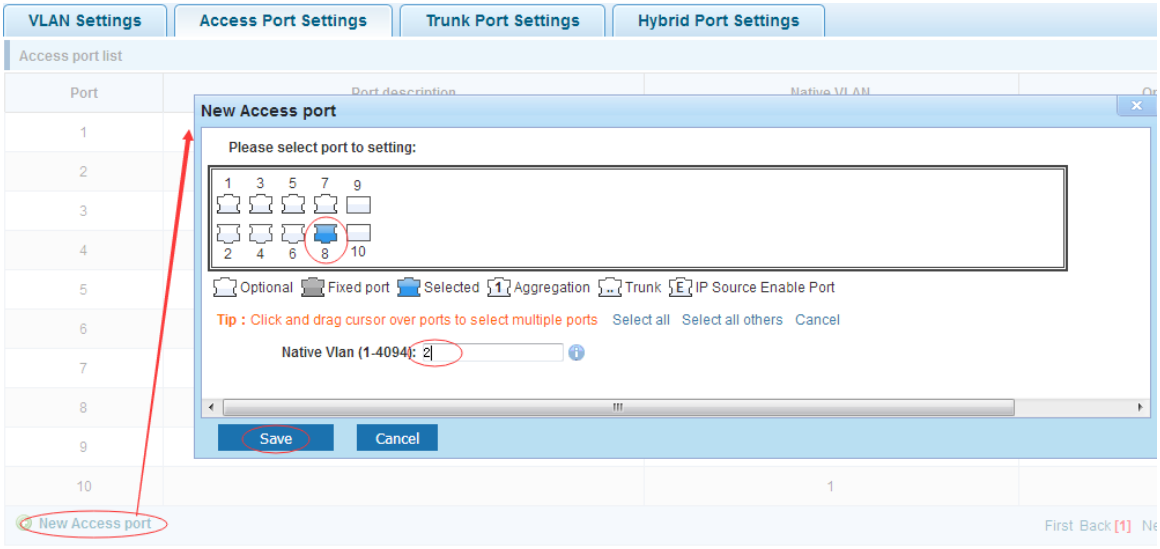


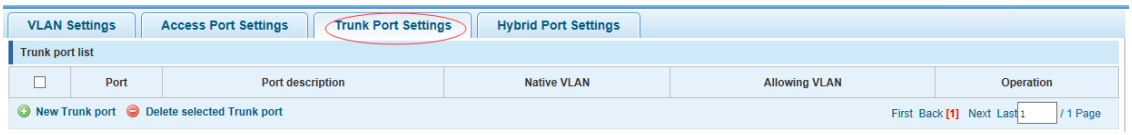
Figure 4-28 Configuration example II



4.3.3 Trunk-port setting

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

Figure 4-29 Trunk port



【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

PC1:192.168.1.122, port 8, access VLAN2

PC2:192.168.1.123, port 7, Trunk allowed VLAN 1-2

PC3:192.168.1.124, port 6, access VLAN1 (The default port belongs to VLAN1)

Can let the PC2 PING PC1, cannot PING PC3

Figure 4-30 Configuration example I

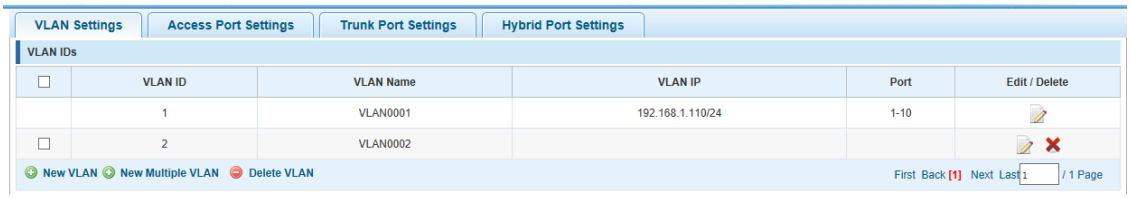
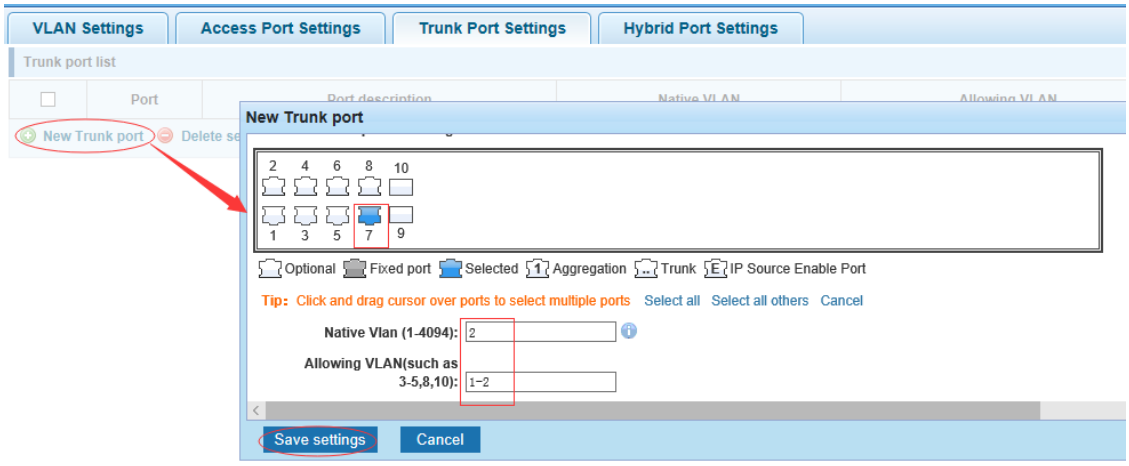


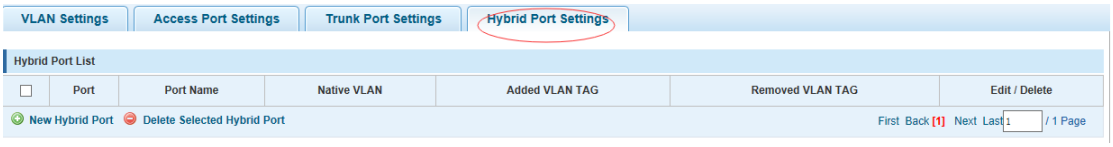
Figure 4-31 Configuration example II



4.3.4 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:

Figure 4-32 Hybrid port settings



【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:

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

Step 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.

Figure 4-33 Configuration example I

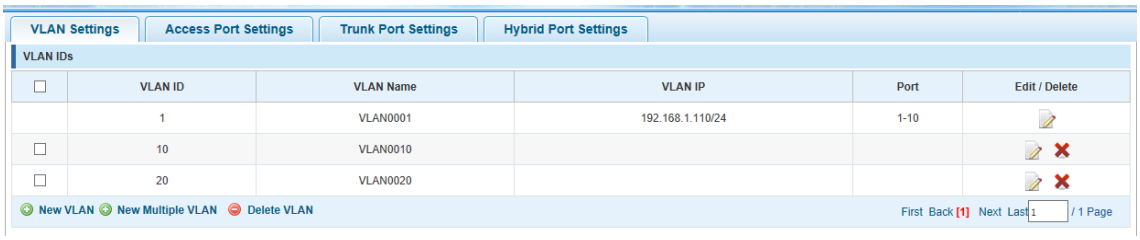


Figure 4-34 Configuration example II

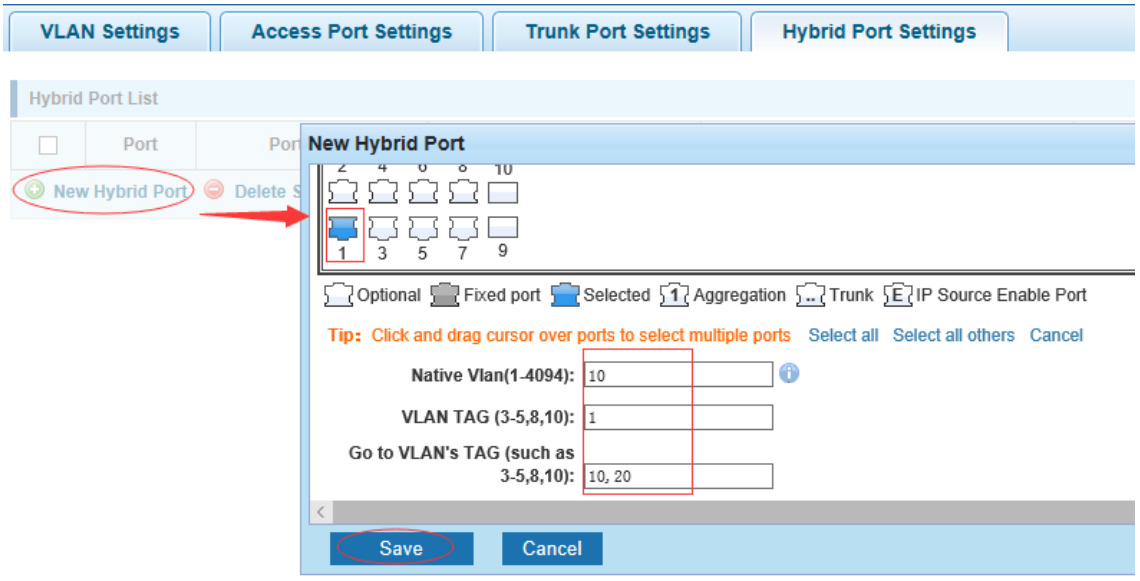


Figure 4-35 Configuration example III

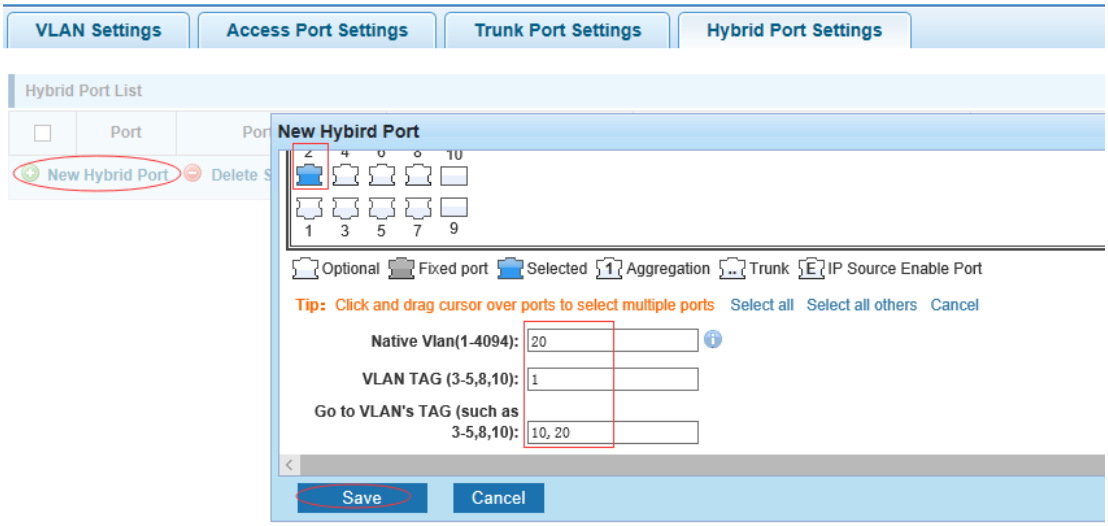
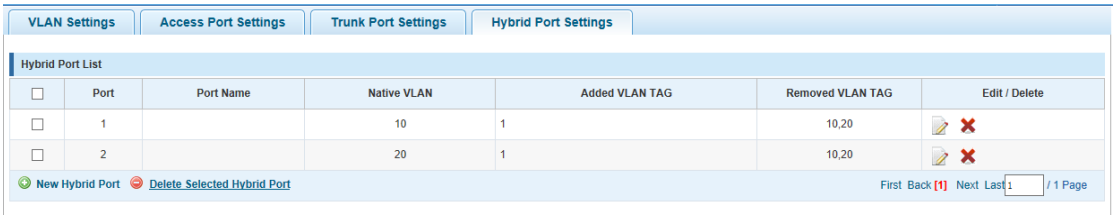


Figure 4-36 Configuration example IV



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 configuration.

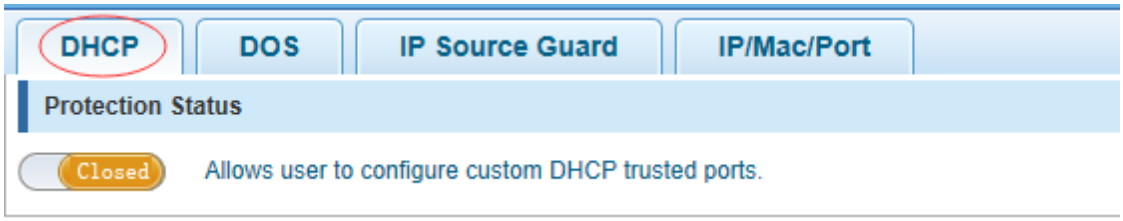
Figure 4-37 Fault/safety

4.4.1 Anti attack

4.4.1.1 DHCP

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

Figure 4-38 DHCP



【Instructions】

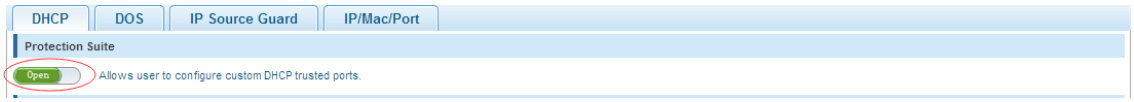
DHCP trusted port configuration, select the port as a trusted port. Prohibit DHCP for address, select the port and save, you can disable this feature for the port.

Open DHCP attack prevention function, need to set the DHCP protective vlan simultaneously, other functions to take effect.

【Configuration Example】

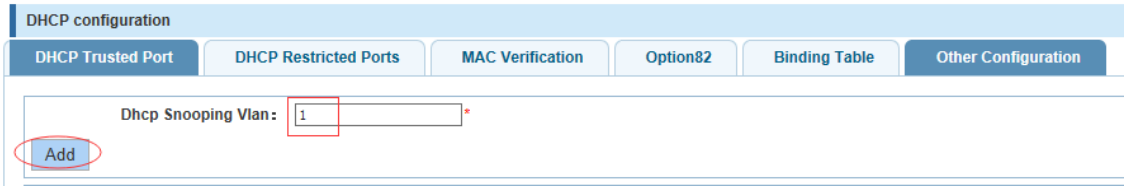
Step 1 DHCP snooping open

Figure 4-39 Snooping open



Step 2 Setting DHCP snooping vlan

Figure 4-40 Set DHCP snooping vlan



Step 3 Set the connection router 8 ports for trust, then 6 port is set to the prohibit.

Figure 4-41 Set trusted router

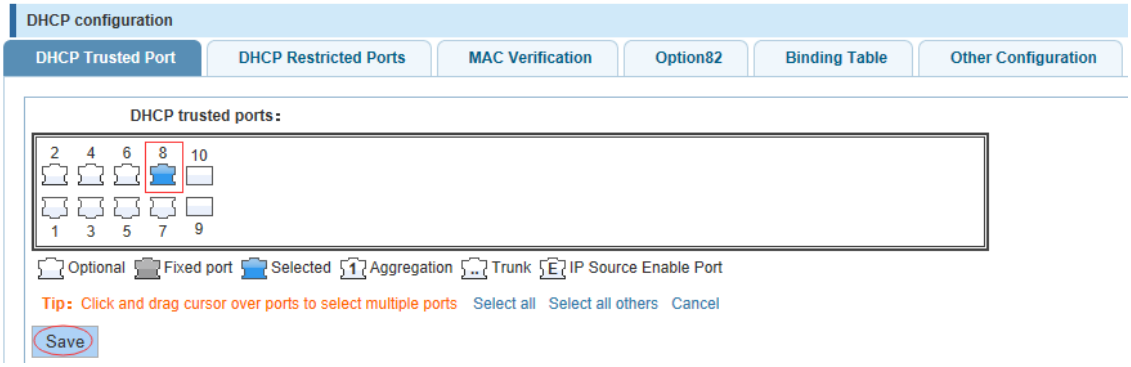
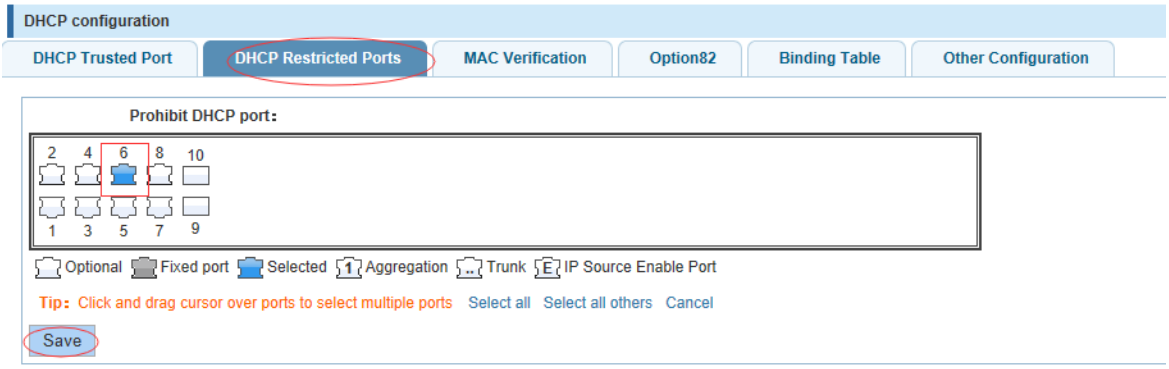
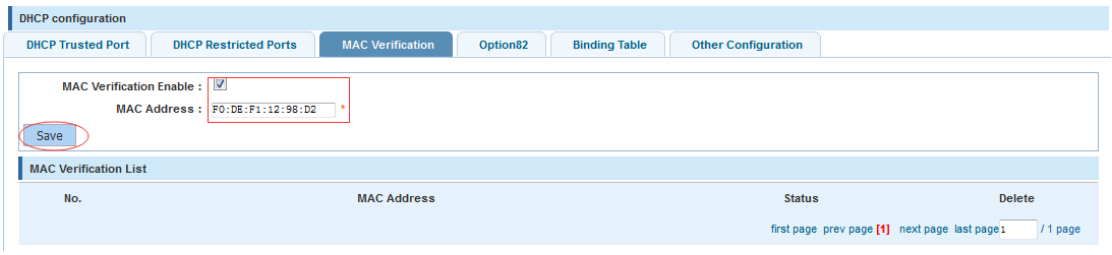


Figure 4-42 Set restricted ports



Step 4 Verify source mac F0:DE:F1:12:98:D2, set server ip address to 192.168.1.110.

Figure 4-43 Verify MAC address



Step 5 Set option82 information

Figure 4-44 Set option82 information

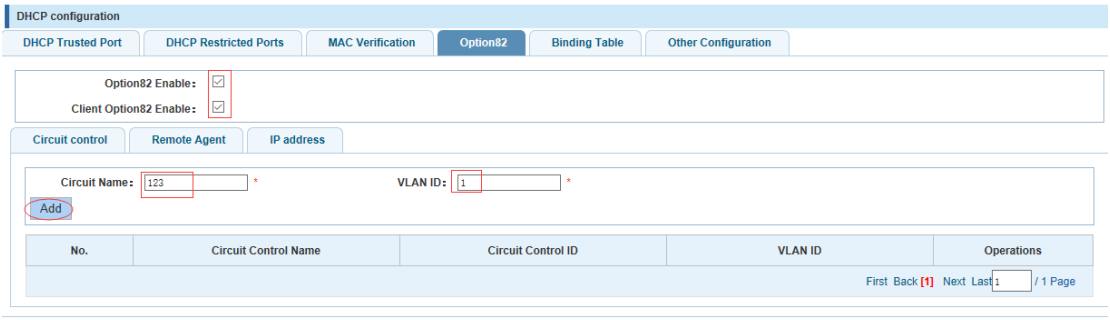
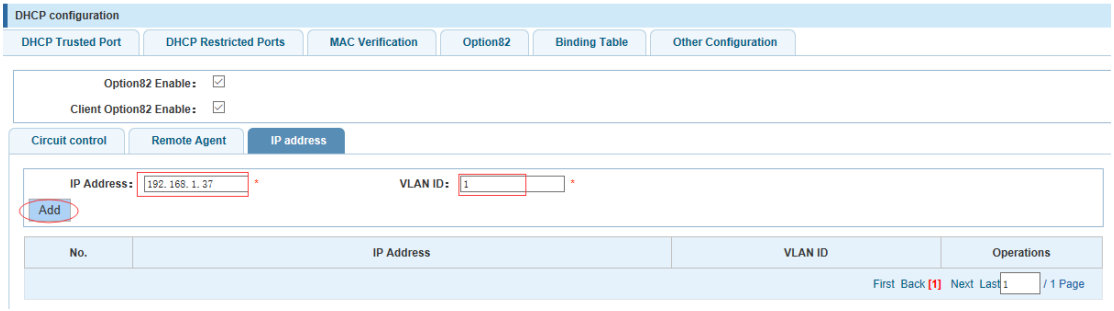
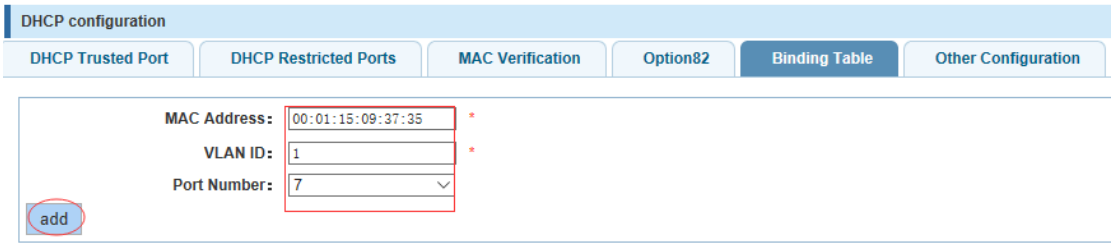


Figure 4-45 IP address



Step 6 The port 7 for binding.

