

# CERIO Corporation

## CS-2224-24P\_A2

**PoE CS-2000 Series 2 Combo Gigabit + 24 port 10/100Mbps**

**Web Managed PoE+ Switch**



## User's Manual

## **FCC Warning**

This device has been tested and found to comply with limits for a Class A digital device, pursuant to Part 2 and 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiates radio frequency energy and, if not installed and used in accordance with the user's manual, may cause interference in which case user will be required to correct the interference at his own expense.

## **CE Mark Warning**

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

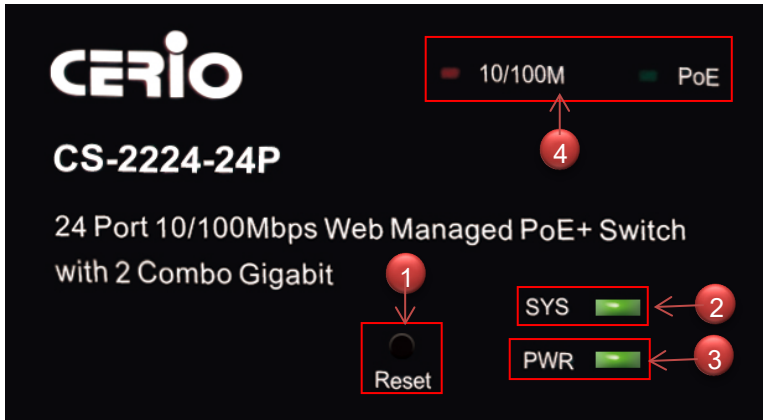
1.	Introduction .....	5
1.1	Front Panel.....	5
1.2	Rear Panel Layout.....	6
1.3	Connections.....	6
2.	Software Configuration .....	7
	Example of Segment: (Windows 7) .....	7
2.1	System login username and password information.....	11
3.	Management.....	12
3.1	Authentication Configuration.....	12
3.2	System IP Configuration .....	13
3.3	System Time Setting(NTP).....	14
3.4	System Status .....	15
3.6	Firmware Update .....	18
3.7	Backup/Recovery .....	19
3.8	Reboot Device .....	20
4.	PoE Control .....	21
4.1	PoE Status.....	21
4.2	PoE Setting .....	22
4.3	PoE Power Delay .....	23
4.4	PoE Schedule .....	24
5.	Port Management.....	26
5.2	Port Mirroring .....	27
5.3	Bandwidth Control .....	28
5.4	Broadcast Storm Control .....	29
6.	VLAN Setting.....	30
6.1	VLAN Mode .....	30
6.2	VLAN Member Setting (Tag Based).....	32
6.3	Multi to 1 Setting.....	34
7.	Per Port Counter .....	35
8.	QoS Setting .....	37
8.1	Priority Mode .....	37
8.2	Port, 802.1p, IP/DS based.....	38
8.3	TCP/UDP Port Based .....	39
9.	Security .....	41
9.1	MAC address Binding .....	41
9.2	Service Protocol Filter .....	42

<b>10. Spanning Tree</b> .....	44
<b>10.1 STP Bridge Settings</b> .....	44
<b>10.2 STP Port Setting</b> .....	45
<b>11. Trunking (Link aggregation)</b> .....	47
<b>12. DHCP Relay Agent</b> .....	49
<b>12.1 DHCP Relay Agent</b> .....	49
<b>12.2 Relay Server</b> .....	50
<b>12.3 VLAN MAP Relay Agent</b> .....	51
<b>13. Other Setting</b> .....	52
<b>14. SNMP Setting</b> .....	54
<b>15. Logout</b> .....	56

# 1. Introduction

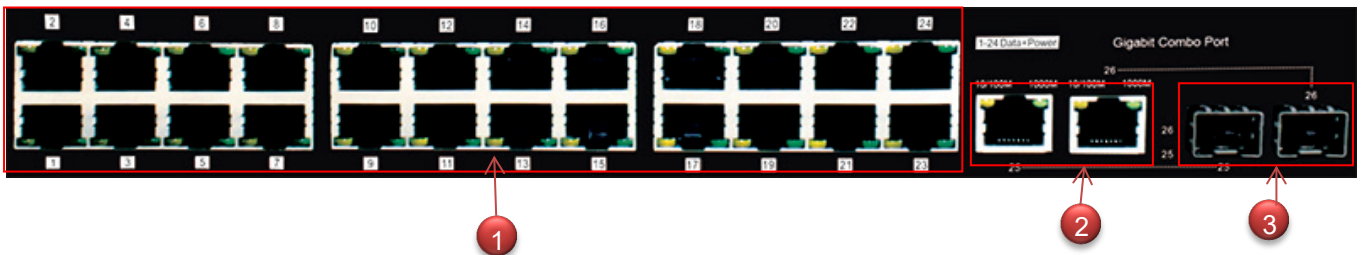
## 1.1 Front Panel

### LED Indicators of 24 Port 10/100Mbps + 2 giga Switch



- 1) Hardware Reset button, press and hold for approximately 10 seconds. Once all the LED lights begin to flash, release the button to reset to default
- 2) System operational LED light
- 3) Power LED light
- 4) Ethernet Status LED Light.