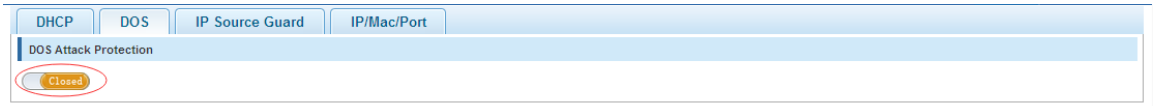
Figure 4-46 Binding table



4.4.1.2 OS

In the navigation bar to select "**fault/safety>anti attack>DOS**", 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:

Figure 4-47 DOS



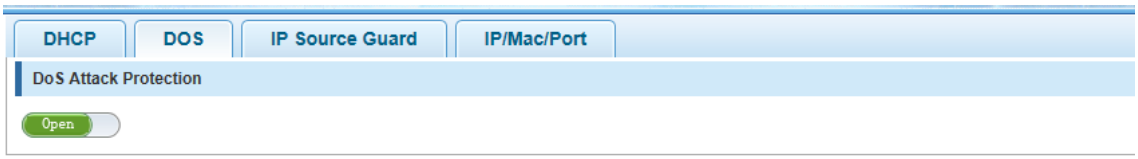
【Instructions】

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

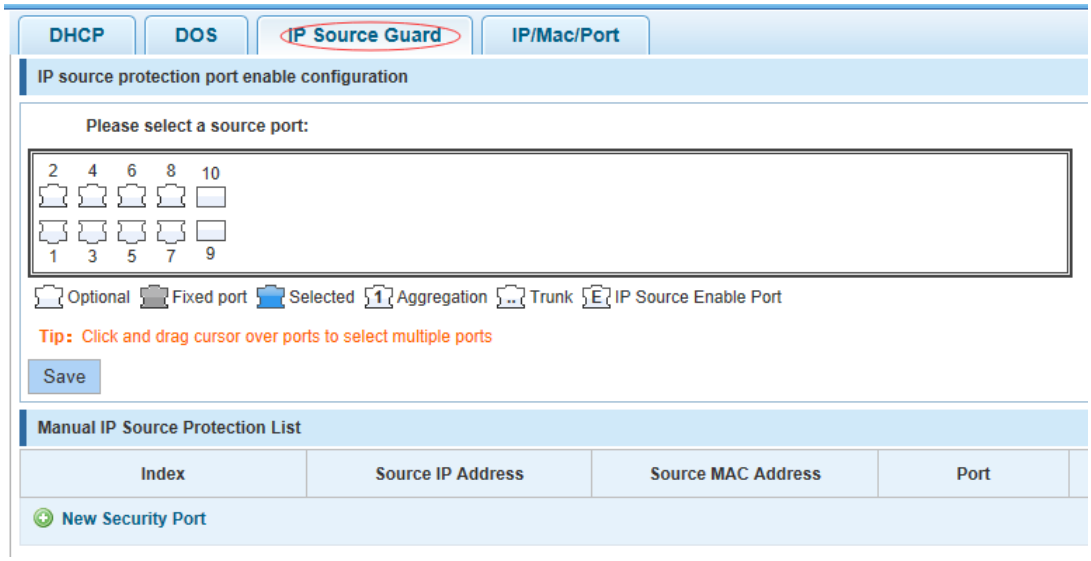
Figure 4-48 Configuration example



4.4.1.3 IP source 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:

Figure 4-49 IP source guard



【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.

Figure 4-50 Configuration example I

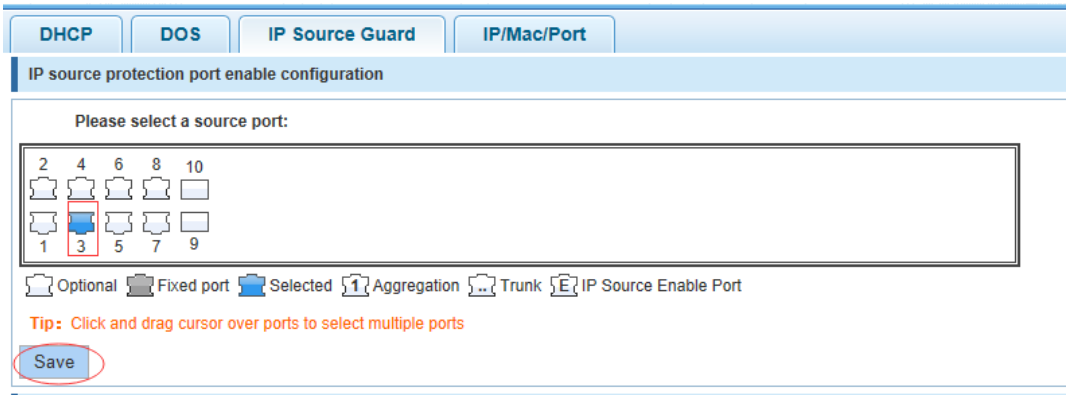
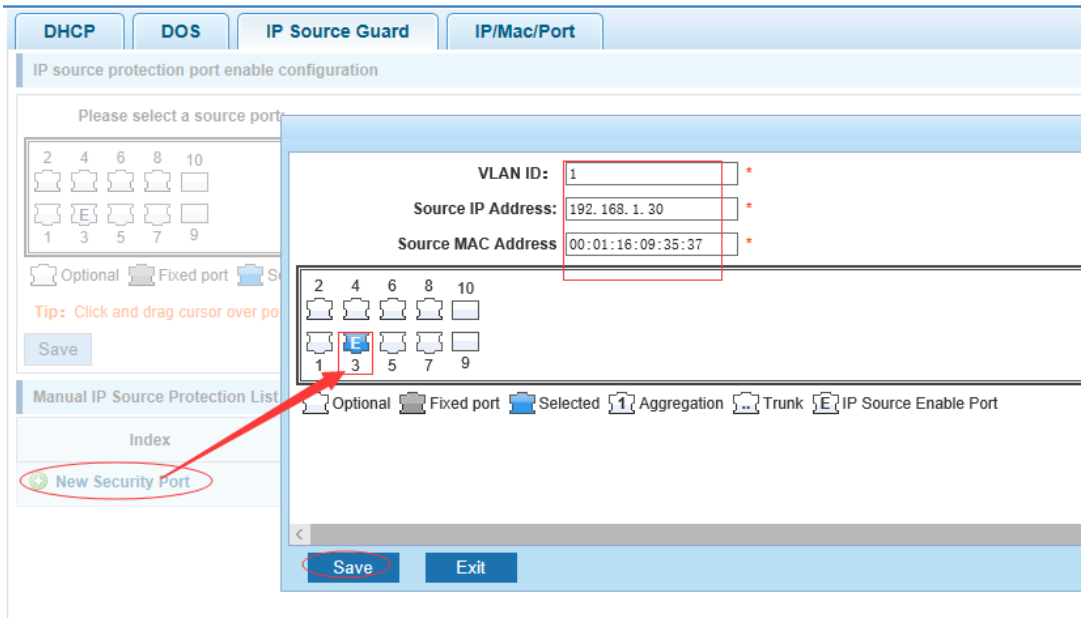


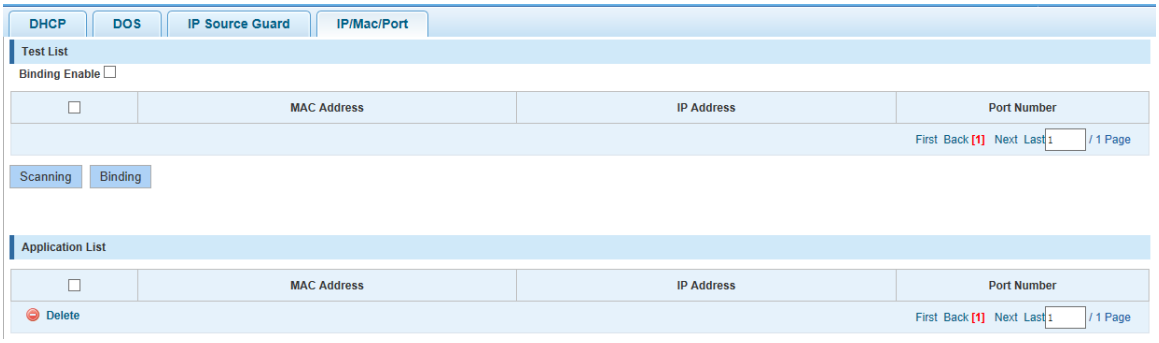
Figure 4-51 Configuration example II



4.4.1.4 IP/Mac/Port

In the navigation bar to select "**fault/safety>anti attack>IP/Mac/Port**", 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:

Figure 4-52 IP/Mac/Port



【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

Figure 4-53 Configuration example I

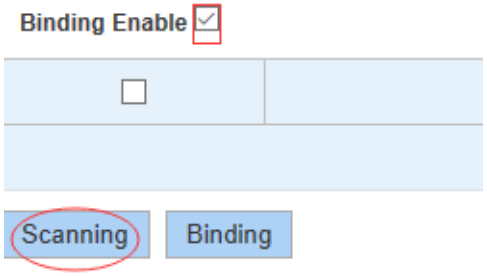


Figure 4-54 Configuration example II

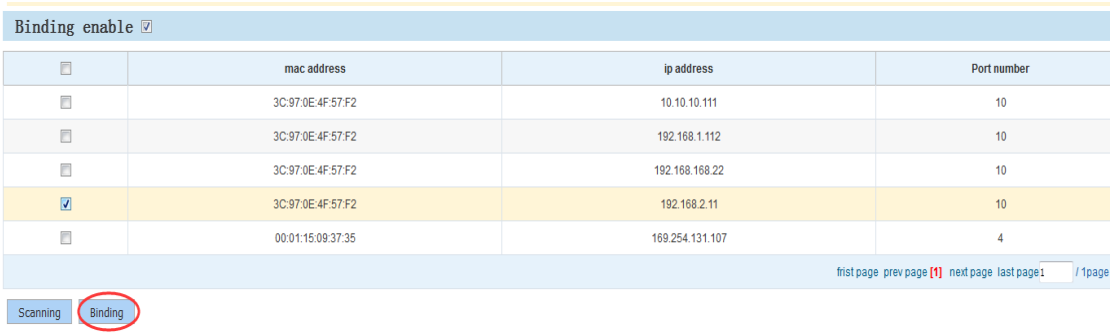
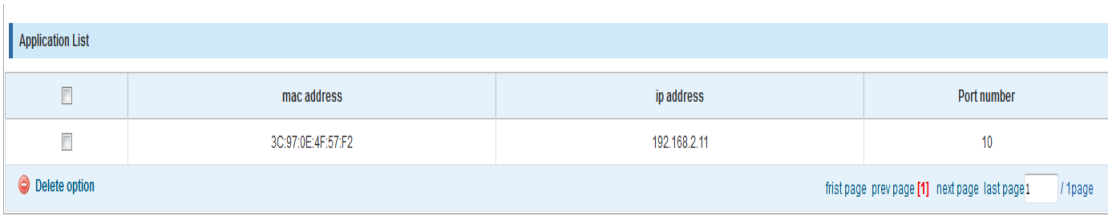


Figure 4-55 Configuration example IV



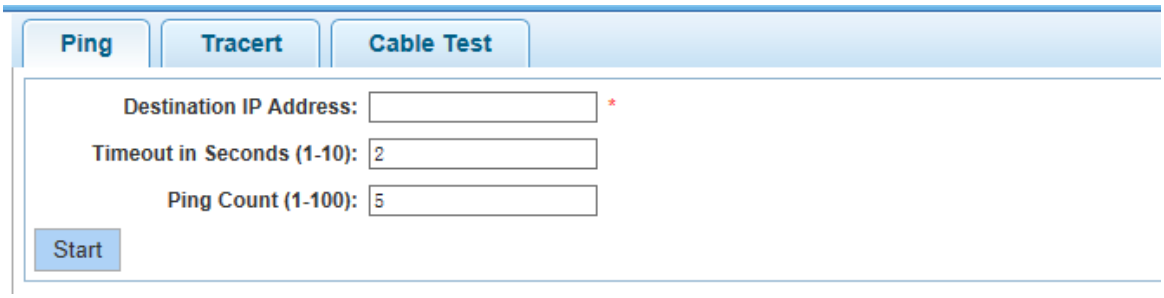
Can check the delete option.

4.4.2 Channel detection

4.4.2.1 Ping

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

Figure 4-56 Ping



【Parameter Description】

Parameter	Description
Destination IP address	Fill in the IP address of the need to detect
Timeout in Seconds	Range of 1 to 10
Ping Count	Testing number

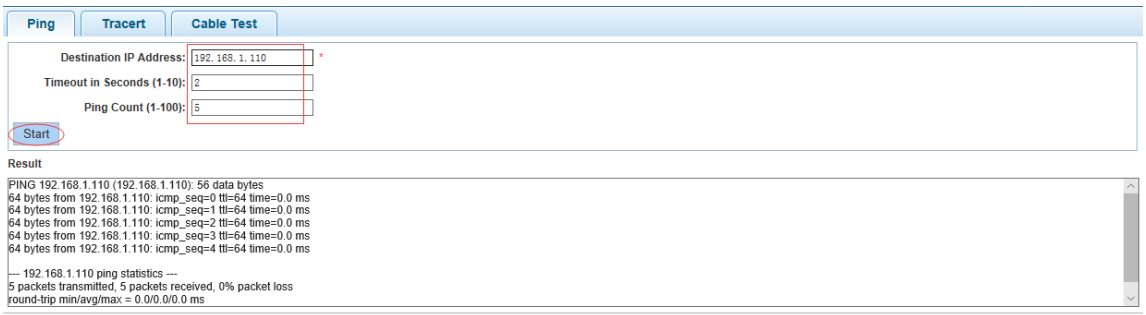
【Instructions】

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

【Configuration Example】

Such as: PING connects the IP address of the PC.

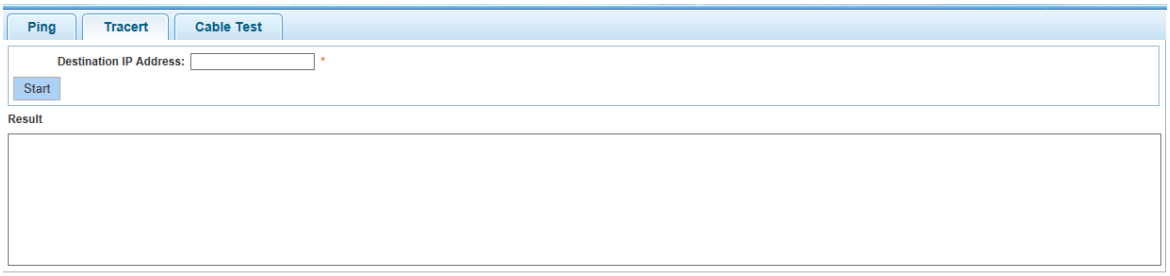
Figure 4-57 Configuration example



4.4.2.2 tracert

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

Figure 4-58 Tracert



【Parameter Description】

Parameter	Description

Parameter	Description
Destination IP address	Fill in the IP address of the need to detect
Timeout period	Range of 1 to 10

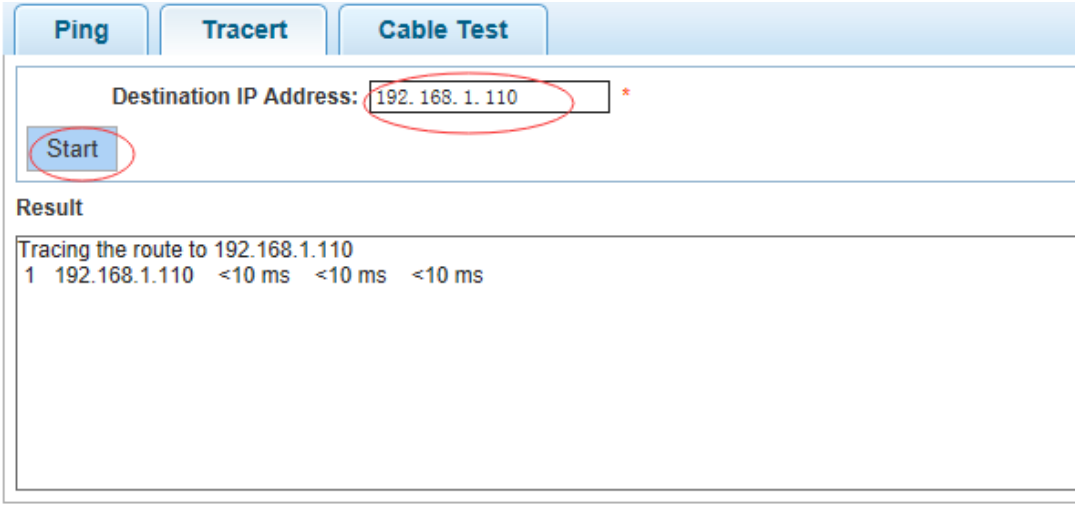
【instruction】

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: Tracert connect the IP address of the PC.

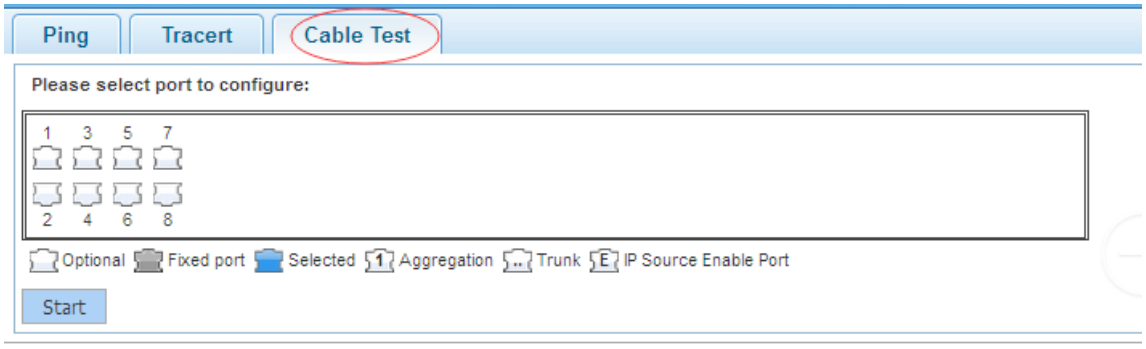
Figure 4-59 Configuration example



4.4.2.3 Cable test

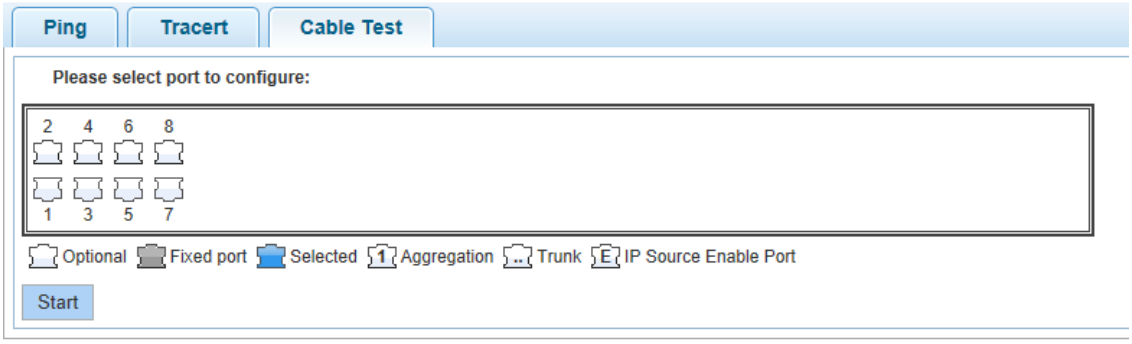
In the navigation bar to select "**fault/safety**> **channel detection**>**cable test**", Can detect connection device status, the following picture:

Figure 4-60 Cable test



【Configuration Example】

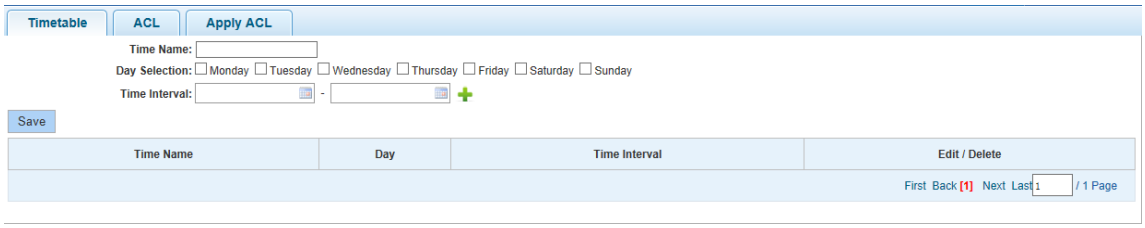
Figure 4-61 Configuration example



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.

Figure 4-62 ACL



【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:

Step 1 According to the order, as long as there is a meet, will not continue to find.

Step 2 Implied refused, if don't match, so must match the final implied refused entry, cisco default.

Step 3 Any only under the condition of the minimum permissions to the user can satisfy their demand.

Step 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 1-6 cannot access the network .

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

Figure 4-63 Configuration example I

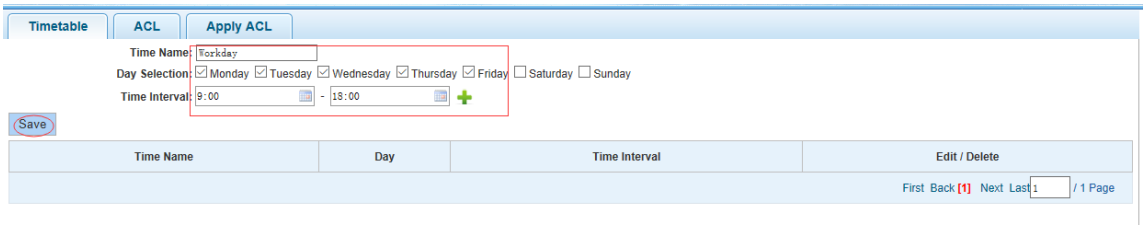


Figure 4-64 Configuration example II

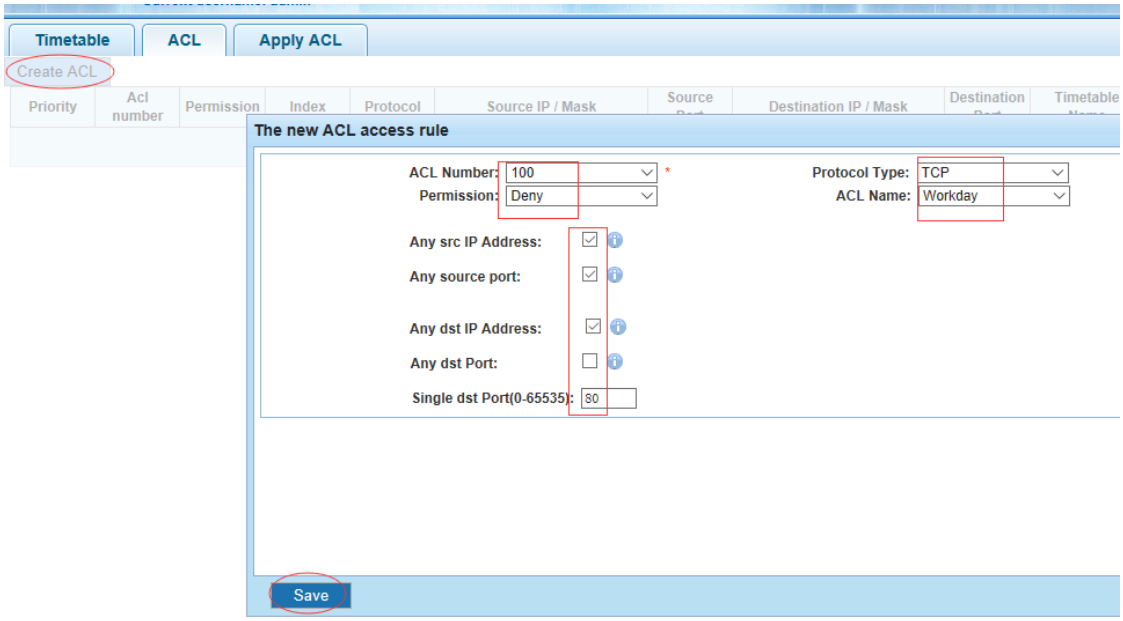


Figure 4-65 Configuration example III

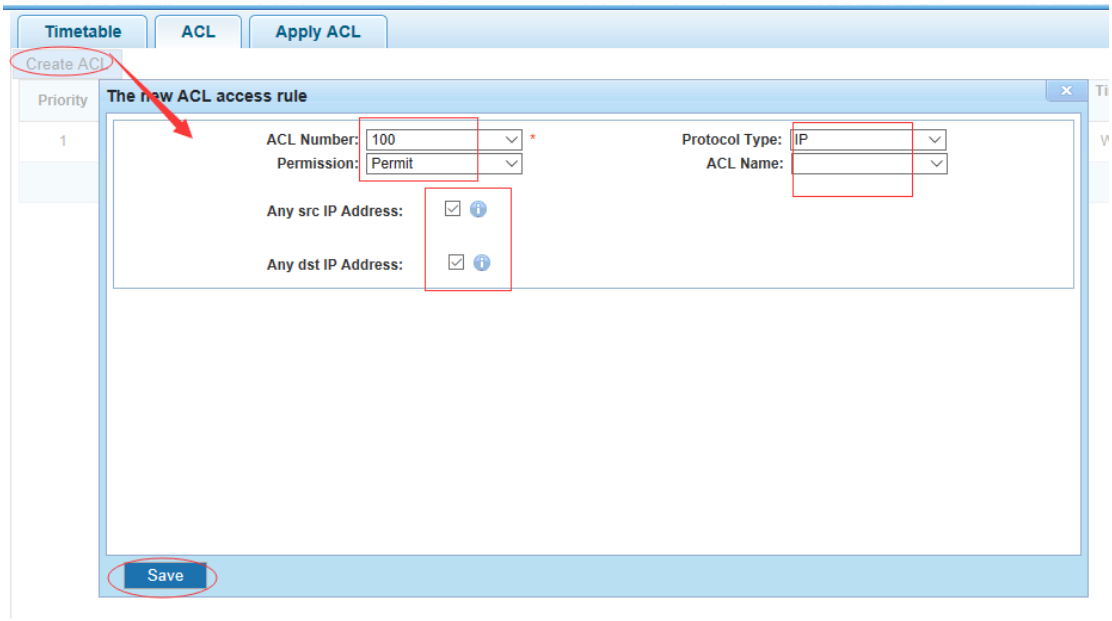


Figure 4-66 Configuration example IV

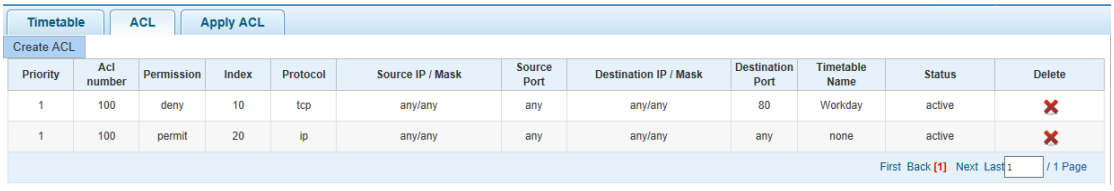
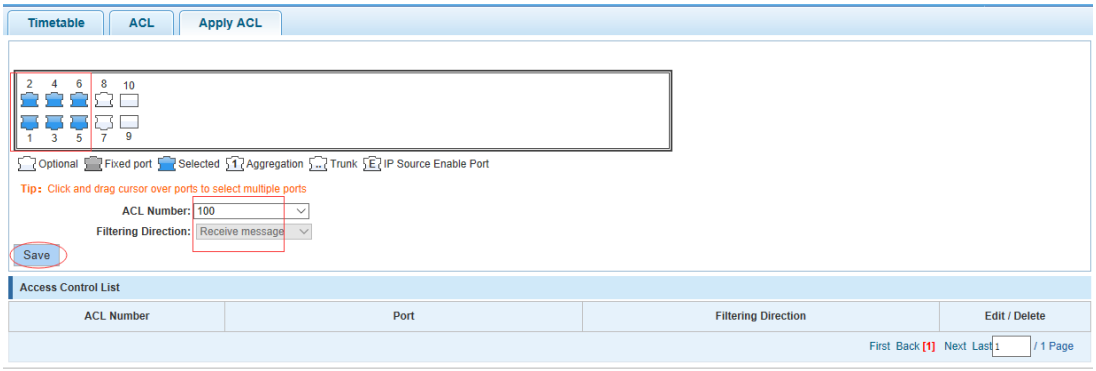


Figure 4-67 Configuration example V



4.5 PoE

In the navigation bar to select "**PoE**", you can set the **PoE Port Config** configuration.

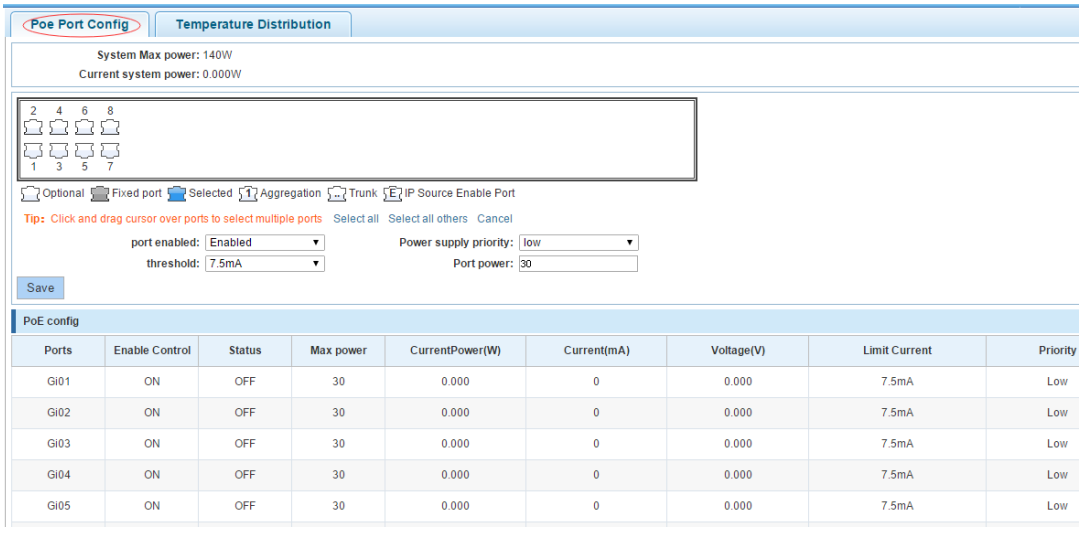
Figure 4-68 PoE

4.5.1 PoE Port Config

4.5.1.1 Poe Port Config

In the navigation bar to select "**POE**>**POE Port Config**>**Poe Port Config**", you can set Poe Port, As follows.

Figure 4-69 Poe port Config



【Parameter Description】

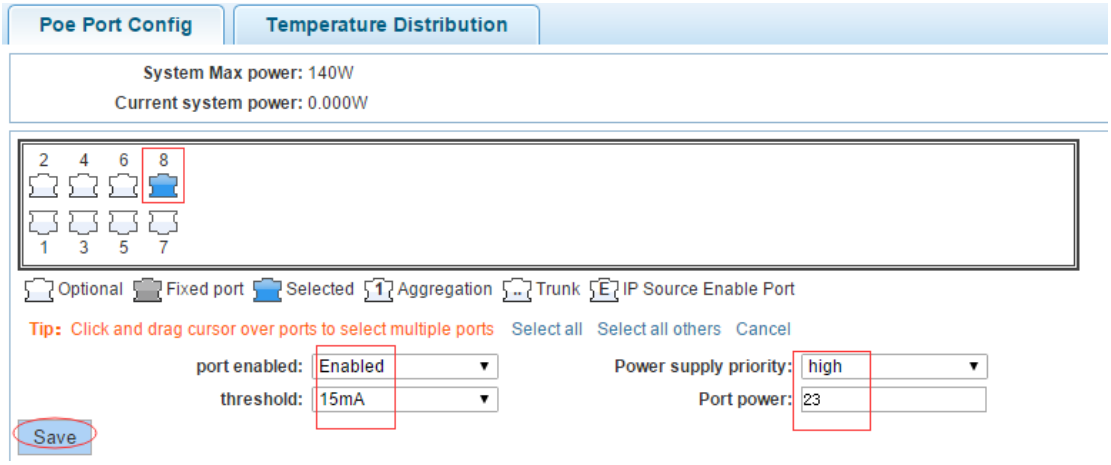
Parameter	Description

Parameter	Description
port enabled	You can enable or disable PoE function
Power supply priority	Configure port priority, when the load exceeds the maximum power POE, low priority port equipment will be dropped
threshold	You can specify threshold
Port power	You can configure max power of port

【Configuration Example】

Such as: The PoE function of port 8 can be enabled, the maximum Port power is 23 W, threshold is 15mA, and the Power supply priority is high.

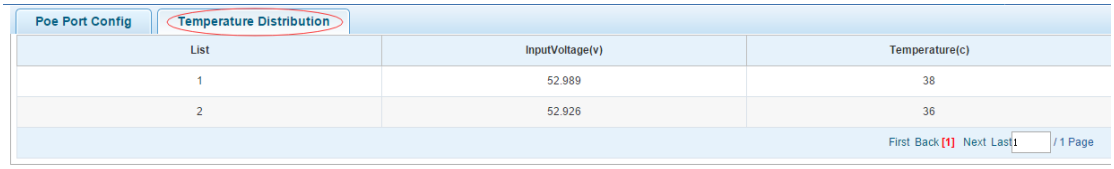
Figure 4-70 Configuration example



4.5.1.2 Temperature distribution

In the navigation bar to select "POE>POE port Config>Temperature distribution", you can view temperature distribution, As follows.

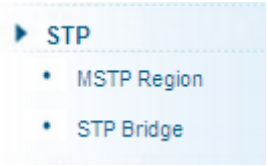
Figure 4-71 Temperature distribution



4.6 STP

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

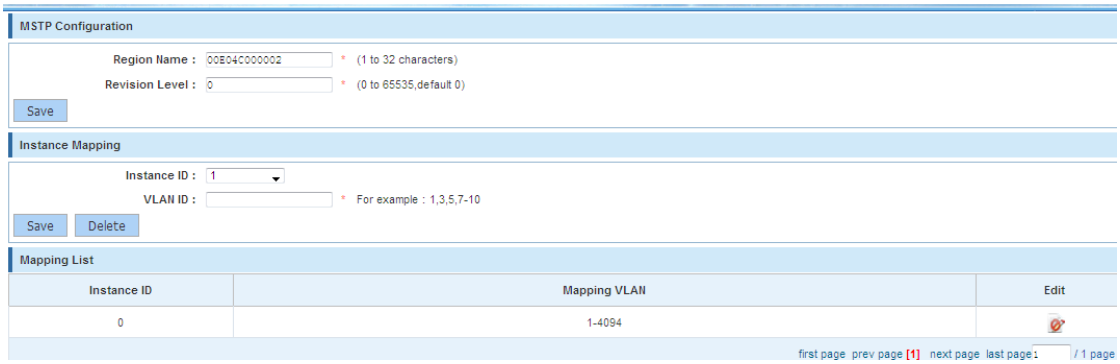
Figure 4-72 STP



4.6.1 MSTP region

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

Figure 4-73 MSTP region



【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.

Figure 4-74 Configuration example I

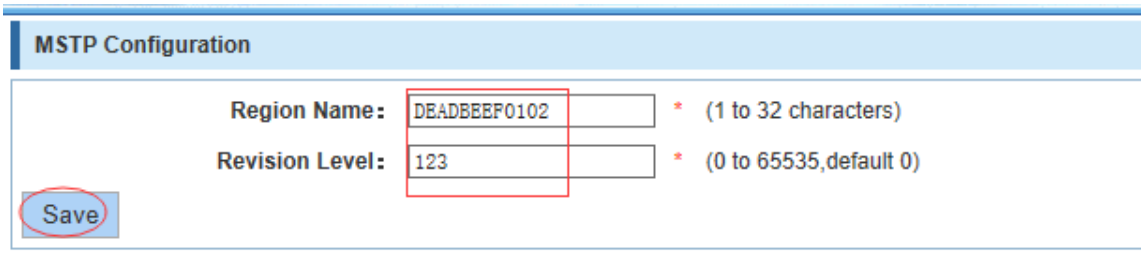
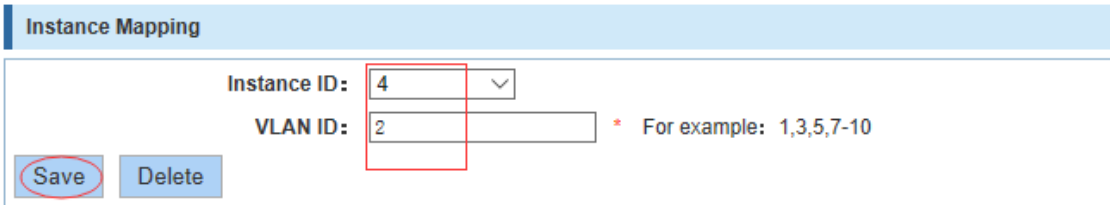


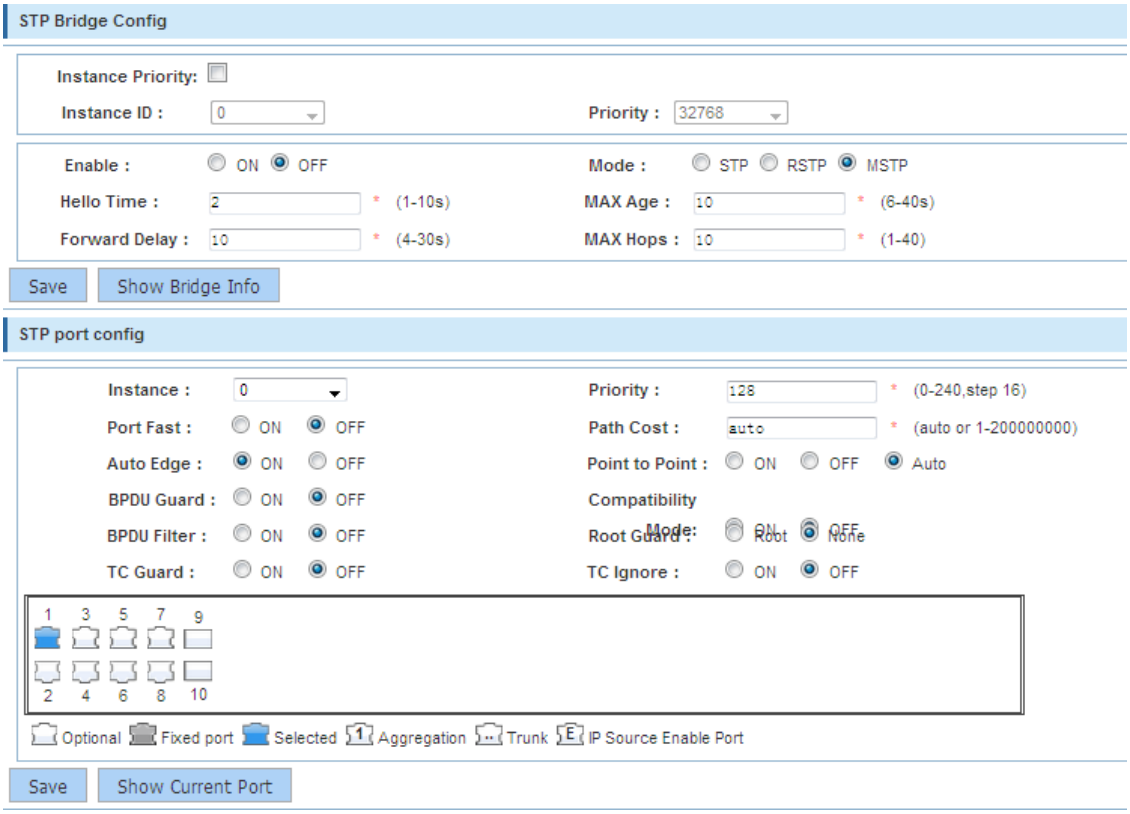
Figure 4-75 Configuration example II



4.6.2 STP bridge

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

Figure 4-76 STP bridge



【Parameter Description】

Parameter	Description
Instance Priority	Whether open instance priority

Parameter	Description
	setting
Instance ID	Select the created instance id is configured
Bridge Priority	Priority setting bridge example, the default instance bridge priority for 32768
Enable	Whether to open the STP bridge function
Mode	The model is divided into: the STP, RSTP, MSTP
Hello Time	Switches sends bpdu 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 Edge	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 Ignore	Select configuration state

【Instruction】

Step 1 (hello_time+1)×2<=max_age<=(f_delay-1)×2 , enable the switch to set instance priority.

Step 2 Enable STP or switch mode would spend 2 times of the forward delay time.

【Configuration Example】

Step 1 Open the STP, configuration has to create an instance of the priority, configuration time parameters, set the pattern to MSTP.

Figure 4-77 Configuration example I

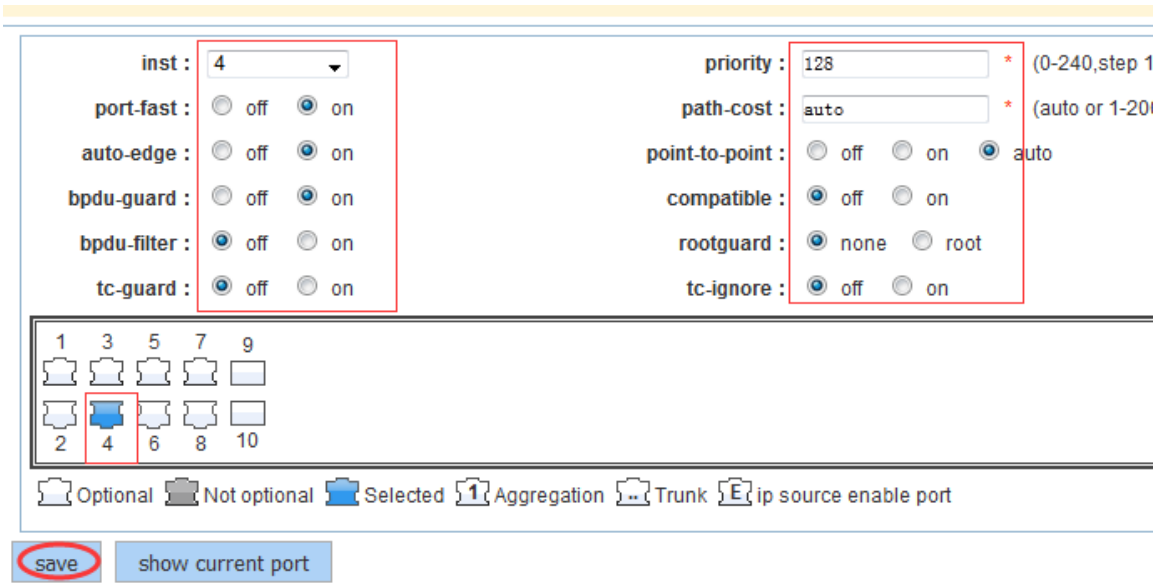
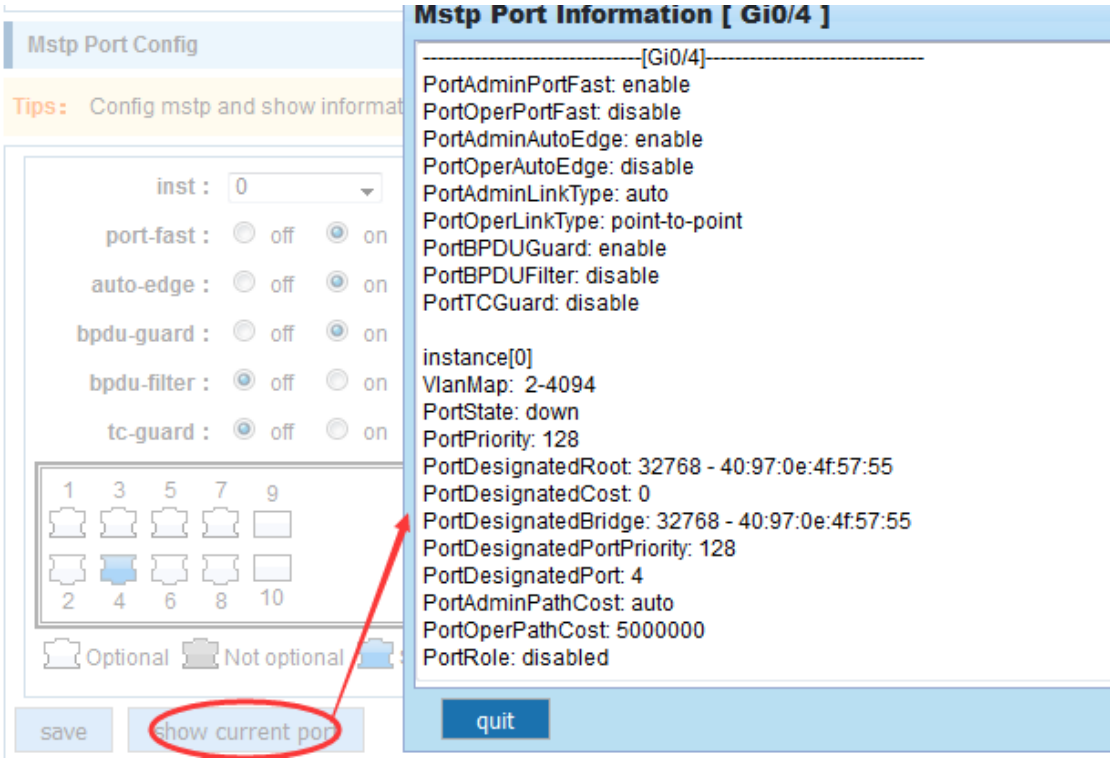


Figure 4-78 Configuration example II



Step 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)

4.7 DHCP relay

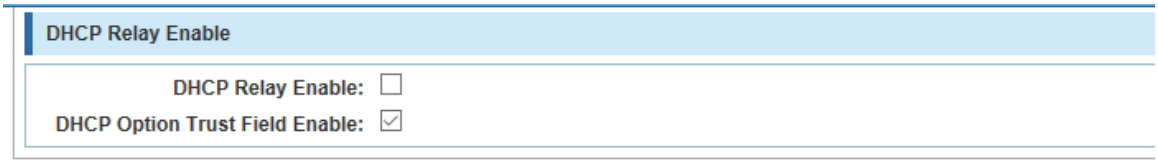
In the navigation bar to select "**DHCP relay**", you can set to the **DHCP relay** and **option82**.