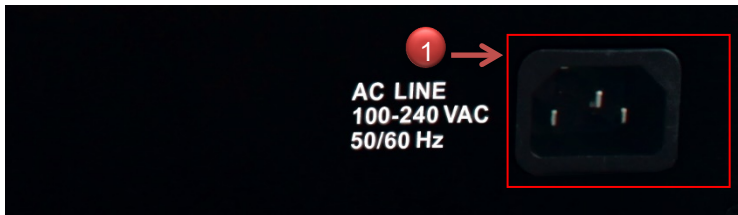
### 24 port + 2 Giga port



- 1) 24 10/100Mbps PoE Ports and Link/ACT(left) + PoE(right) LED
- 2) 2 Giga Ethernet Ports + 10/100(left) and 1000(right) Mbps LED
- 3) 2 Fiber Ports

**Ps.** 2 Giga Ethernet Ports and 2 Fiber Ports for Combo

## 1.2 Rear Panel Layout

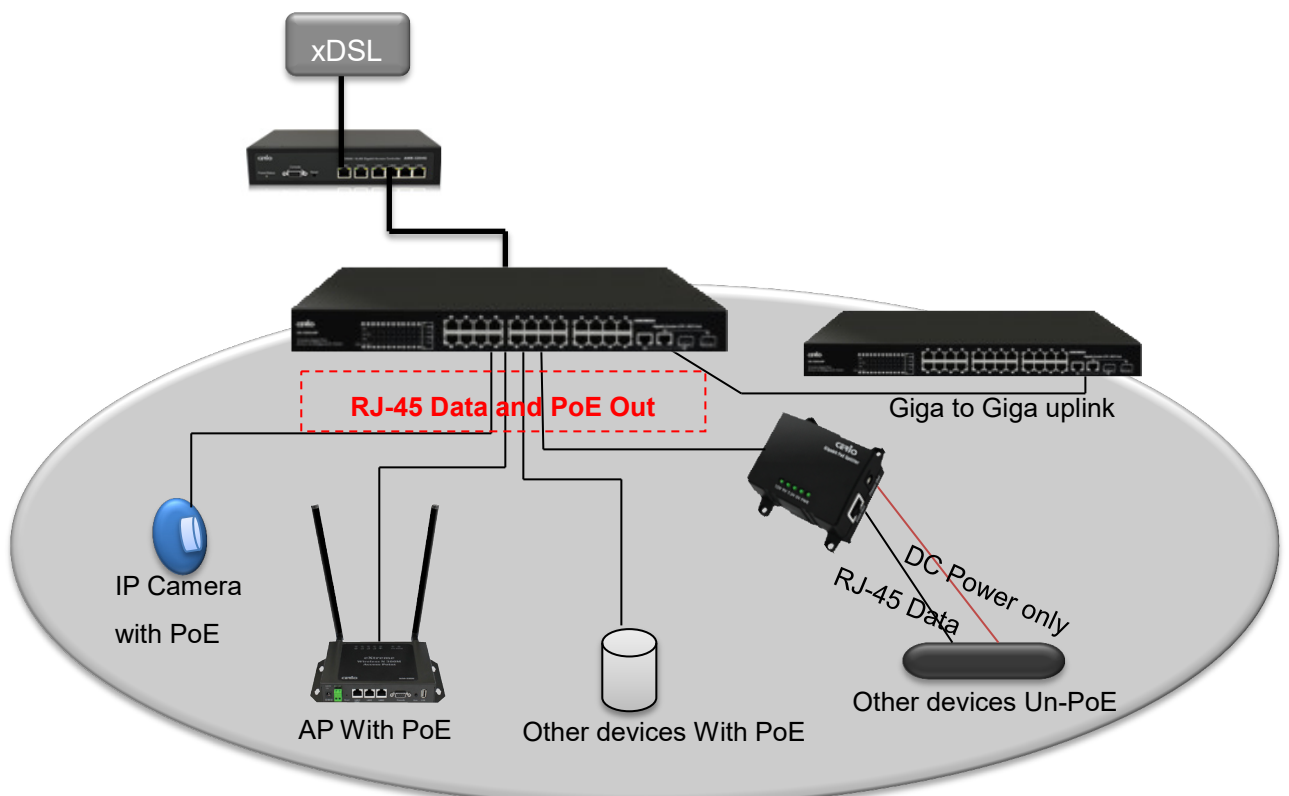


1) AC input (100-240V/AC, 50-60Hz) UL Safety)

## 1.3 Connections

### Switch/Hub to this 8 Port with 8 Port Fast Ethernet PoE Switch

This switch provides automatic crossover detection functionality for any port. It is simple and friendly to up-link to another switch without crossover cable.



### PC/Other devices to this 24 Port Fast Ethernet PoE Switch

Via a twisted pair cable straight through, this switch can be connected to PCs, servers and other network devices.

## Power Device to this 24 Port with 24 Port Fast Ethernet PoE Switch and getting 48V power source through Cat. 5/6 cables

Using Cat. 5/6 twisted-pair cable to connect Power Device to the port 1~24 of this switch, and then this switch will supply 48V power to Power Device over Cat. 5/6 twisted-pair cable. Please be noted Power Device should also comply with IEEE 802.3af/ IEEE802.3at. and the PoE Power Max. 30Watt each PSE/PoE port

## 2. Software Configuration

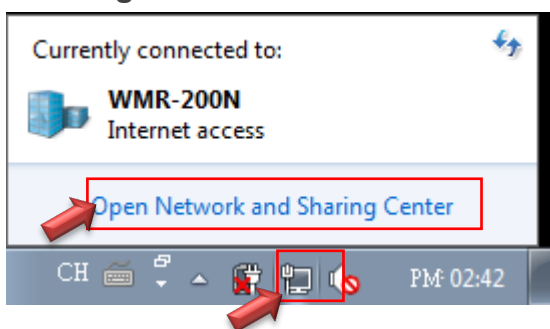
**CS-2224-24P** supports web-based configuration. Upon the completion of hardware installation, **CS-2224-24P** can be configured through a PC/NB by using its web browser such as Internet Explorer 6.0 or later.

Set the IP segment of the administrator's computer to be in the same range as **CS-2224-24P** for accessing the system. Do not duplicate the IP Address used here with IP Address of **CS-2224-24P** or any other device within the network. *Please refer to the following steps*

### Example of Segment: (Windows 7)

#### Step 1 :

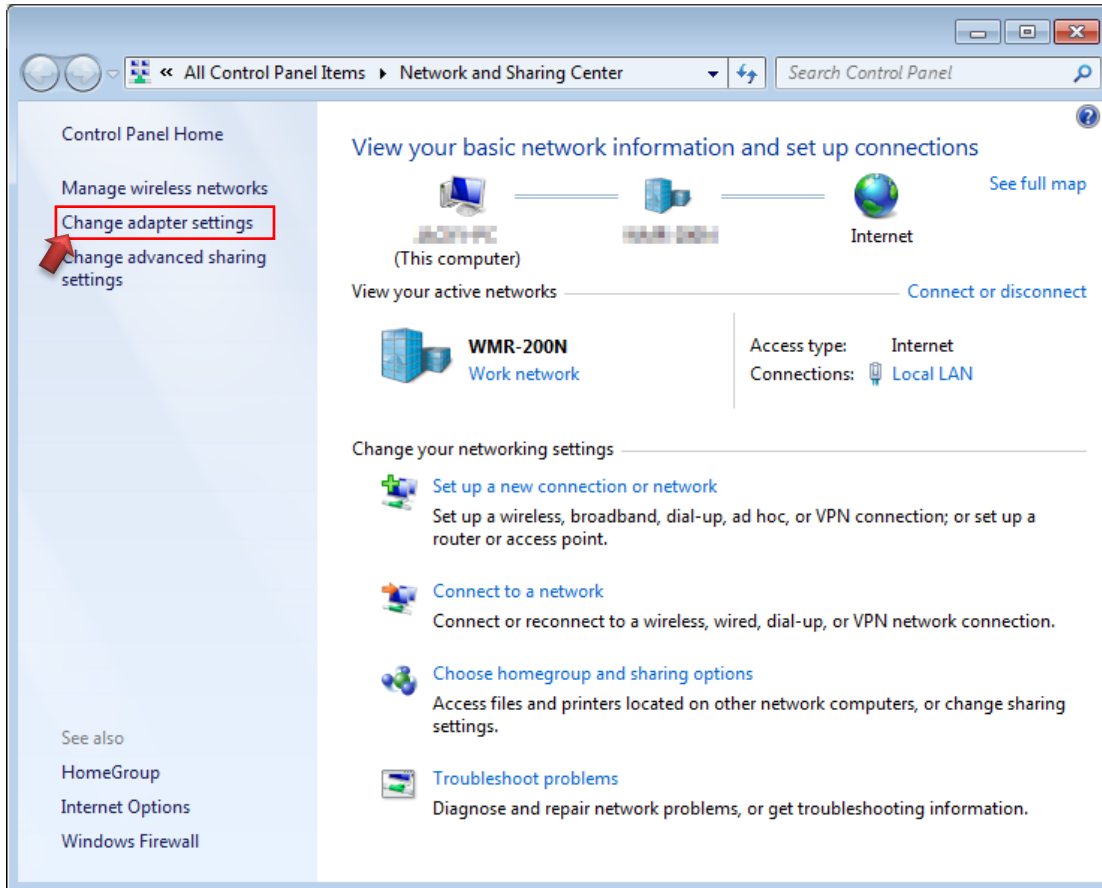
Please click on the computer icon in the bottom right window, and click “Open Network and Sharing Center”





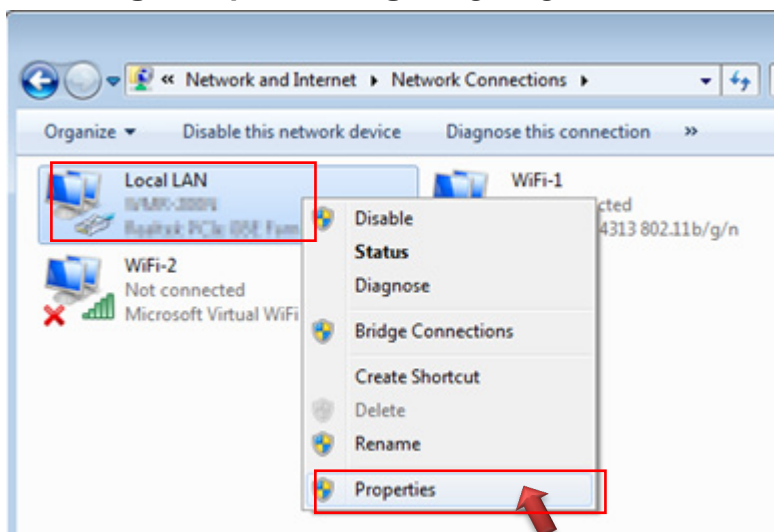
**Step 2 :**

In the Network and Sharing Center page, click on the left side of **“Change adapter setting”** button