Figure 4-79 DHCP relay

4.7.1 DHCP relay

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

Figure 4-80 Enable



【Parameter Description】

Parameter	Description
IP address	DHCP server address
status	Invalid and valid

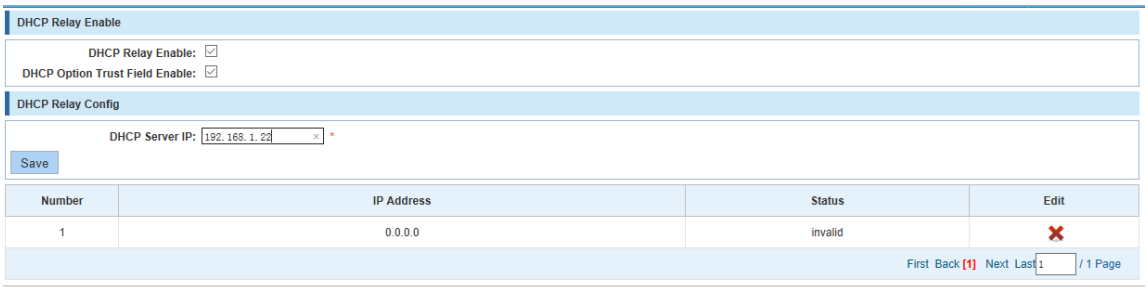
【Instruction】

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 192.168.1.22

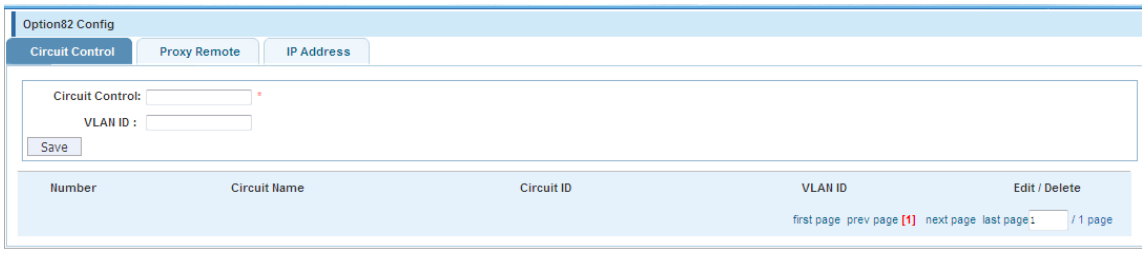
Figure 4-81 Configuration example



4.7.2 0ption82

In the navigation bar to select "**DHCP relay**>**option82**", can set to OPTION82 circuit control, proxy remote, ip address. The following picture:

Figure 4-82 Option82



【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】

Such as: add circuit control, proxy remote, ip address information.

Figure 4-83 Configuration example I

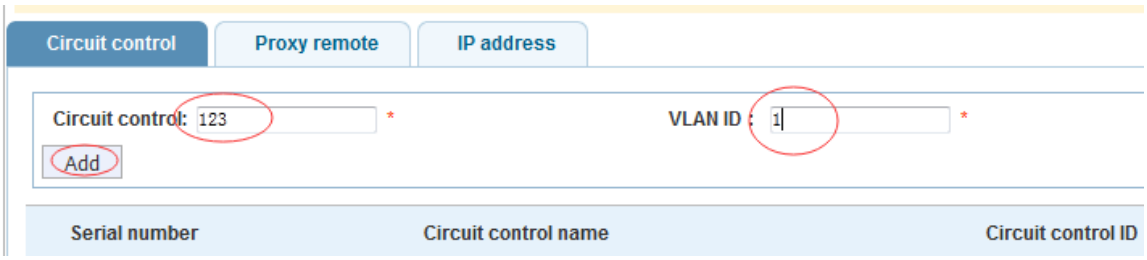


Figure 4-84 Configuration example II

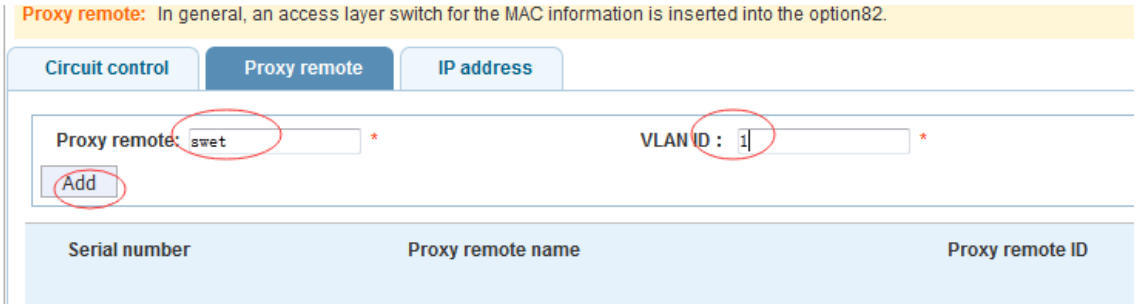
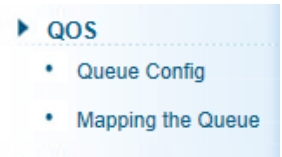


Figure 4-85 Configuration example III

4.8 QoS

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

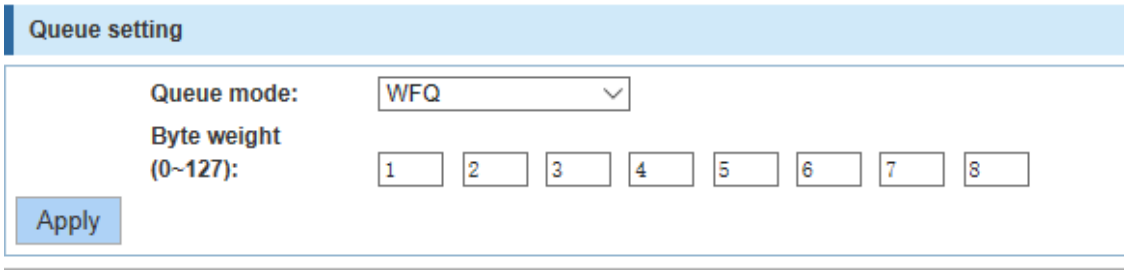
Figure 4-86 QoS



4.8.1 Queue config

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

Figure 4-87 Queue config



【Parameter Description】

Parameter	Description
Scheduling strategy	Can choose four kinds of modes: RR round-robin scheduling SP absolute priority scheduling WRR weighted round-robin scheduling WFQ weighted fair scheduling
WRR-weights	Set the weights of each queue, they will be in proportion to occupy the bandwidth to send data

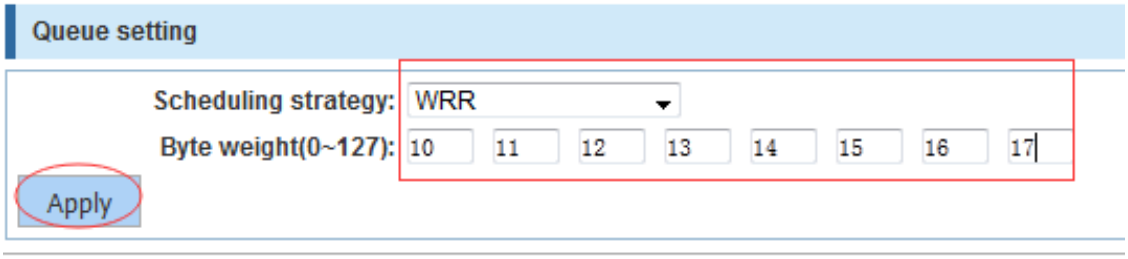
【Instruction】

Queue 7 cannot for 0.

【Configuration Example】

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

Figure 4-88 Configuration example

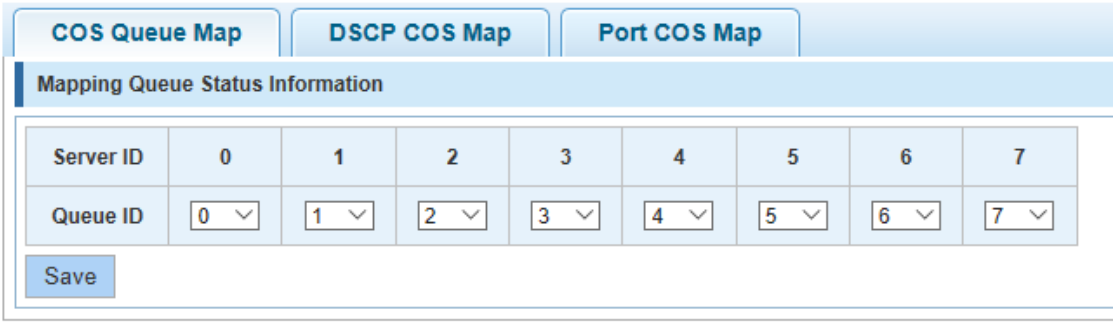


4.8.2 Mapping the queue

4.8.2.1 COS Queue Map

In the navigation bar to select "**QoS**>**mapping the queue**>**COS Queue Map**", Service category can be mapped to the corresponding queue. The following picture.

Figure 4-89 COS queue map



【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.

Figure 4-90 Configuration example I

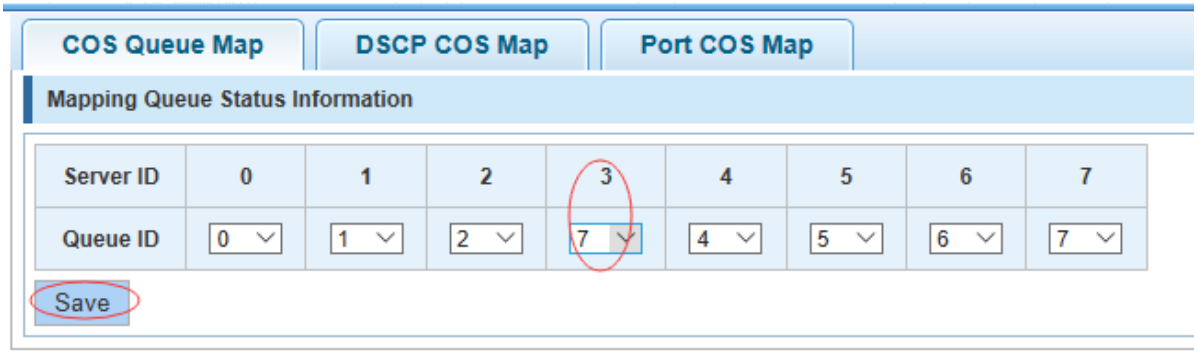
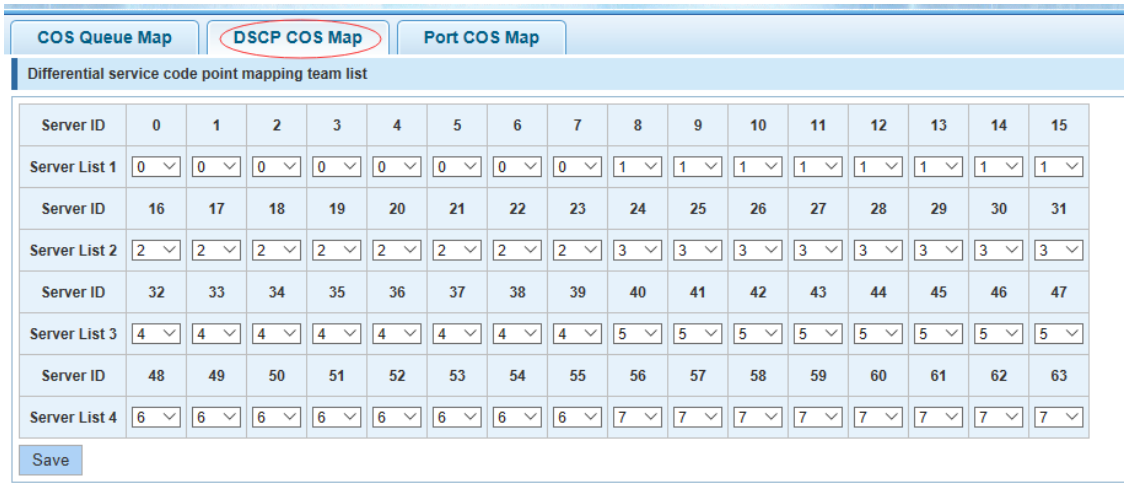


Figure 4-91 Configuration example II

4.8.2.2 DSCP COS Map

In the navigation bar to select "**QoS**>**mapping the queue**>**DSCP COS Map**", Differential service can be mapped to the corresponding service categories. the following picture:

Figure 4-92 DSCP COS map



【Parameter Description】

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

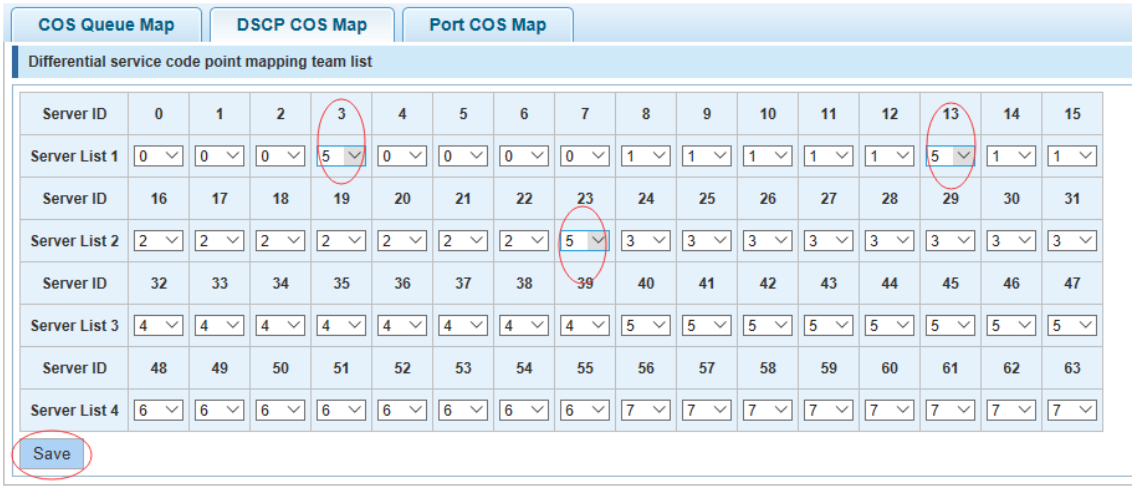
【Instruction】

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.

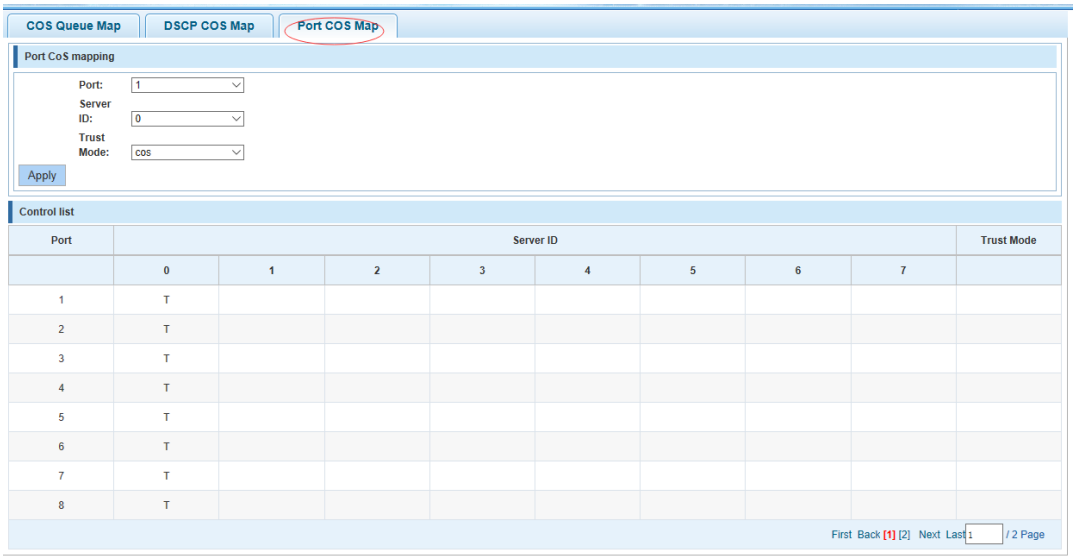
Figure 4-93 Configuration example



4.8.2.3 Port COS Map

In the navigation bar to select "**QoS**>**mapping the queue**>**Port COS Map**", Port can be mapped to the corresponding service categories. the following picture:

Figure 4-94 Port COS map



【Parameter Description】

Parameter	Description
Port	Select the port number (1-10)
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.

Figure 4-95 Configuration example I

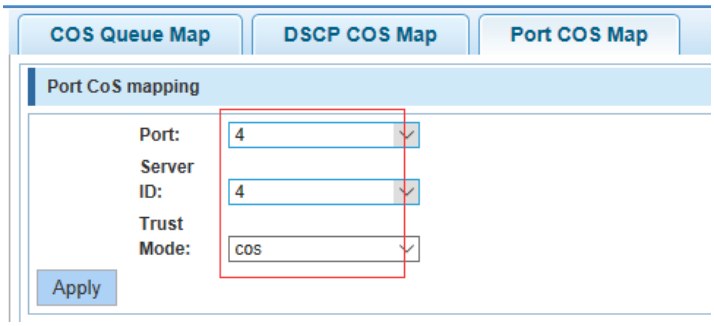


Figure 4-96 Configuration example II

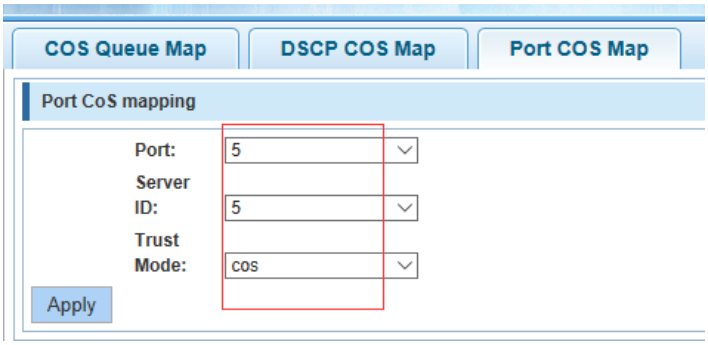


Figure 4-97 Configuration example III

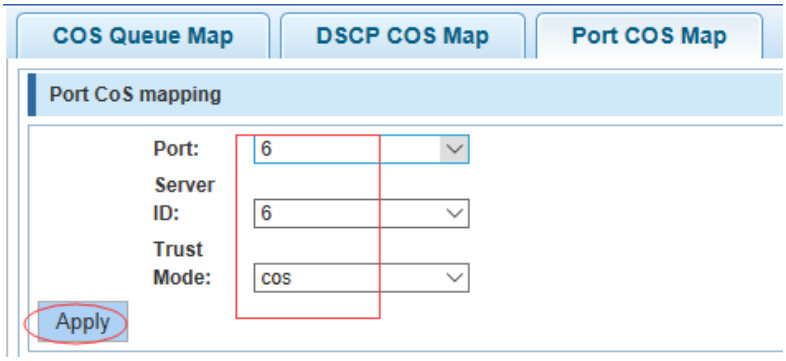


Figure 4-98 Configuration example IV

Control list

Port	Server ID								Trust Mode
	0	1	2	3	4	5	6	7	
1	T								
2	T								
3	T								
4					T				cos
5						T			cos
6							T		cos
7	T								
8	T								

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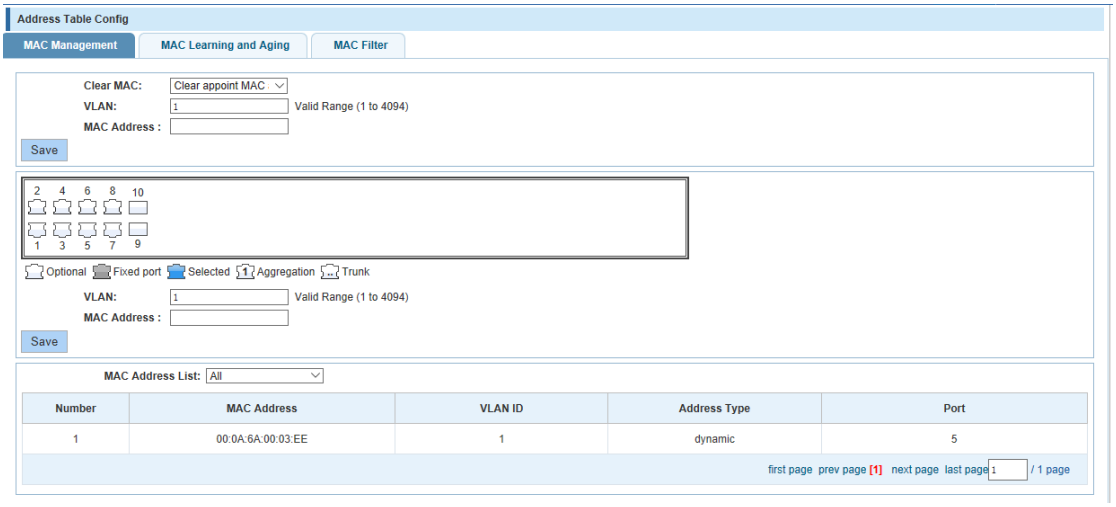
4.9 Addr table

In the navigation bar to select **“Address table**", you can set to **MAC Management**, **MAC learning and Aging** and **MAC Filter**.