**Step 3 :**

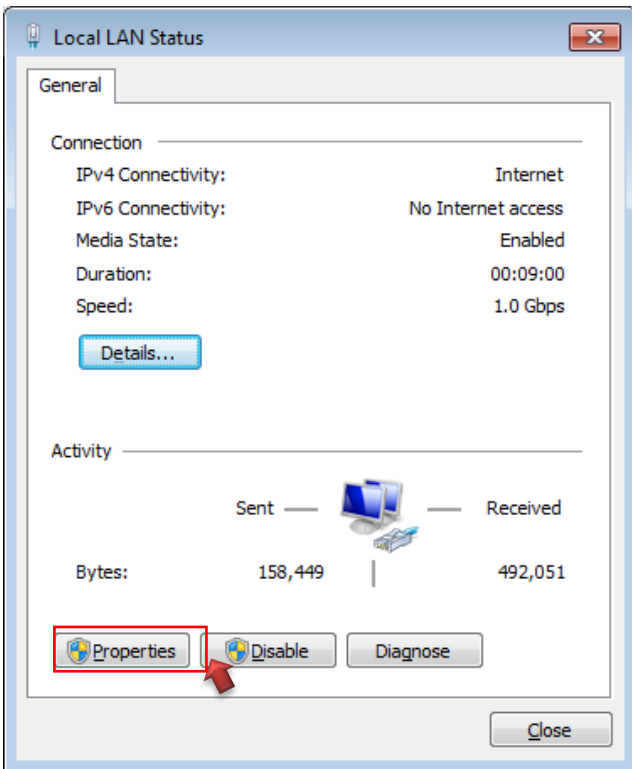
In **“Change adapter setting”** Page, right click on Local LAN then select **“Properties”**





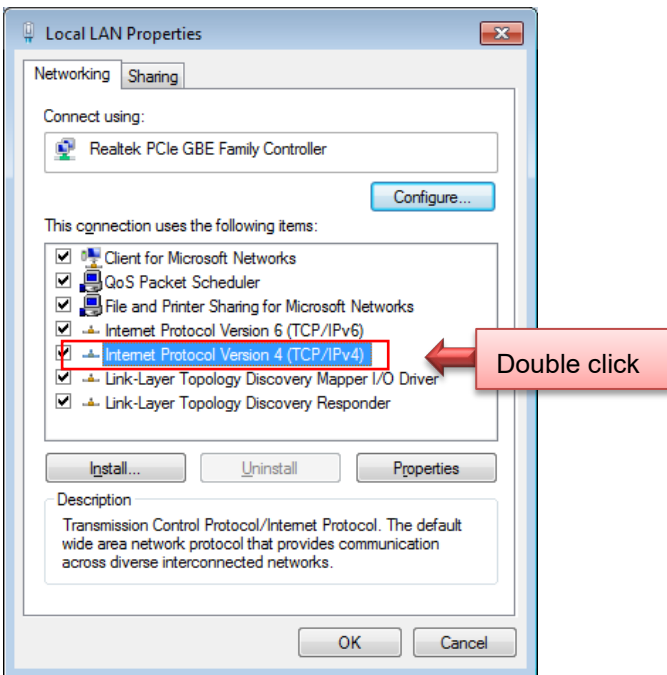
**Step 4 :**

In the “**Properties**” page, click the “**Properties**” button to open TCP/IP setting



**Step 5 :**

In Properties page for setting IP addresses, find “**Internet Protocol Version 4 (TCP/IPv4)**” and double click to open TCP/IPv4 Properties window



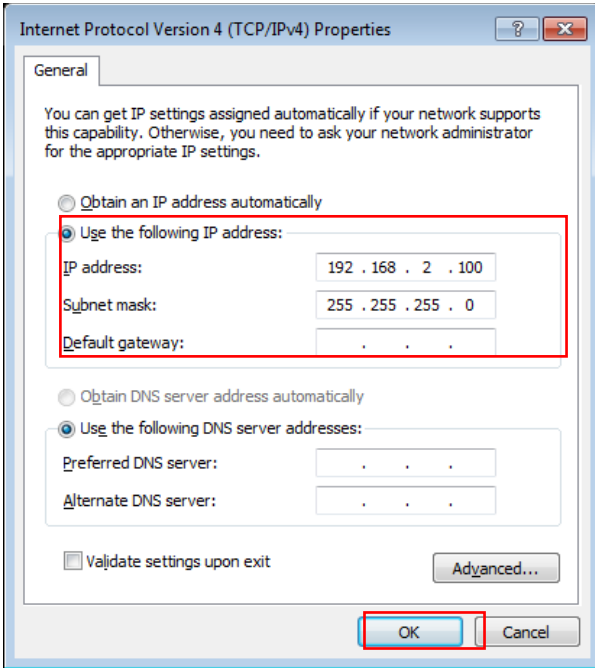
**Step 6 :**

Select “Use the following IP address”, and fix in IP Address to: 192.168.2.X

ex. The X is any number from 1 to 253

Subnet mask : 255.255.255.0

And Click "OK" to complete fixing the computer IP settings



**Step 7 :**

**Open Web Browser**

Without a valid certificate, users may encounter the following problem in IE7 when they try to access system's WMI (http://192.168.2.200). There will be a “Certificate Error”, because the browser treats system as an illegal website.



System login Overview page will appear after successful login.

## 2.1 System login username and password information

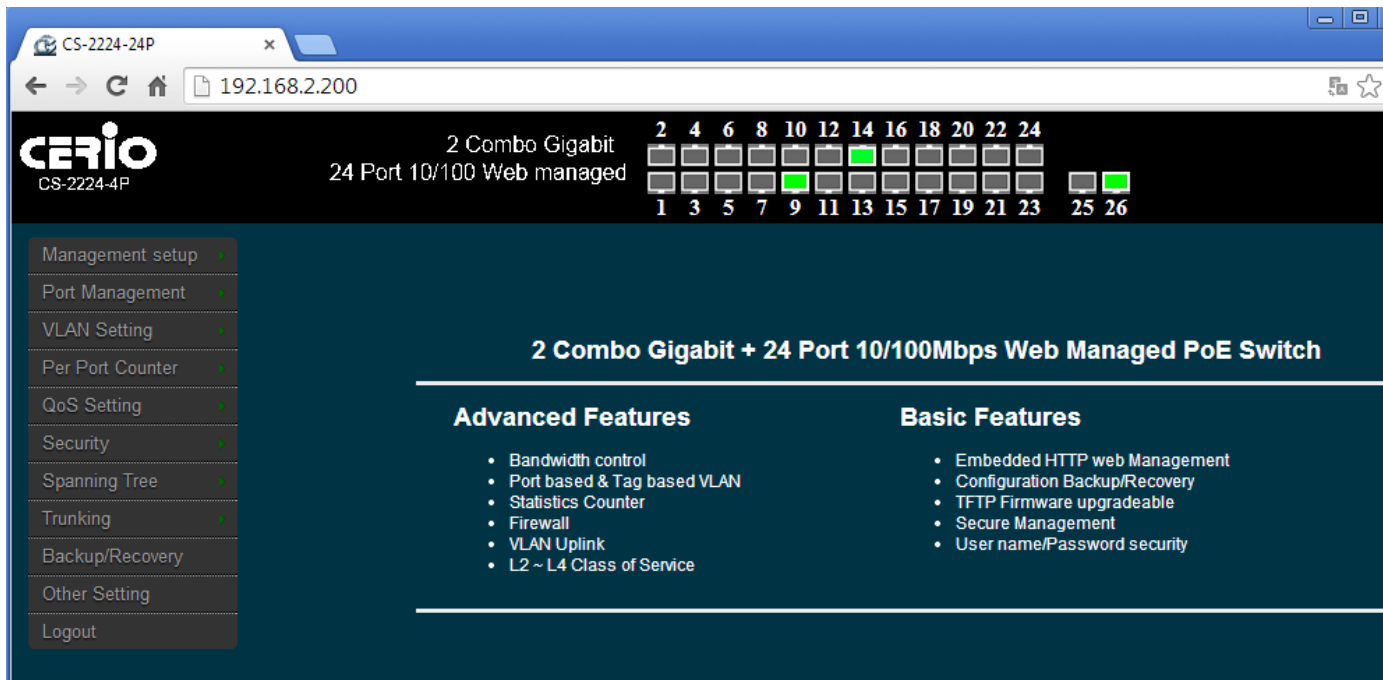
The **CS-2224-24P** web switch default IP is 192.168.2.200

Into the management page as follows, please enter Username and password

- **Default IP Address:** 192.168.2.200
- **Default Username and Password**

<b>Management Account</b>	Root Account
<b>Username</b>	root
<b>Password</b>	default

After the authentication procedure, the home page will shows up. Select one of the configurations by clicking the icon.

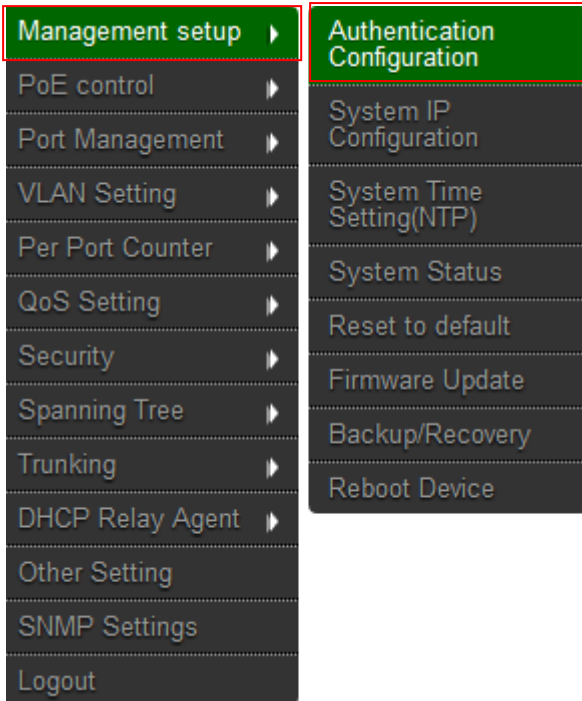


### 3. Management

#### 3.1 Authentication Configuration

This page allows the user to change the user name and the password.