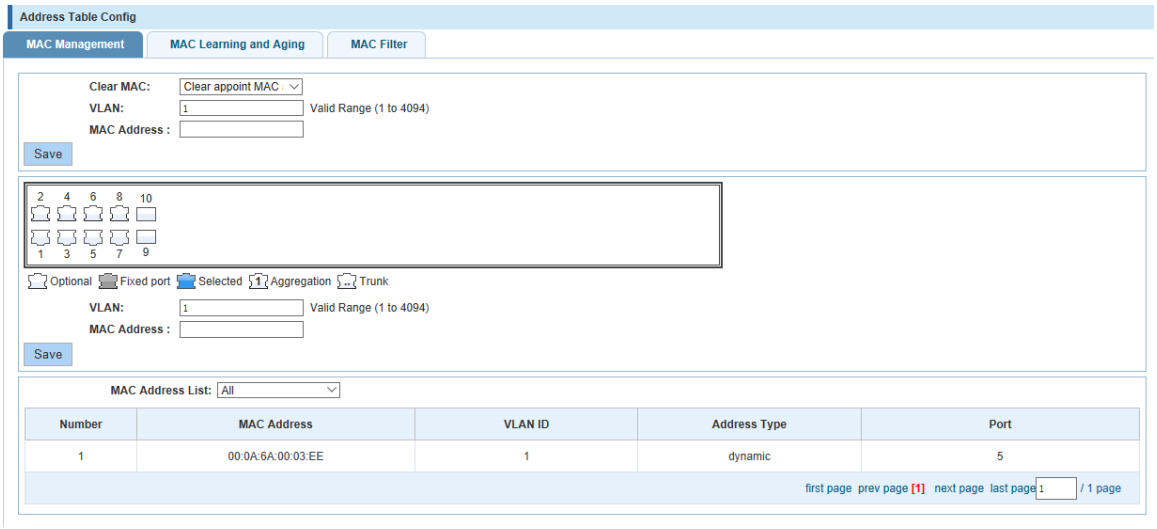
Figure 4-99 MAC management



4.9.1 MAC Management

In the navigation bar to select **"Address table>MAC Management**", you can add static Mac and delete Mac and view to the current of the Mac address table. The following picture:

Figure 4-100 MAC management



【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 VLAN to create can only take effect

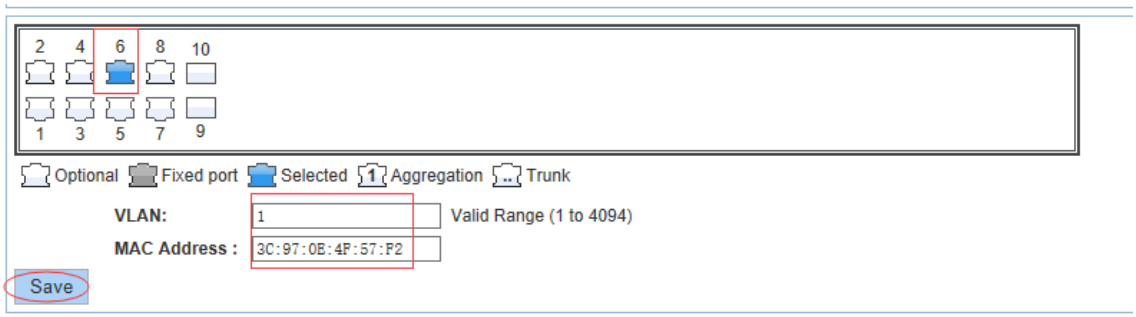
【Instruction】

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

【Configuration Example】

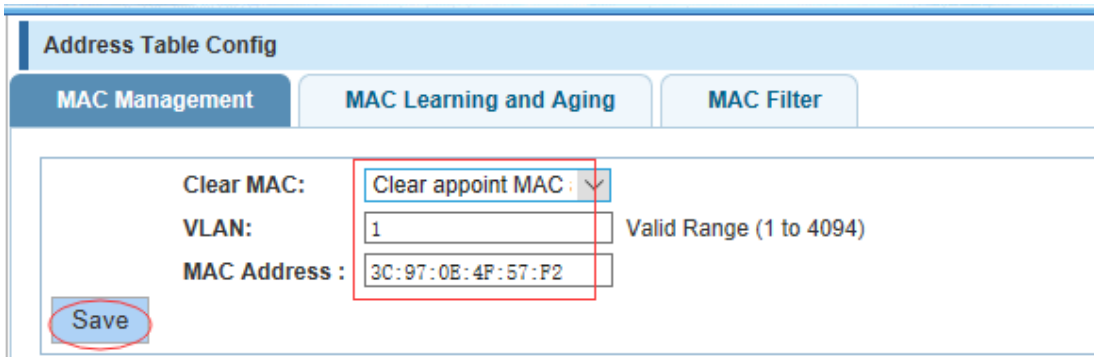
Step 1 The port 6 Mac set to static Mac.

Figure 4-101 Configuration example I



Step 2 Clear port 6 static Mac addresses.

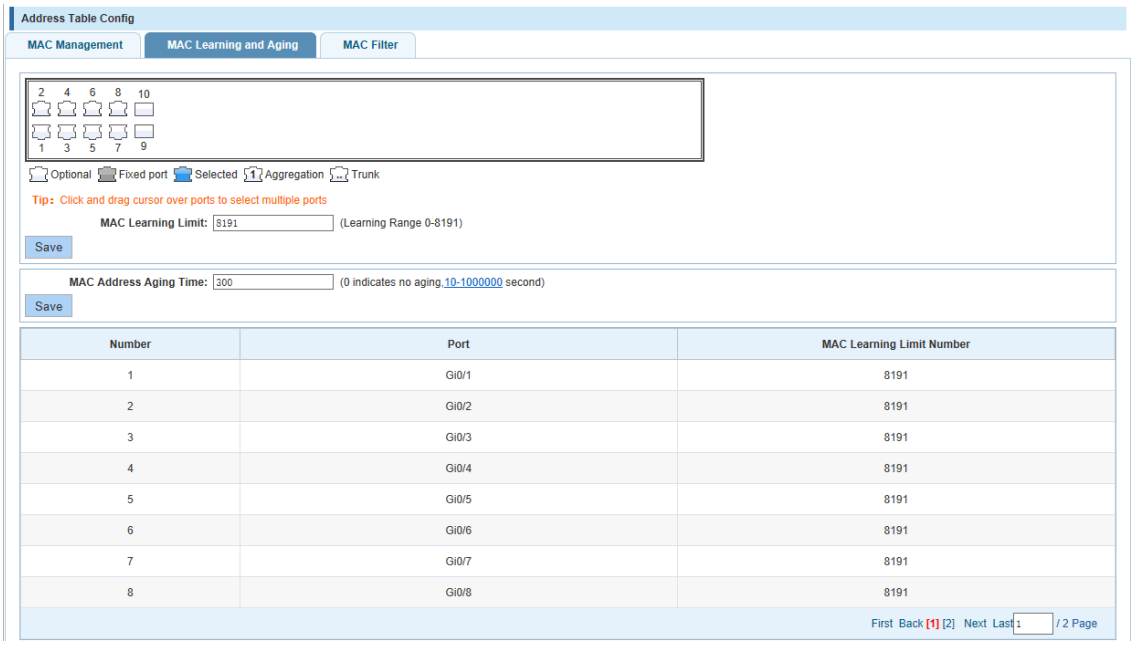
Figure 4-102 Configuration example II



4.9.2 MAC Learning and Aging

In the navigation bar to select **"address table**>**MAC Learning and Aging**", Can be set up port Mac address study limit and Mac address aging time. The following picture:

Figure 4-103 MAC learning and aging



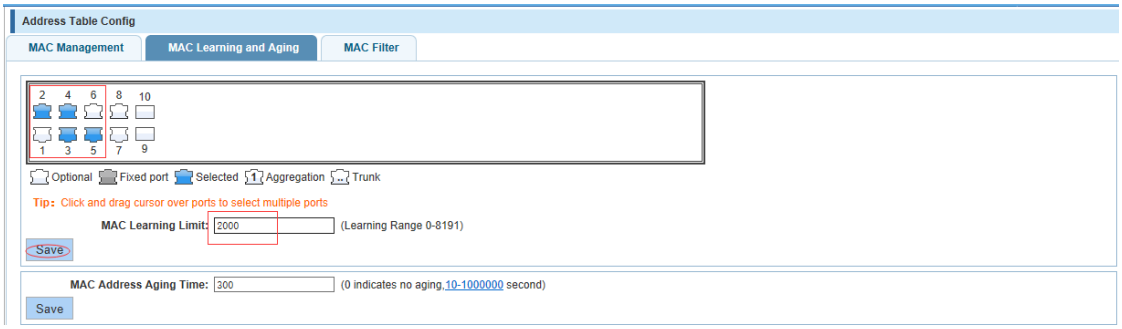
【Parameter Description】

Parameter	Description
Mac address	Range 0-8191,default 8191
Mac address study limit	Default 300

【Configuration Example】

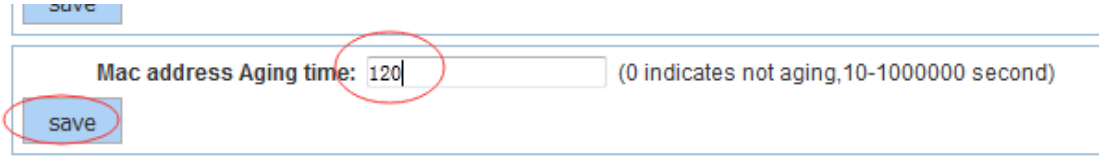
Step 1 Setting port 2, 3, 4, 5 address study limit for 2000.

Figure 4-104 Configuration example I



Step 2 Will be dropped or learn the Mac address of the port equipment after 2 minutes disappear automatically from the Mac address table.

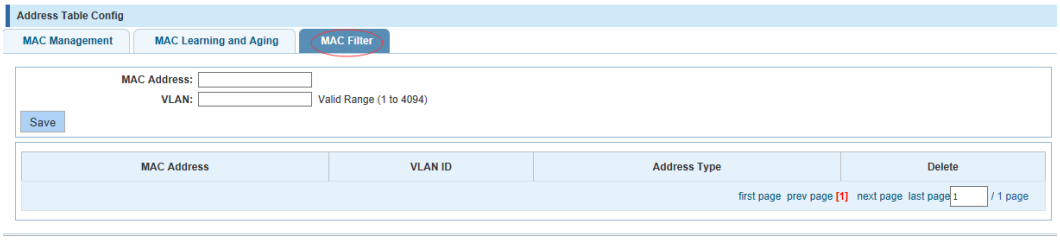
Figure 4-105 Configuration example II



4.9.3 MAC Filter

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

Figure 4-106 MAC filter



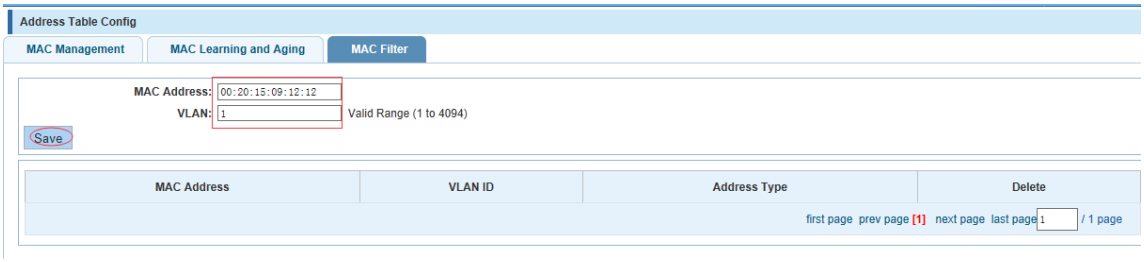
【Parameter Description】

Parameter	Description
Mac address	Can't 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.

Figure 4-107 Configuration example I



4.10 SNMP

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

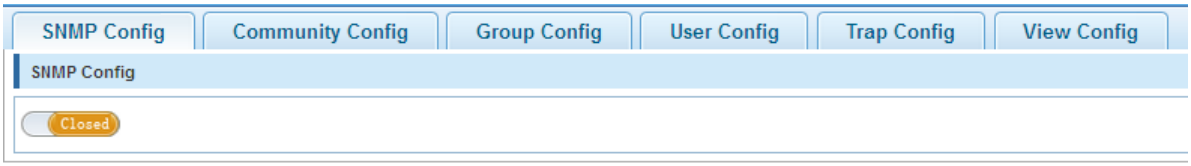
Figure 4-108 SNMP

4.10.2 Snmp config

4.10.2.1 Snmp config

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

Figure 4-109 SNMP Config



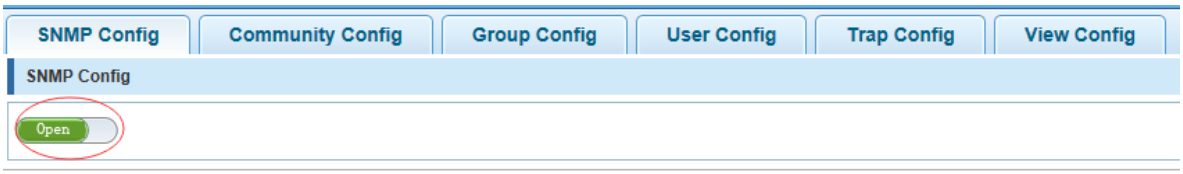
【Instruction】

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

【Configuration Example】

Such as: open Snmp.

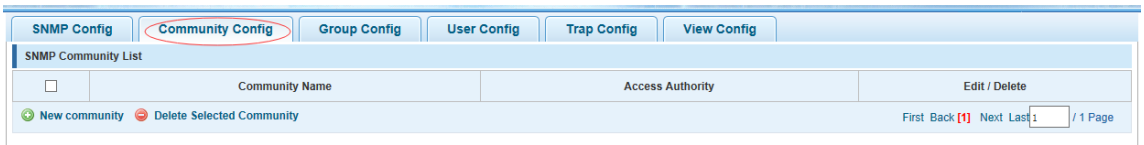
Figure 4-110 Configuration example



4.10.2.2 Community config

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

Figure 4-111 Community Config



【Parameter Description】

Parameter	Description
group	Community string, is equal to the NMS and Snmp agent

Parameter	Description
	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

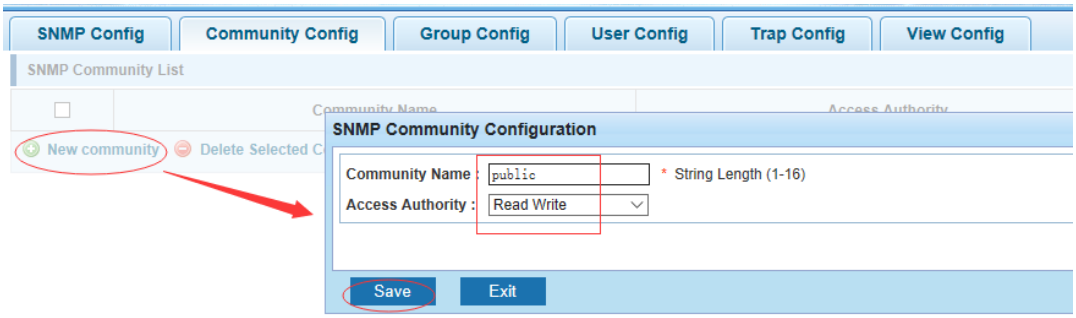
【Instruction】

The upper limit of the number of groups is 8.

【Configuration Example】

Such as: add a read-write group called public.

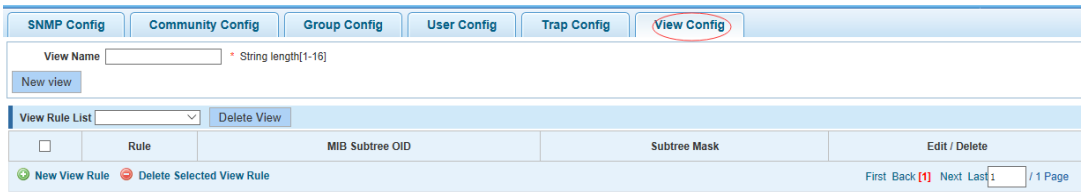
Figure 4-112 Configuration example



4.10.2.3 View config

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

Figure 4-113 View Config



【Parameter Description】

Parameter	Description
View name	View name
include	Indicate the MIB object number contained within the view
exclude	Indicate the MIB object son number was left out of view

Parameter	Description
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.

Figure 4-114 Configuration example I

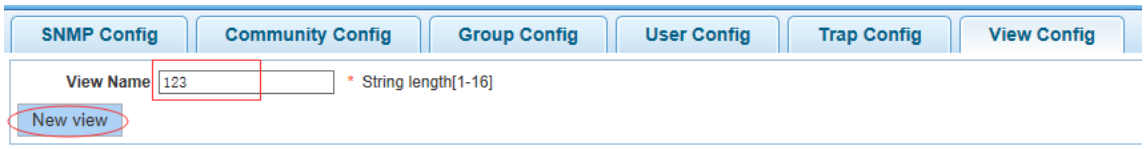
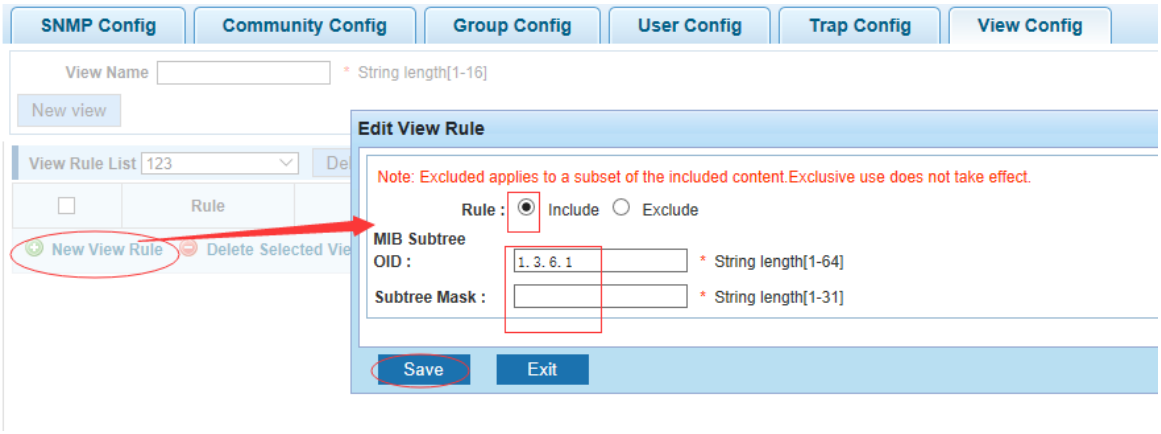


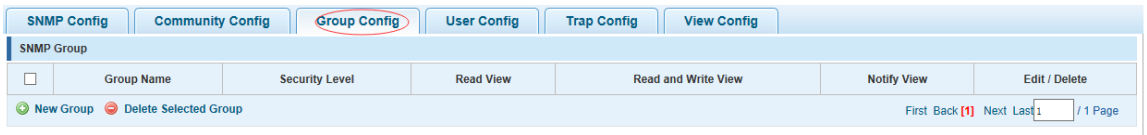
Figure 4-115 Configuration example II



4.10.2.4 Group config

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

Figure 4-116 group Config



【Parameter Description】

Parameter	Description
Group name	Group name
Security level	Attestation not only encryption: this group of users transmission of the message need to verify the data don't need to confidential

Parameter	Description
	No authentication encryption: this group of users' messages don't need to verify data transmission also does not need to be kept secret Both authentication and encryption: this group of users need to verify the news of transmission and transmission of data need to be kept secret
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.

Figure 4-117 Configuration example I

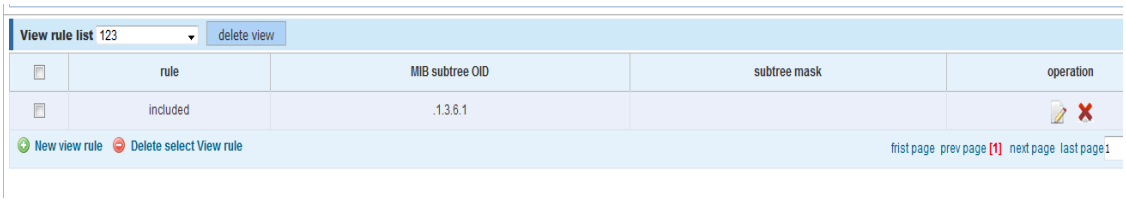
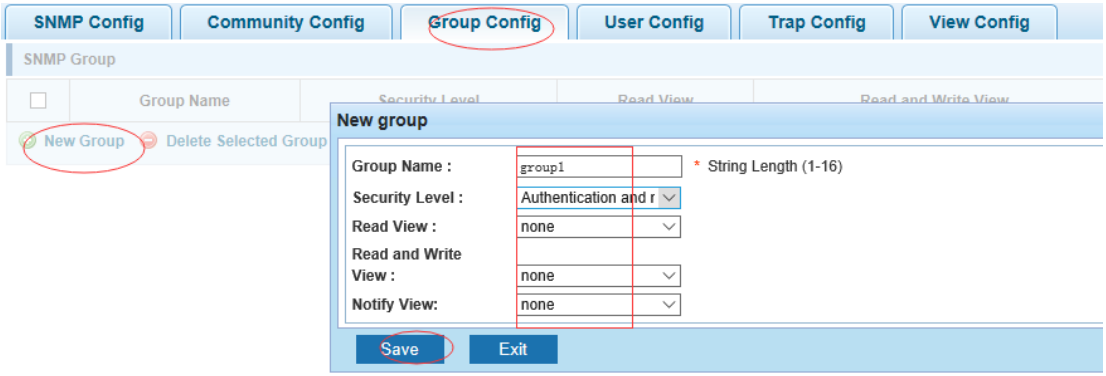


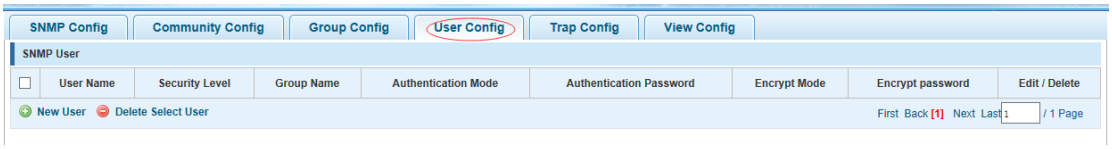
Figure 4-118 Configuration example II



4.10.2.5 User config

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

Figure 4-119 User Config



【Parameter Description】

Parameter	Description
User Name	User name, range 1-16
Security Level	Attestation not only encryption: this group of users transmission of the message need to verify the data don't need to confidential No authentication encryption: this group of users' messages don't need to verify data transmission also does not need to be kept secret Both authentication and encryption: this group of users need to verify the news of transmission and transmission of data need to be kept secret
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

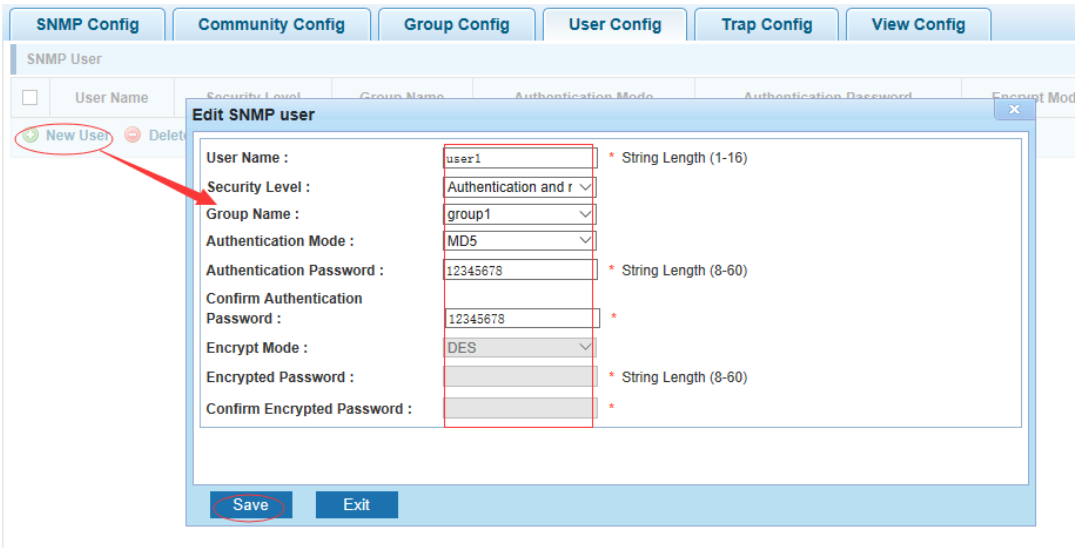
【Instruction】

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 user1.

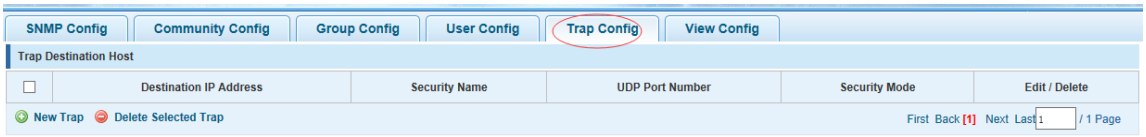
Figure 4-120 Configuration example



4.10.2.6 Trap Config

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

Figure 4-121 Trap Config



【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

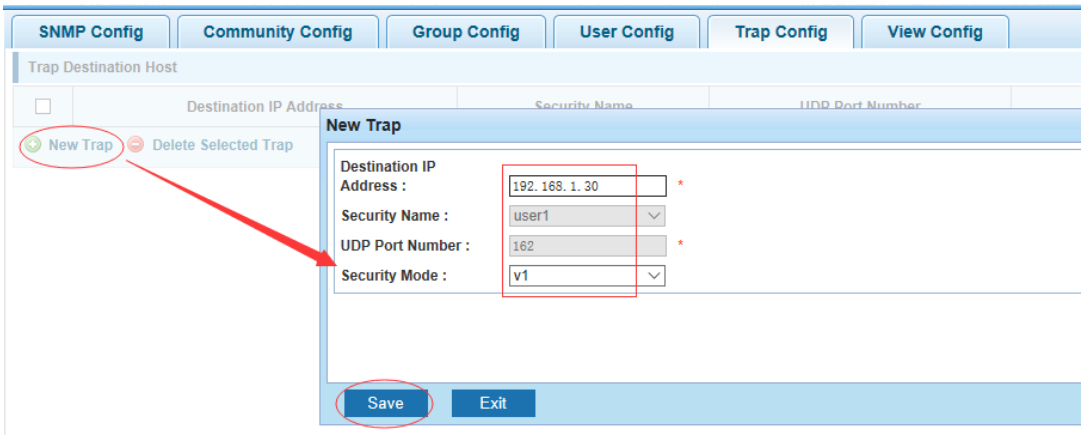
【Instruction】

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 statistical fluctuation threshold.

【Configuration Example】

Such as: setting hoset 192.168.1.30 receives trap information.

Figure 4-122 Configuration example

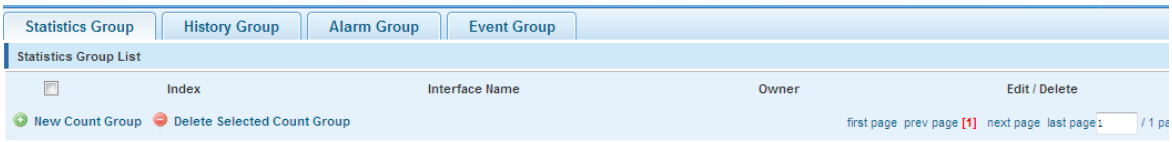


4.10.3 Rmon config

4.10.3.1 Statistics group

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

Figure 4-123 Statistics group



【Parameter Description】

Parameter	Description
Index	The index number, the value range of statistical information table is 1 ~ 65535
Interface Name	To monitor the source port
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: set up monitoring Ethernet port after 4 to check the data.

Figure 4-124 Configuration example I

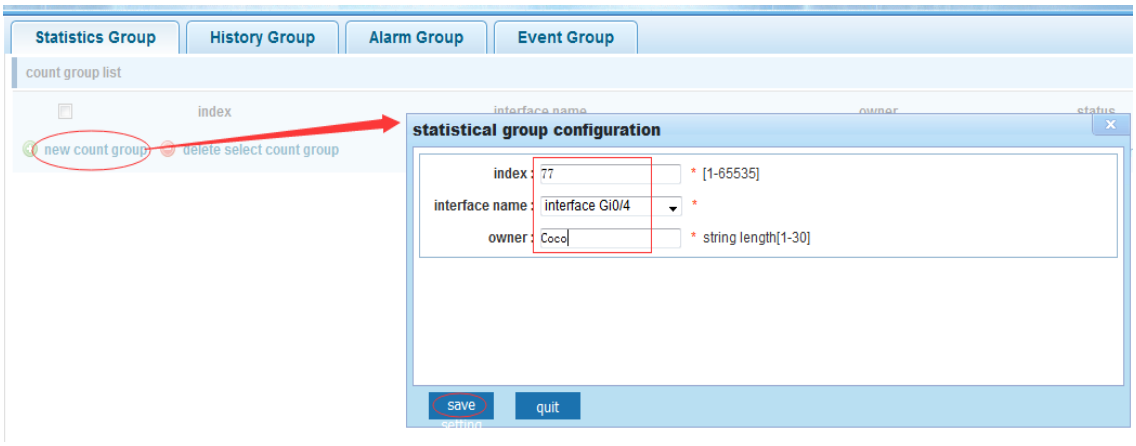
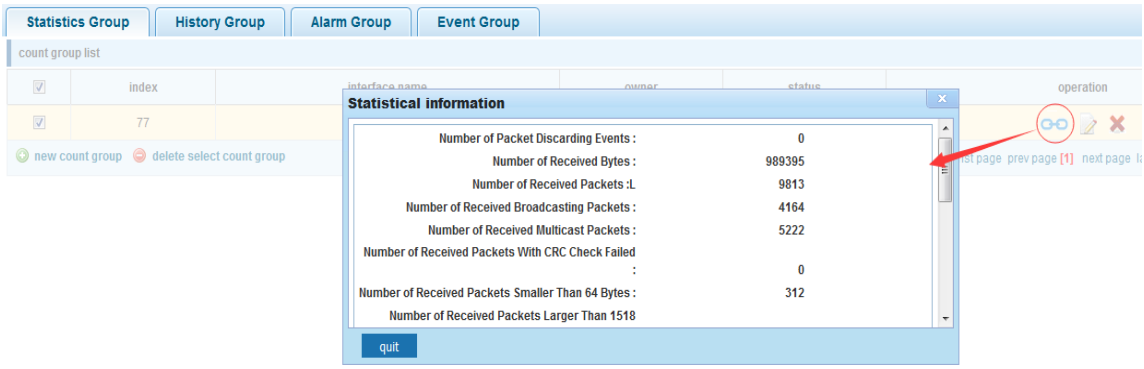


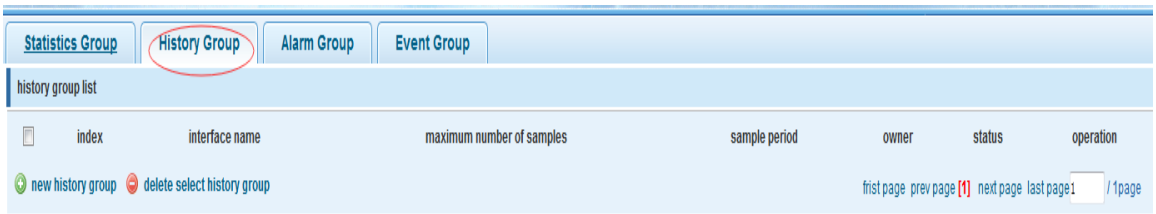
Figure 4-125 Configuration example II



4.10.3.2 History group

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

Figure 4-126 History group



【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

Parameter	Description
	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

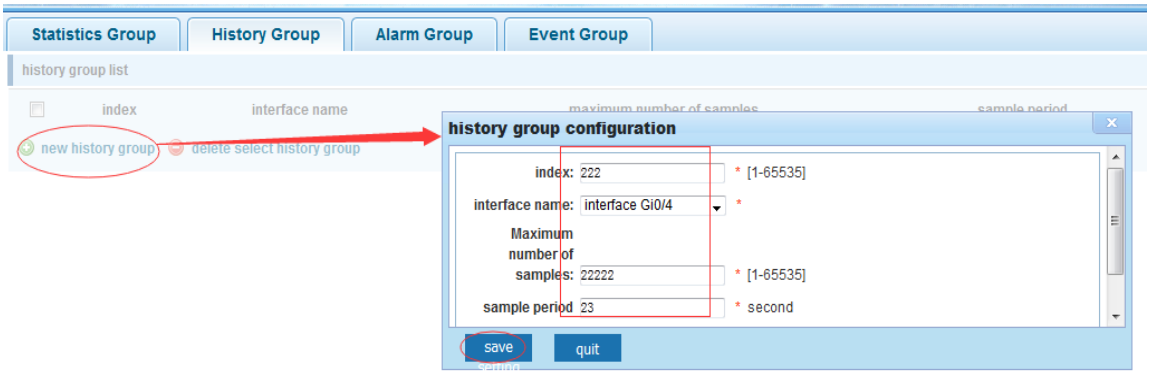
【Instruction】

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.

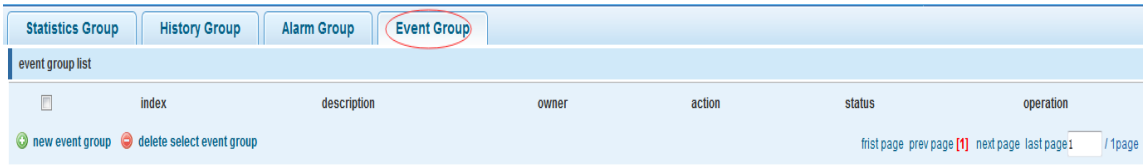
Figure 4-127 Configuration example



4.10.3.3 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.

Figure 4-128 Event group



【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, Log events,

Parameter	Description
	when the event is triggered, the system will log
Owner	Set the table creator, ownername for 1 ~ 30 characters of a string

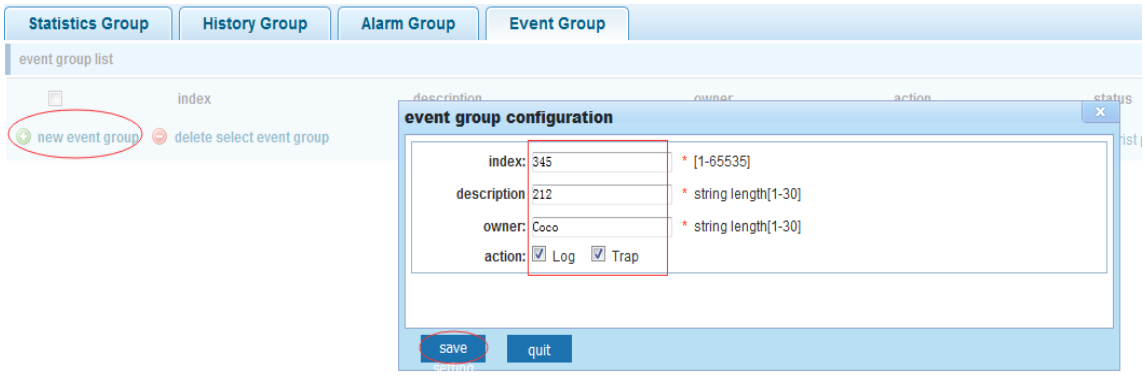
【Instruction】

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.

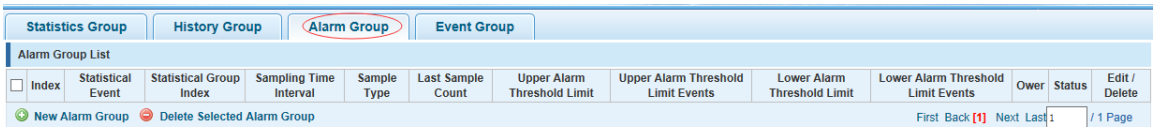
Figure 4-129 Configuration example



4.10.3.4 Alarm group

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

Figure 4-130 Alarm group



【Parameter Description】

Parameter	Description
Index	The alarm list items index number, value range is 1 ~ 65535
Static Event	Statistical type values :3:DropEvents. 4:Octets. 5:Pkts. 6:BroadcastPkts. 7:MulticastPkts. 8:CRCAlignErrors. 9:UndersizePkts. 10:OversizePkts. 11:Fragments. 12:Jabbers. 12:Collisions. 14:Pkts64Octets.

Parameter	Description
	15:Pkts65to127Octets. 16:Pkts128to255Octets. 17:Pkts256to511Octets. 18:Pkts512to1023Octets. 19:Pkts1024to1518Octets
Statistical Group Index	Set up the corresponding statistics statistical index number, decided to statistics to monitor the port number
Sampling Time Interval	Sampling time interval, the scope for 5 ~ 65535, the unit for seconds
Sampling Type	Sample types for the absolute value of sampling, the sampling time arrived directly extracting the value of a variable
Last Sample Count	Sampling type for change value sampling, extraction of the arrival of the sampling time is variable in the change of the sampling interval value
Upper Alarm threshold Limit	Set the upper limit the Parameter values
Lower Alarm threshold Limit	Set the lower limit Parameter values
Upper Alarm/Lower Alarm threshold Limit Events	Upper/lower limit reached, for each event
Owner	Set the table creator, ownername for 1 ~ 30 characters of a string

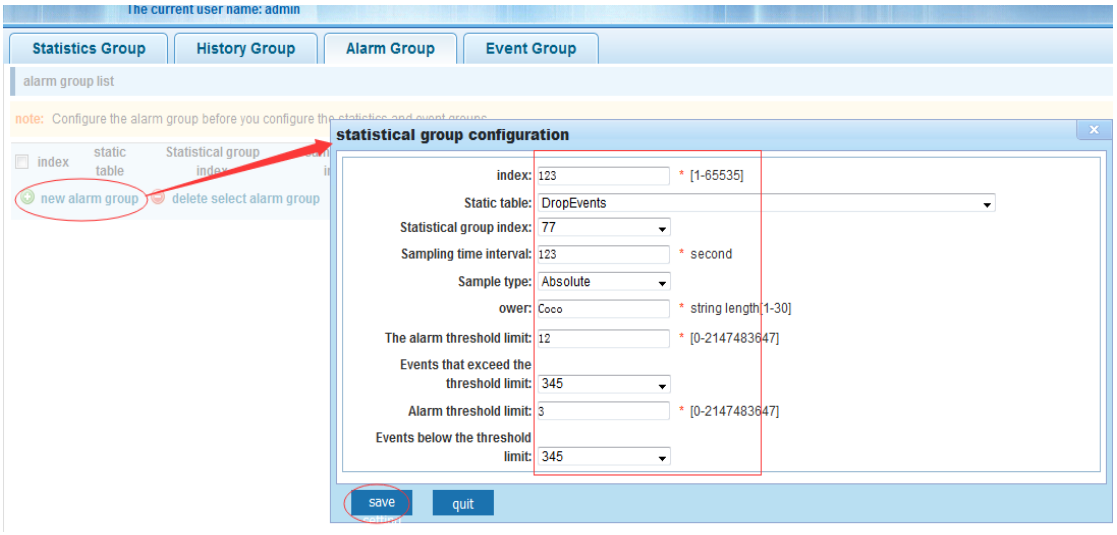
【Instruction】

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

Figure 4-131 Configuration example



4.11 LACP

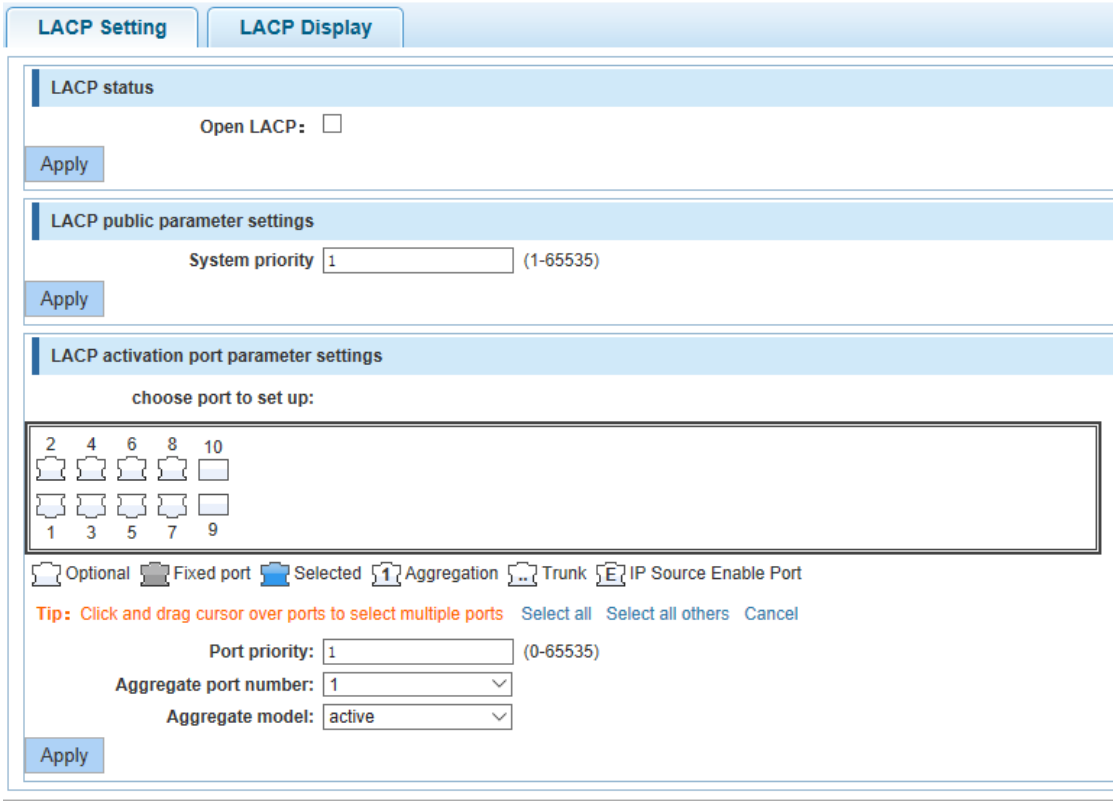
In the navigation bar to select "**LACP**", you can set to the lacp config.

Figure 4-132 LACP

4.11.2 Lacp config

In the navigation bar to select "**LACP**>**Lacp config**" the following picture:

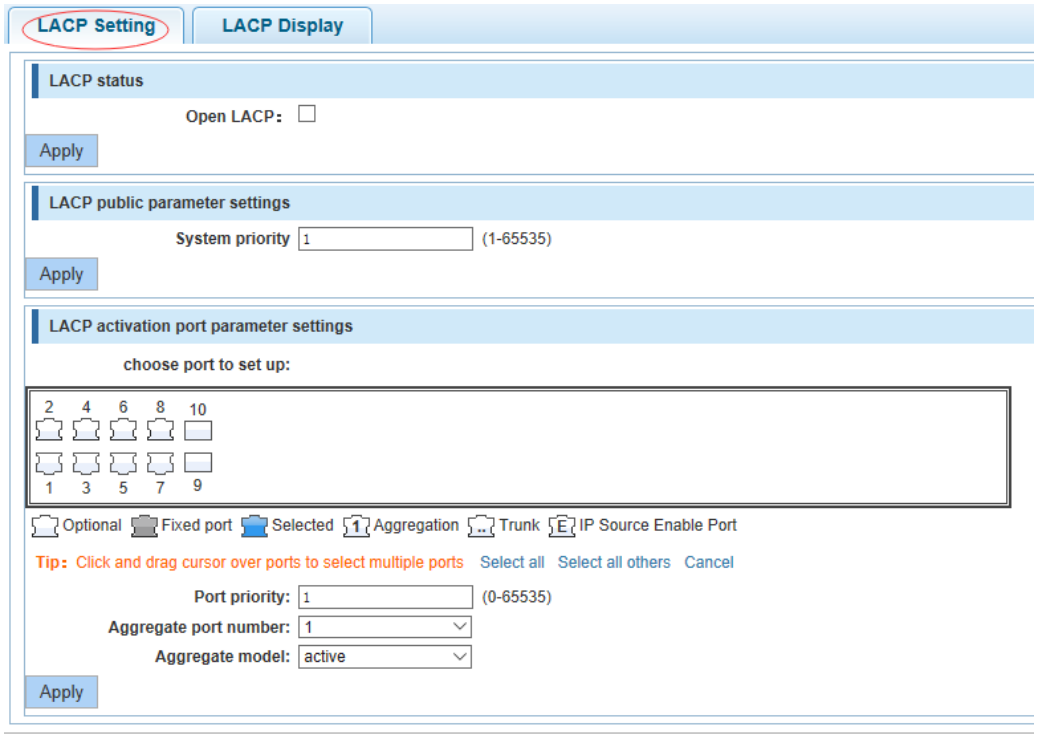
Figure 4-133 LACP settings



4.11.2.2 LACP Setting

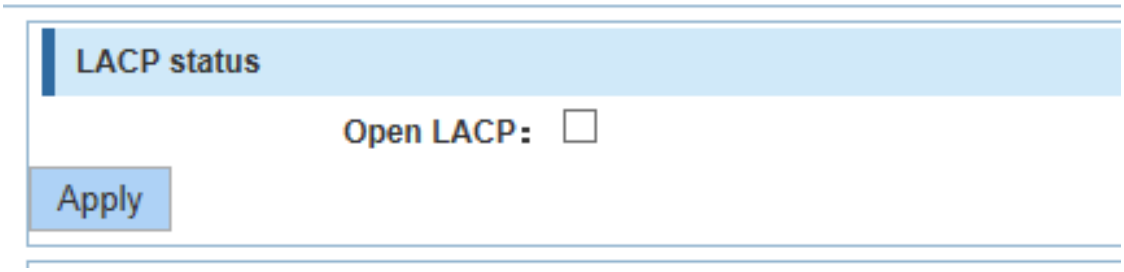
In the navigation bar to select "**LACP**>**Lacp config**>**LACP settings**" the following picture:

Figure 4-134 LACP settings



LACP status

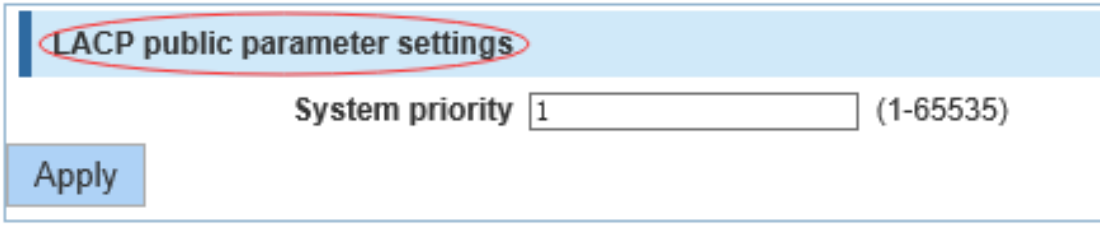
Figure 4-135 LACP status



Open or close LACP.