Please click **Management setup** → **Authentication Configuration**



Administrator login username is always root and the password is allowed to be changed

Change Login password

Setting	Value
Username	root
New Password	Password : <input style="width: 80%; border: 1px solid #ccc;" type="password" value="••••••"/> max:15
	Confirm : <input style="width: 80%; border: 1px solid #ccc;" type="password" value="••••••"/>

**Note:**  
 Username & Password can only use "a-z","A-Z","0-9","\_","+","-","=".

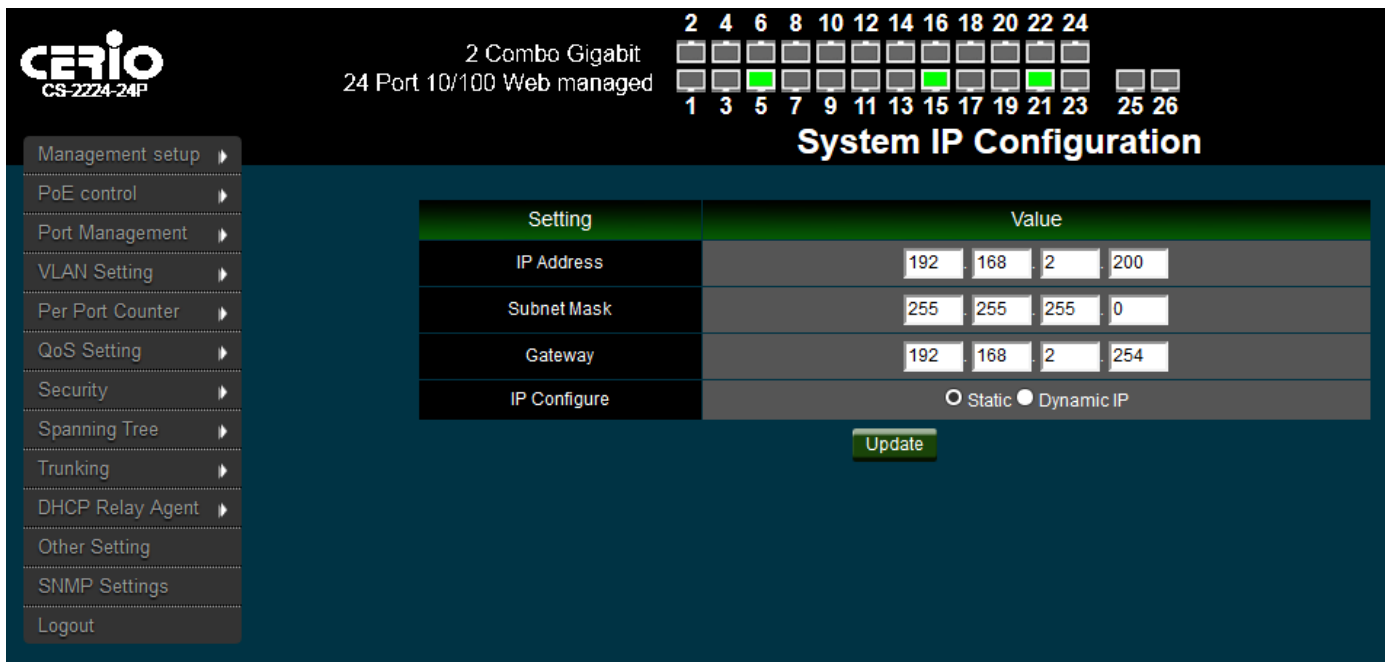
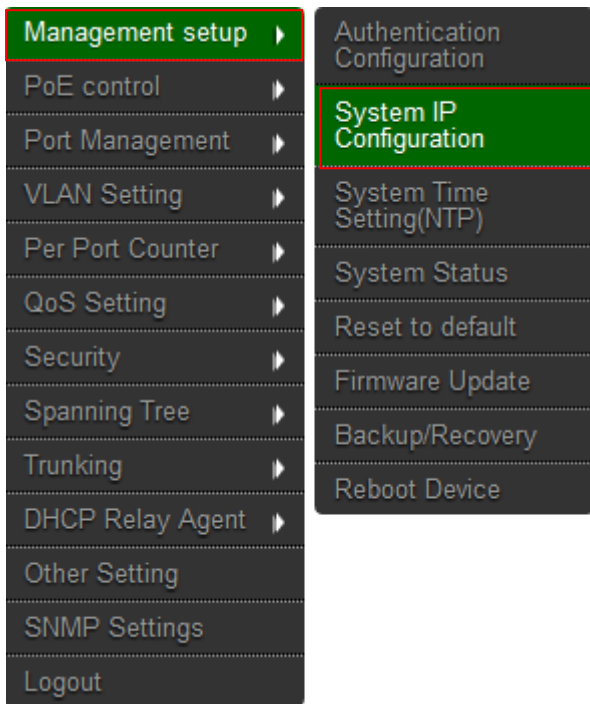
- **Username** : Management account is “root”
- **New Password** : Enter a new password if desired ( max. 15)
- **Check New Password:** Enter the same new password again to confirm.

Click **“Update”** button to save your changes. Click **Reboot** button to activate your changes

## 3.2 System IP Configuration

Here are the instructions for how to setup the local IP Address and Netmask.

Please click **Management setup** → **System IP Configuration**



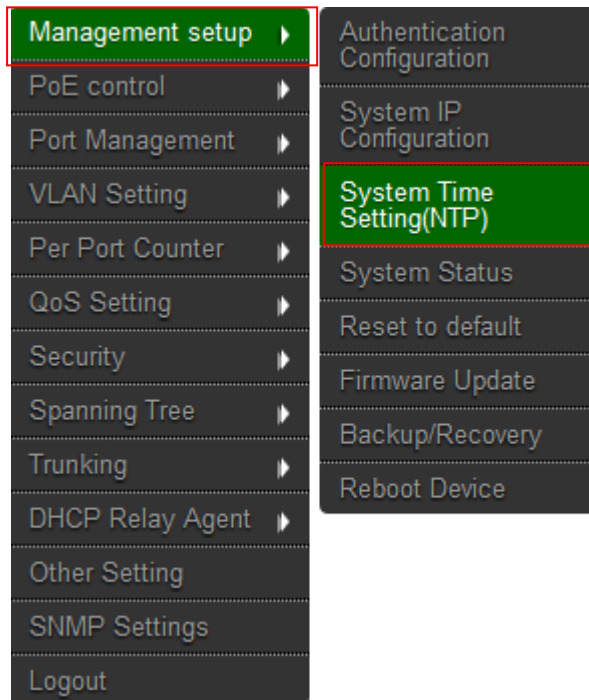
- **System IP Configuration:** The administrator can manually setup the system IP address.

- **IP Address** : The IP address of the system; default IP address is 192.168.2.200
- **IP Netmask** : The Subnet mask of the system; default Netmask is 255.255.255.0
- **Gateway** : Configure the network gateway address
- **IP Configure**: The administrator can manually setup the system IP address when static IP is available/ preferred.
- **Dynamic IP**: This configuration type is applicable when the **CS-2224-24P** is connected to a network with the presence of a DHCP server; all related IP information will be provided by the DHCP server automatically.

Click "**Update**" button to save your changes. Click **Reboot** button to activate your changes

### 3.3 System Time Setting(NTP)

NTP stands for Network Time Protocol. The function used to synchronize the time on system with a centralized NTP server. Administrator can setting 2 NTP IP server, will can a local NTP server on the network can be synchronized with an external timing source to keep the system in accurate time.





The screenshot displays two configuration sections on a dark background. The first section, titled "System Time", shows "System Time : --". The second section, titled "NTP Server Setting", includes a dropdown for "NTP Service on/off" set to "Disable", two input fields for "NTP IP(1)" and "NTP IP(2)", a dropdown for "Time Zone" set to "UTC 0:00", and a green "Save" button.

- **System Time:** After confirming with the NTP server time proofreading, the system will display correct time.
- **NTP Server Setting:** Administrator can setup 2 IP for NTP Server.



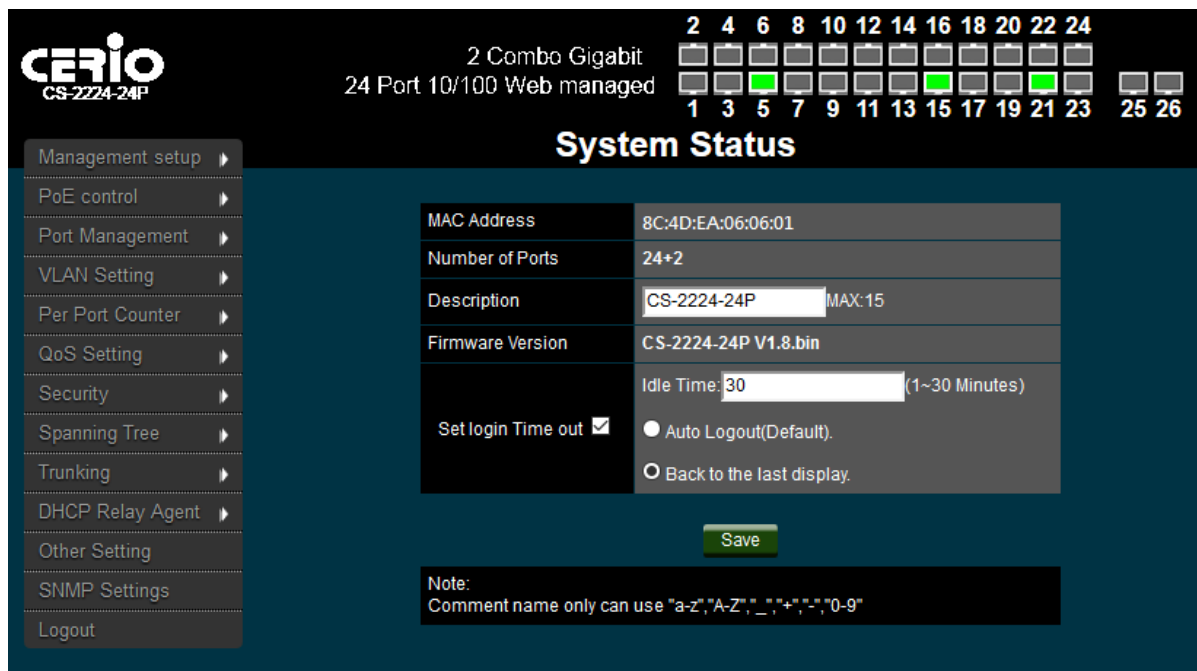
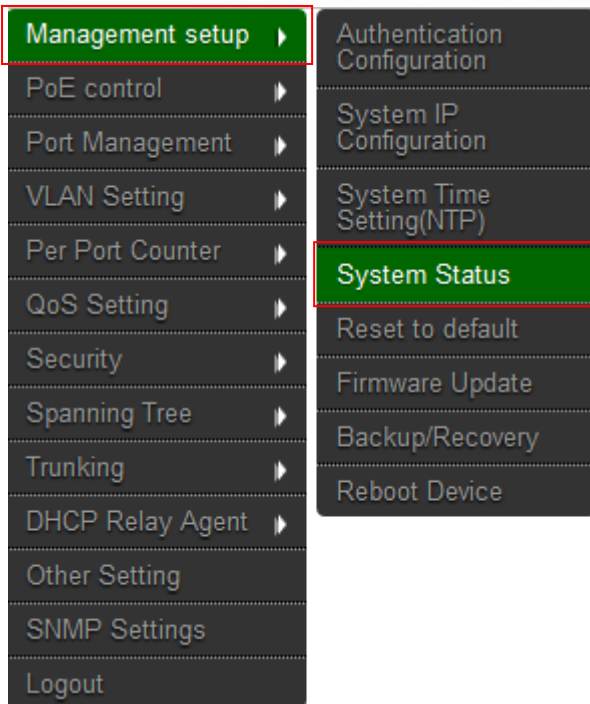
Notice