LACP public parameter settings

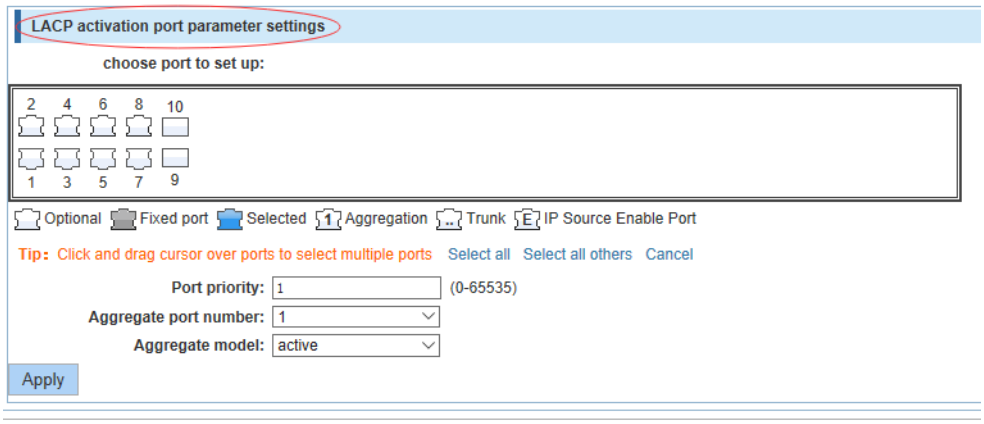
Figure 4-136 LACP public parameter settings



You can set to System settings, range 1-65535.

LACP activation port parameter settings

Figure 4-137 LACP activation port parameter settings



Port priority: You can set to Port priority. Rang 1-65535

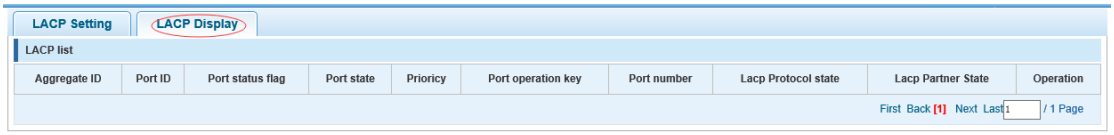
Aggregate port number: You can select the Aggregate port number.

Aggregate model: You can select the Aggregate port number. Include active and passive.

4.11.2.3 LACP Display

In the navigation bar to select **“LACP**>**Lacp config**>**LACP Display**”,You can see the table of lacp. The following picture:

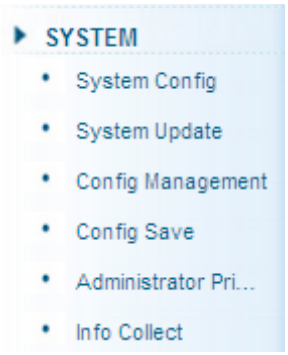
Figure 4-138 LACP display



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**.

Figure 4-139 System

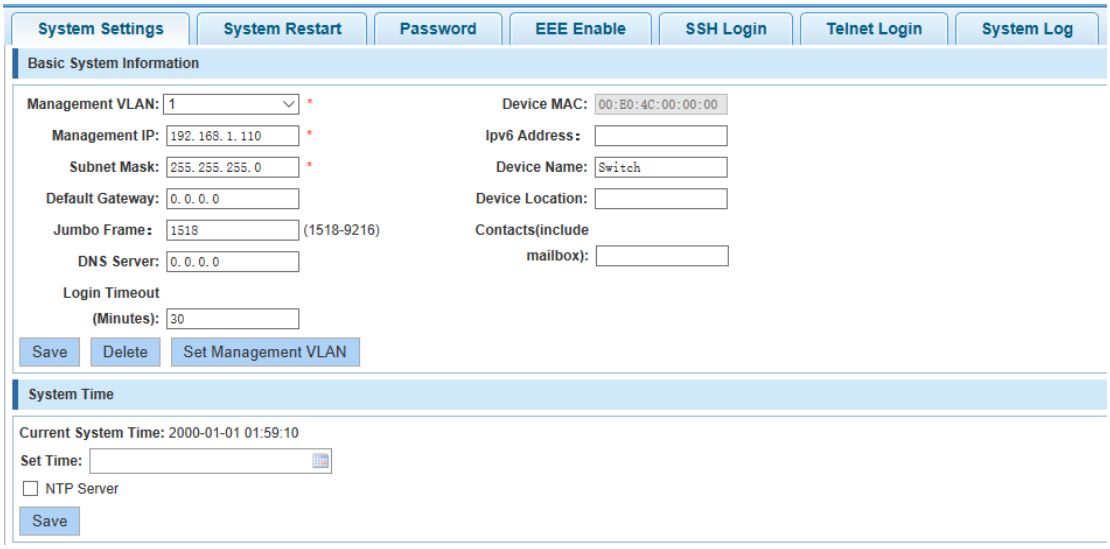


4.12.2 System config

4.12.2.1 System settings

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

Figure 4-140 System settings



【Parameter Description】

Parameter	Description
Device Name	Switch name
Management VLAN	Switches use VLAN management
Management IP	Switch IP address management
Timeout	Don't use more than login timeout after login to log in again

【Configuration Example】

Step 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.

Figure 4-141 Configuration example I

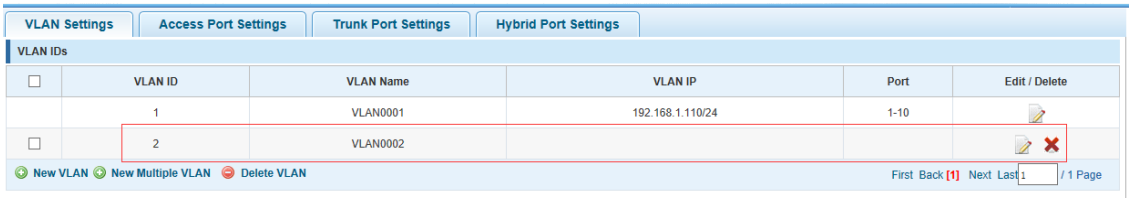


Figure 4-142 Configuration example II

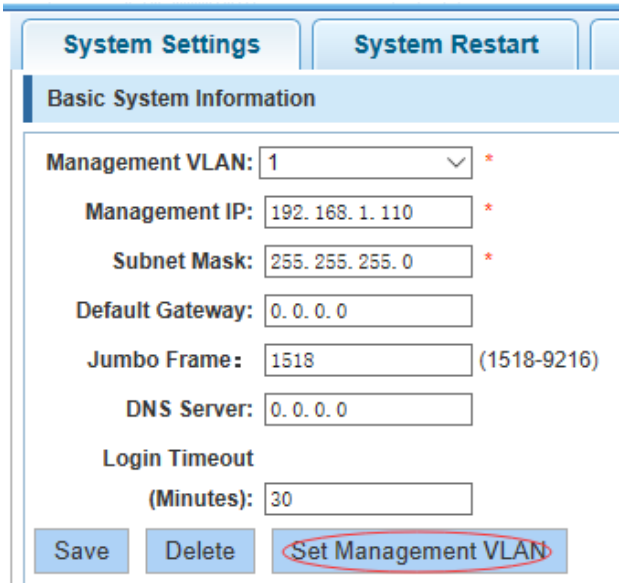
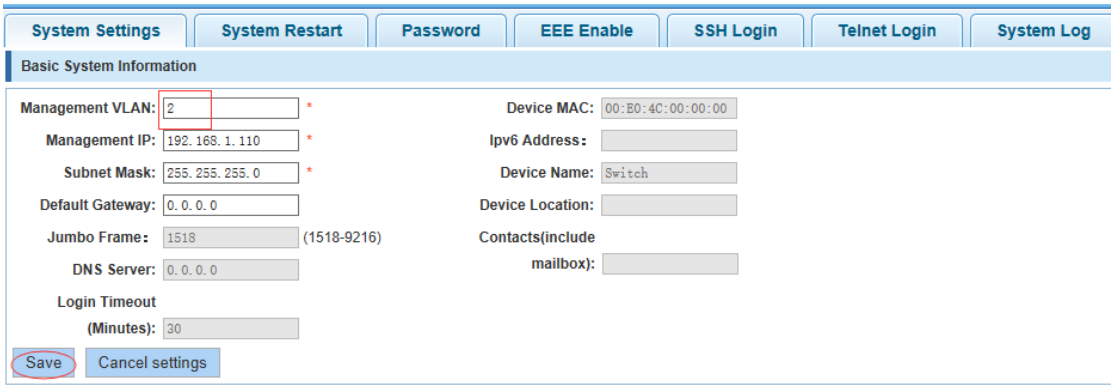
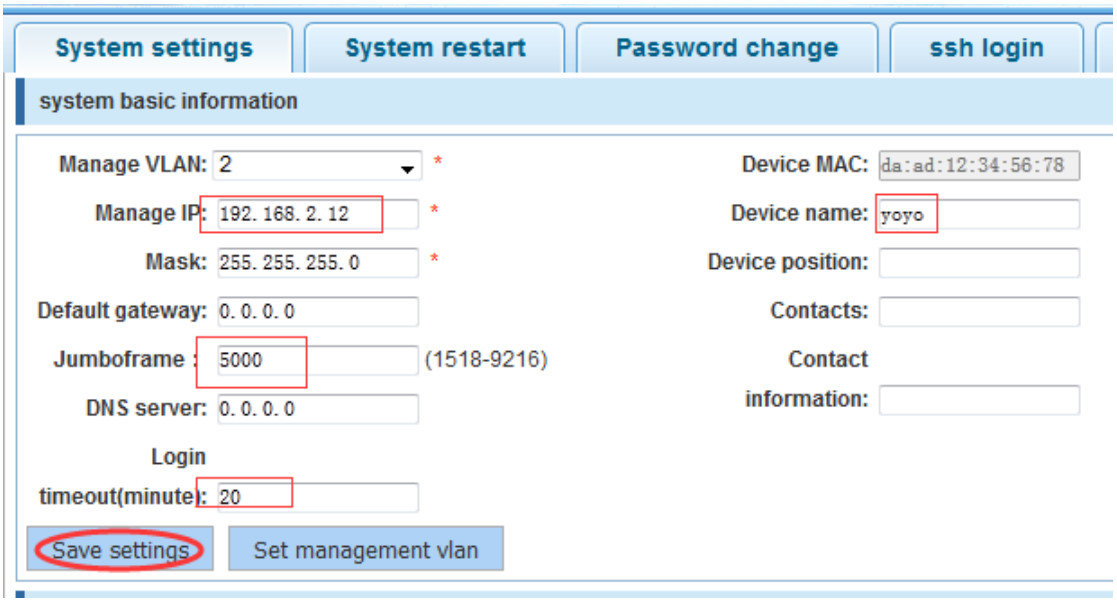


Figure 4-143 Configuration example III



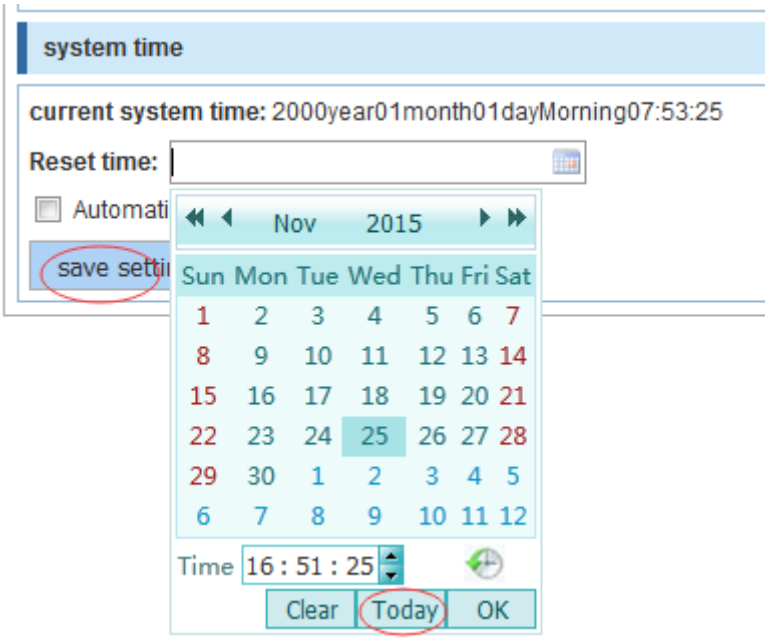
Step 2 Insert the PC interface 9 or 10 ports, set up the management IP for 192.168.2.12, device name is yoyo, timeout for 20 minutes, Jumbo frame for 5000.

Figure 4-144 Configuration example IV



Step 3 Use 192.168.2.12 logging in, sets the system time.

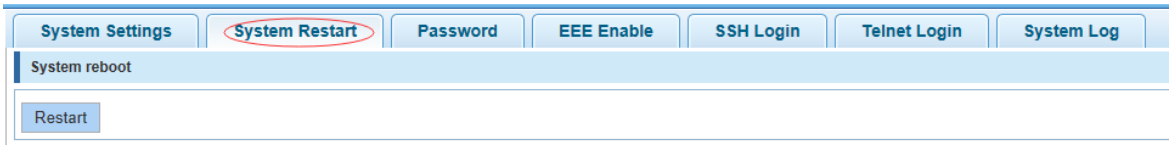
Figure 4-145 Configuration example V



4.12.2.2 System restart

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

Figure 4-146 System restart



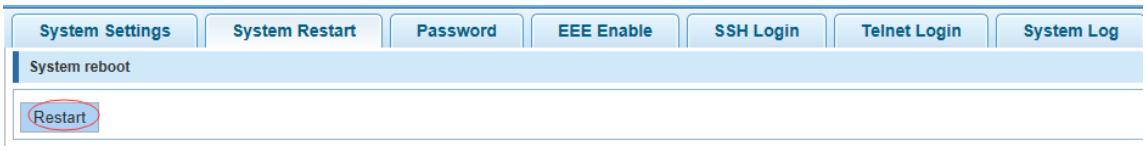
【Instruction】

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.http://192.168.2.1/system/sysreload.htm?1448508984027

【Configuration Example】

Such as: click "restart" button.

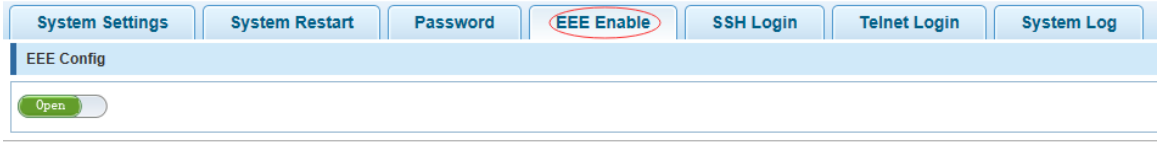
Figure 4-147 Configuration example



4.12.2.3 EEE Enable

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

Figure 4-148 EEE enable



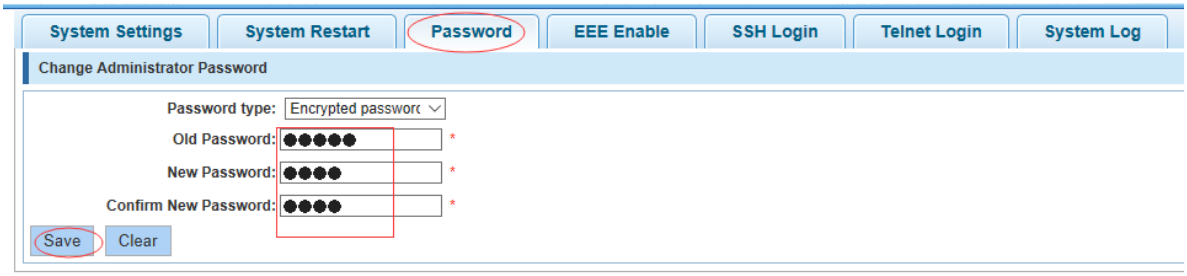
【Instruction】

Energy Efficient Ethernet, Open the EEE features by default.

4.12.2.4 Password

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

Figure 4-149 Password



【Instruction】

Step 4 If you set a new Web login password, then log in again after seting the new password.

Step 5 Password cannot contain Chinese, full-width characters, question marks and spaces.

Step 6 If forget the password reset, can be reset in the console.

switch(config)# password admin

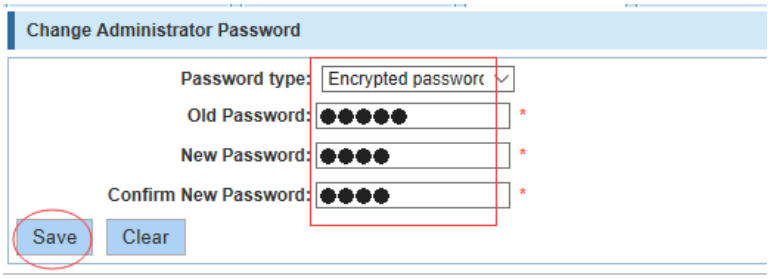
New Password:3456

Confirm Password:3456

【Configuration Example】

Such as: amend the password to 1234.

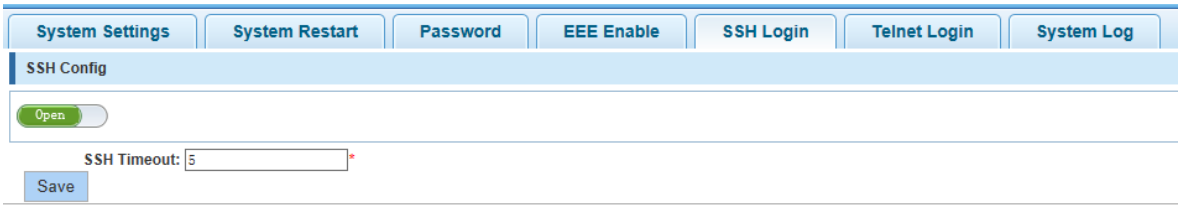
Figure 4-150 Configuration example



4.12.2.5 SSH login

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

Figure 4-151 SSH login



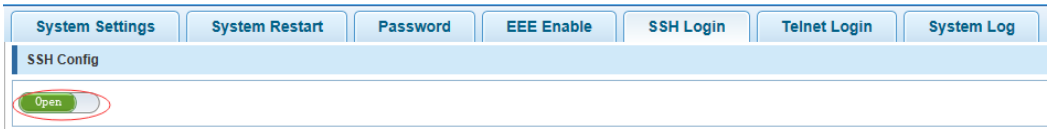
【Instruction】

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.

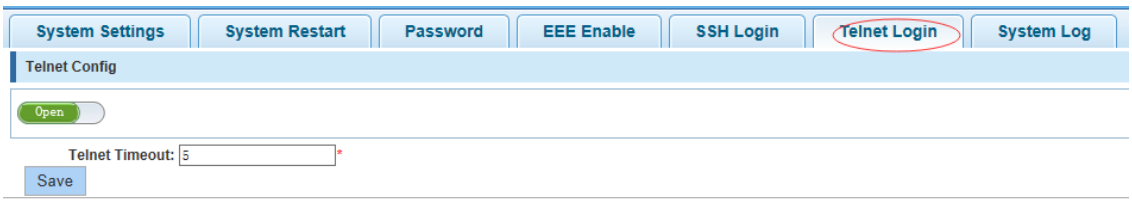
Figure 4-152 Configuration example



4.12.2.6 Telnet login

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

Figure 4-153 Telnet login



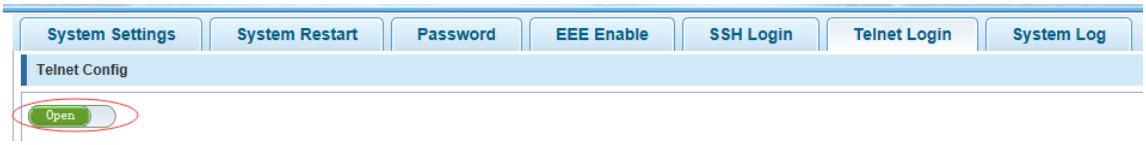
【Instruction】

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.

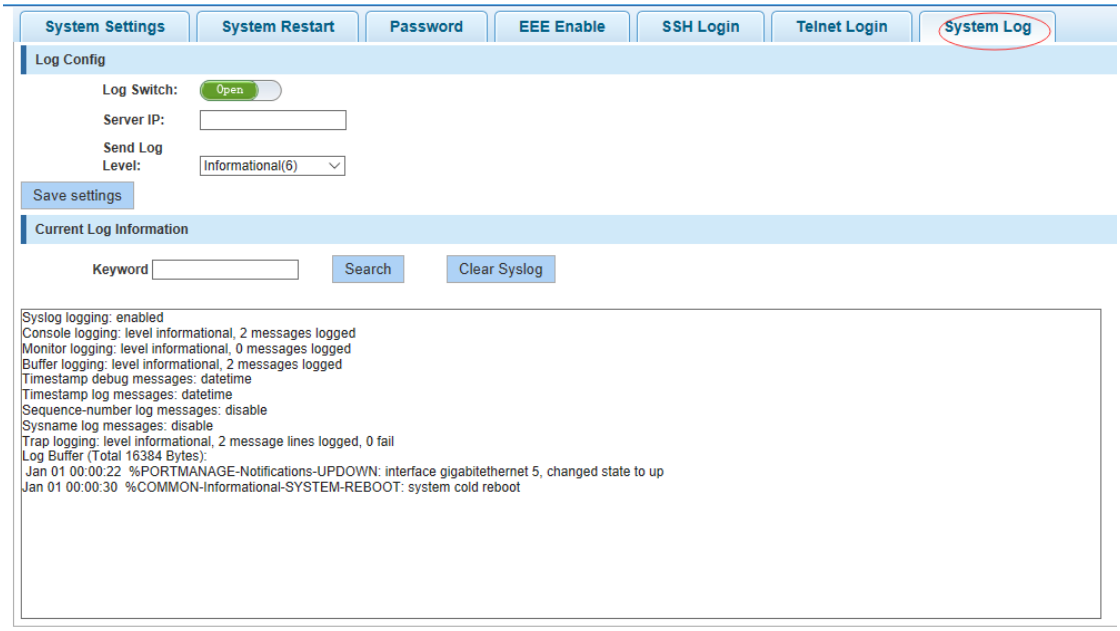
Figure 4-154 Configuration example



4.12.2.7 System log

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

Figure 4-155 System log



【Parameter Description】

Parameter	Description
Log switch	Open and close
Server IP	Appoint to server address
Send Log Level	0-7
Keyword	Enter the required query of characters

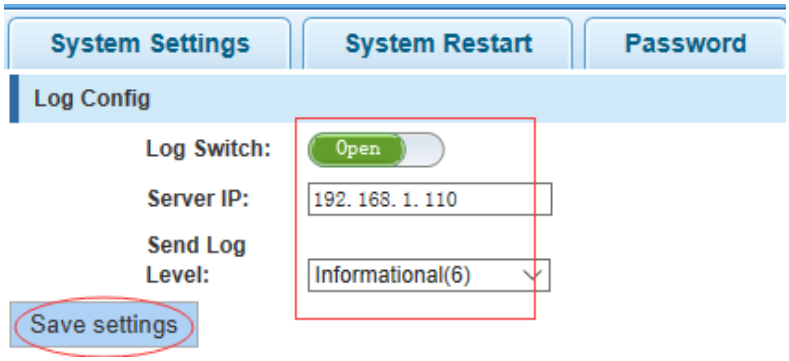
【Instruction】

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

【Configuration Example】

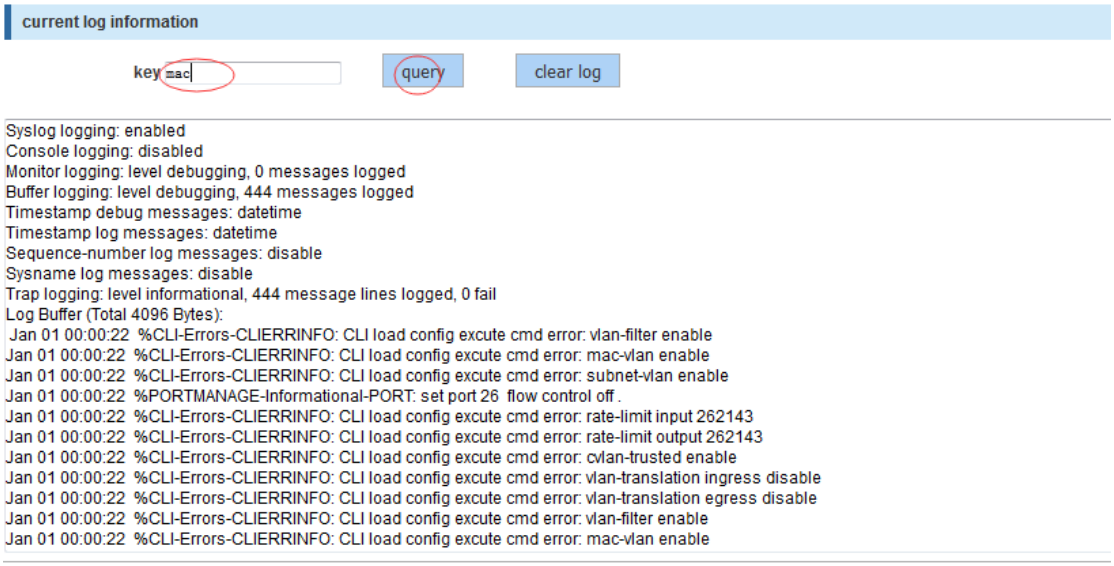
Step 1 The error log information in 192.168.1.110 pushed to the server

Figure 4-156



Step 2 Input the Mac keywords, click "query “button, click on the "clear log" button and can clear the log.

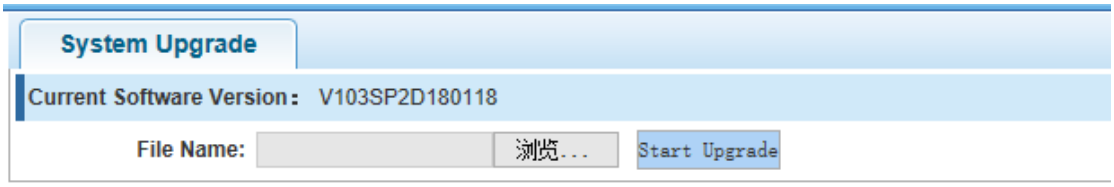
Figure 4-157



4.12.3 System upgrade

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

Figure 4-158



【Instruction】

Step 1 Please confirm that the upgraded version of the same model and the same model.

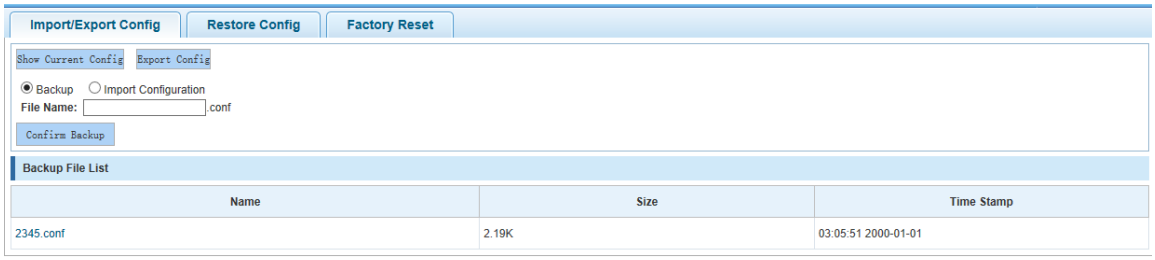
Step 2 In the upgrade process, you may encounter flash to make the page is temporarily unable to respond to the page, this time cannot power off or restart the device, until prompted to upgrade successfully!

4.12.4 Config management

4.12.4.1 Import/Export Config

In the navigation bar to select **“SYSTEM>config management>Import/Export Config**", can import and export configuration files, the backup file. The following picture:

Figure 4-159



【Instruction】

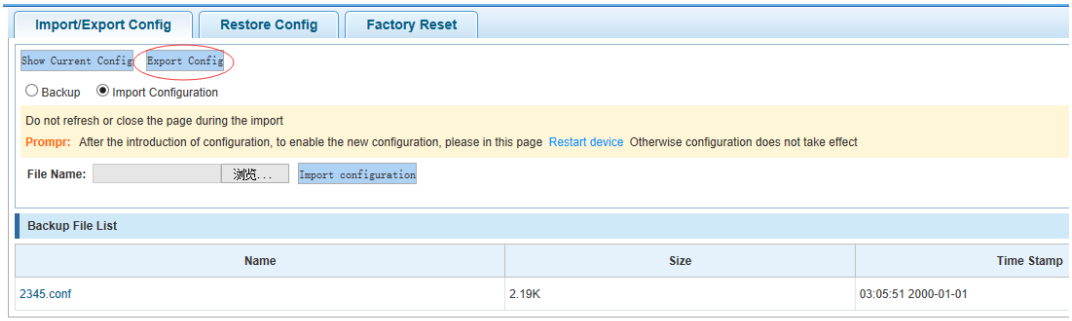
Import process cannot be closed or refresh the page, or import will fail!

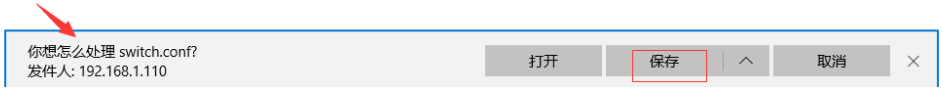
After the introduction of configuration, to enable the new configuration, please in this page Restart device Otherwise configuration does not take effect.

【Configuration Example】

Step 1 In the configuration first save the page, click save configuration to save the current configuration, then export the configuration.

Figure 4-160 Configuration example I





Step 2 Import configuration.

Figure 4-161 Configuration example II

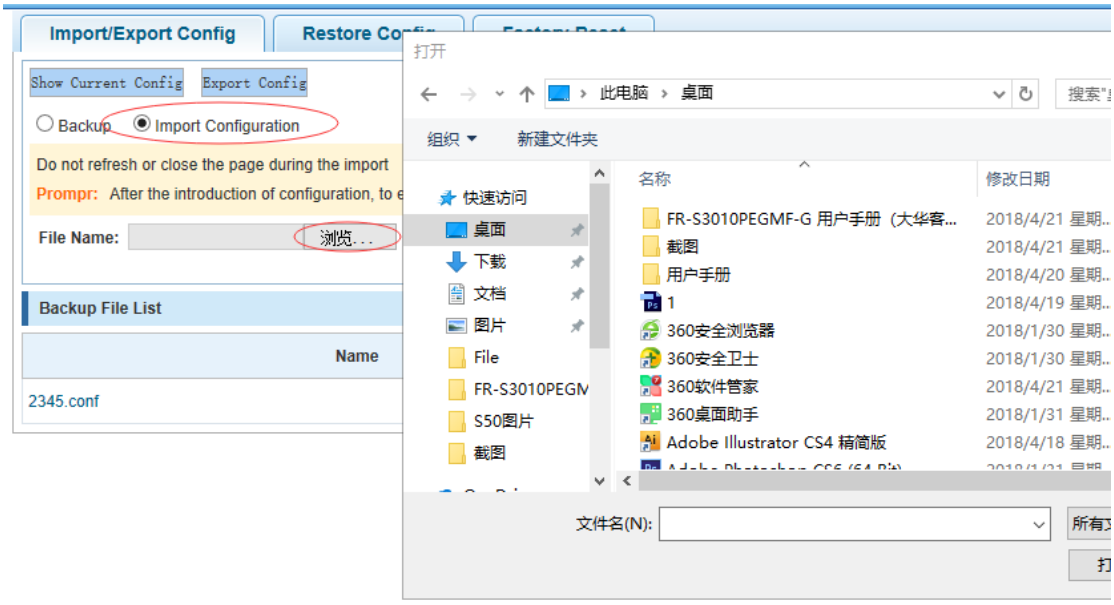
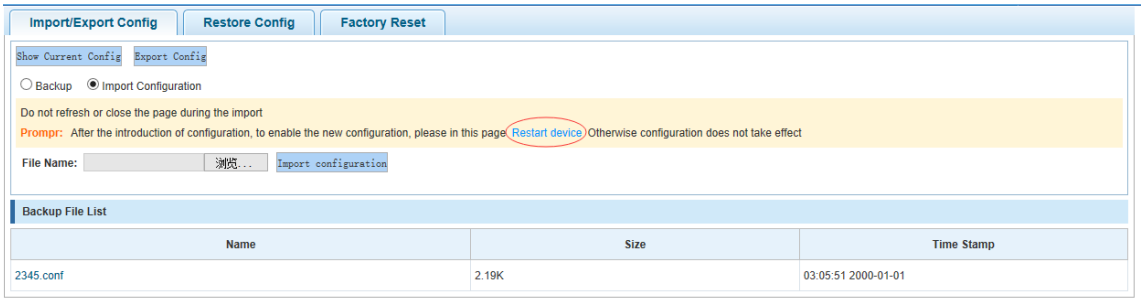
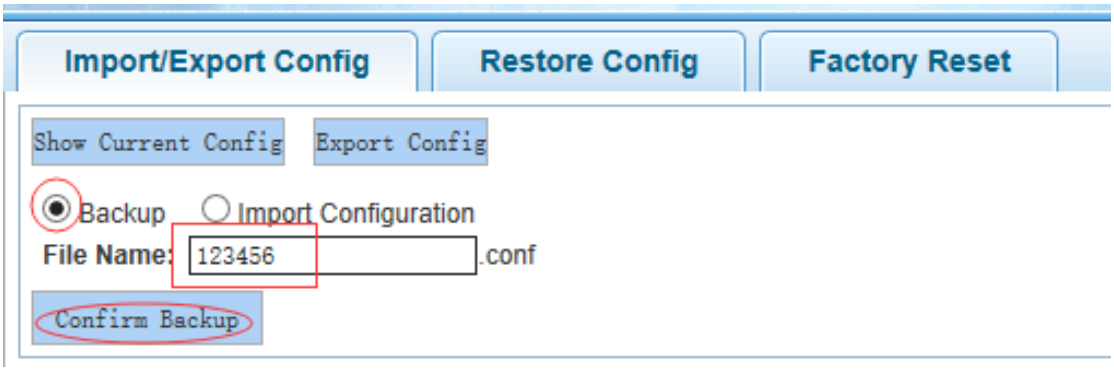


Figure 4-162 Configuration example III



Step 3 Backup.

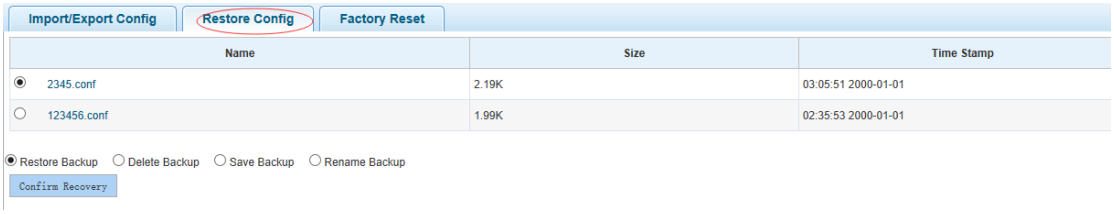
Figure 4-163 Configuration example IV



4.12.4.2 Restore Config

In the navigation bar to select **"SYSTEM>config management>Restore Config**", you can configure backup file. The following picture:

Figure 4-164 Restore Config



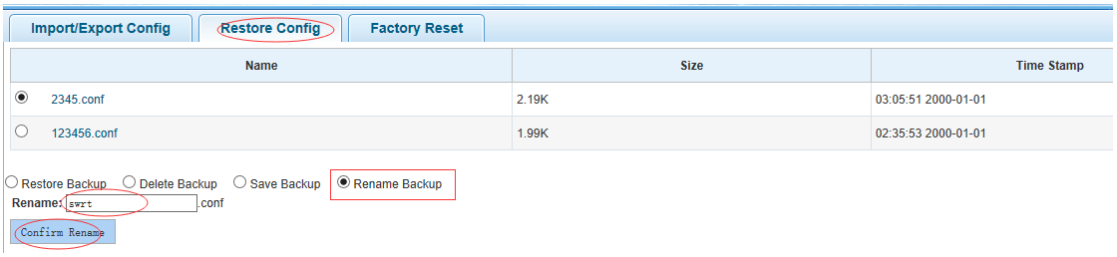
【Instruction】

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

【Configuration Example】

Such as: restore backup.

Figure 4-165 Configuration example



4.12.4.3 Factory Reset

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

Figure 4-166 Factory reset

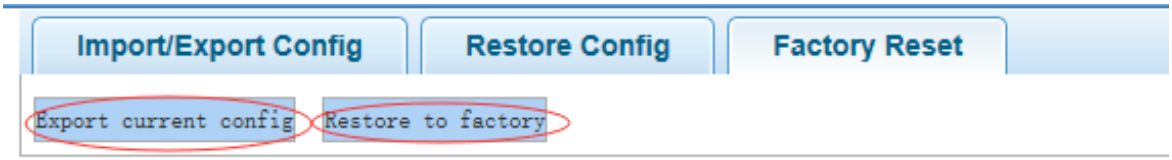
【Instruction】

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.

Figure 4-167 Configuration example



4.12.5 Config save

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

Figure 4-168 Config save

【Instruction】

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

【Configuration Example】

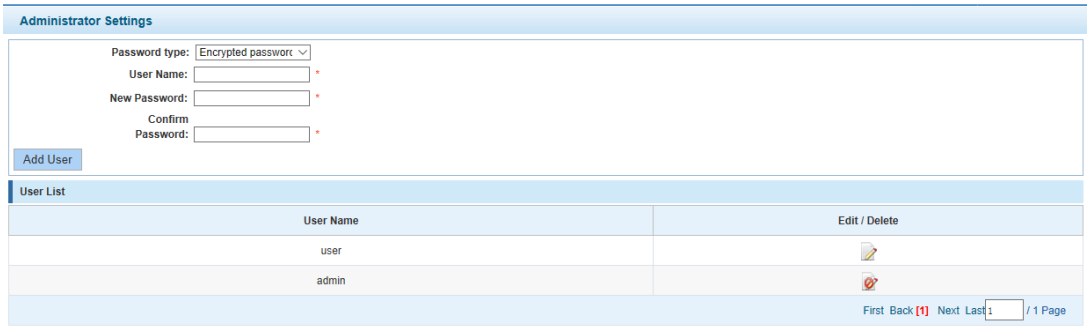
Such as: click "save settings" button.

Figure 4-169 Configuration example

4.12.6 Administrator privileges

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

Figure 4-170 Administrator settings



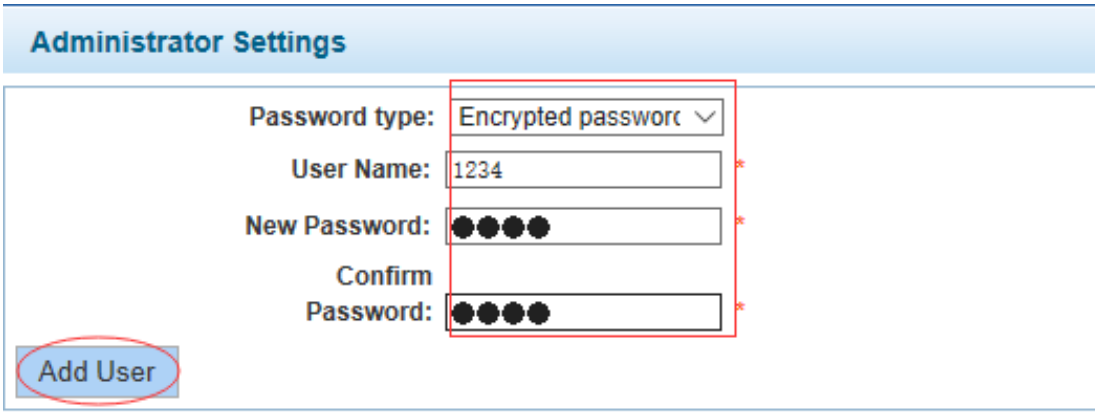
【Instruction】

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:

Figure 4-171 Configuration example



4.12.7 Info collect

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

Figure 4-172 Info collect

【Instruction】

Collect useful infomation, it may take a few moment.

【Configuration Example】

Such as: click on "collect" button.

Appendix 1 Technical Specifications

The abbreviations in this glossary are related to the Manual.

Hardware Specifications		
Standards and Protocols		IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3z, IEEE802.1Q , IEEE802.1p, IEEE802.3af, IEEE802.3at
Interface		8 x 10/100/1000Mbps Auto-Negotiation ports 2 x 100/1000Mbps SFP port 1 x Console port 1 x AC Power Connector
Network Media		10BASE-T: UTP category 3,4 cable (maximum 100m) 100BASE-TX: UTP category 5,5e cable (maximum 100m) 1000Base-T: UTP category 5, 5e,6 cable (maximum 100m) 1000Base-X:MMF,SMF
Transfer Method		Store-and-Forward
MAC Address Table		8K
Switching Capacity		20Gbps
Packet Forwarding Rate		14.88Mbps
Packet Buffer		4.1Mbit
Jumbo Frame		10kBytes
PoE Ports(RJ45)		8* PoE ports compliant with 802.3at/af
Power Pin Assignment		1/2(+),3/6(-)
PoE Budget		140W
Indicators	Per Device	Power(Green)，System(Green)
	Per Port	Link/Act/Speed: Green(1000Mbps)/Amber(100/10Mbps) ,PoE(Orange)
Dimensions （L×W×H）		340*200*44mm
Environment		Operating Temperature: -0℃ - 45℃ Storage Temperature: -40℃ - 70℃ Operating Humidity: 5%~95% non-condensing Storage humidity: 5%~95% non-condensing

Software Specification		
Basic function	**Three layers of functional**	**The security policy**
● Ethernet Setup	● The ARP deception, the network cheating	● ACE capacity

Software Specification		
● STP/RSTP/MSTP ● Storm-control ● Port Monitor ● Port rate-limit ● MAC filtering	● Filtering the IP port ● Static binding IP and MAC ● Arp trust port ● Static routing capacity ● Ping and Traceroute	● ACL ● QoS ● DAI
VLAN ● Port based VLAN ● 802.1Q VLAN	**Safety features** ● Radius ● Tacacs+ ● Preventing DOS attacks ● dot1x ● The gateway ARP deception	**Application protocol** ● DHCP Relay ● DHCP snooping ● DHCP Client ● FTP/TFTP
Management ● HTTP WEB ● Telnet ● SSH ● Console	**Other function** ● LLDP ● IGMP Snooping ● SNMPV1,V2c,V3 ● RMON (1,2,3,9)	**POE Management** ● POE Status ● Power supply management mode(auto/energy/static) ● The port priority