Administrator must configure the system gateway, so that the system can be connect internet to NTP server.

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## 3.4 System Status

MAC address and system version will be shown on the screen. And setting login time out  
Please click **Management setup** → **System Status**

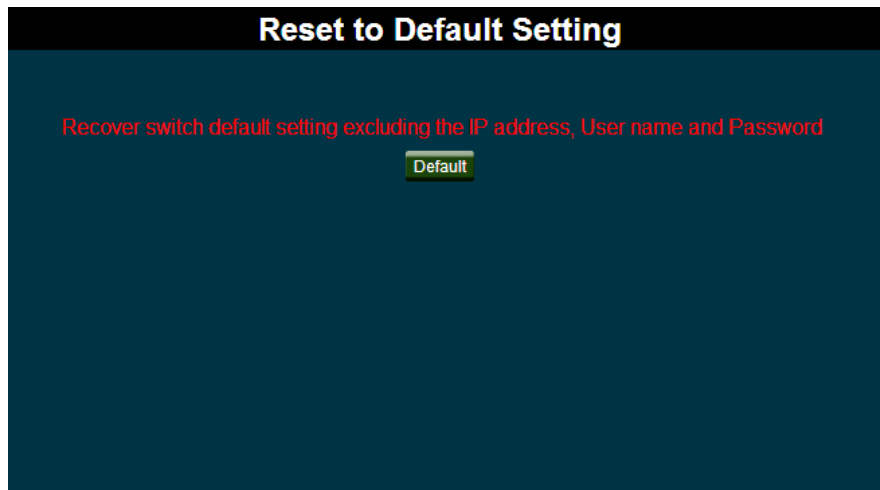
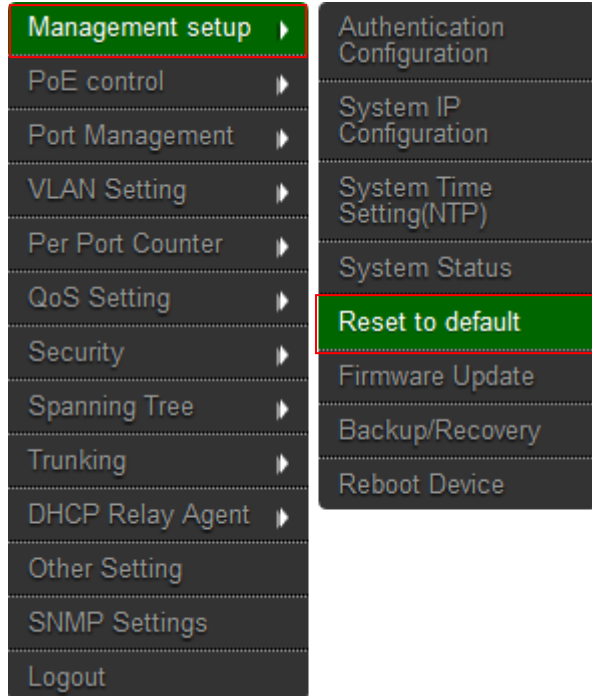


- **MAC Address:** MAC address of the display system
- **Number of Ports:** Display CS-2224-24P the Ethernet posts information
- **Description:** Provide description of the system.
- **Firmware version:** Show currently the CS-2224-24P of system software version and software date
- **Set login Time out:** set Idle Time(1~30 Minutes)

Click **“Save”** button to save your changes. Click **Reboot** button to activate your changes

### 3.5 Reset to default

Please click **Management setup** → **Reset to default**



Click **Default** button to reset back to the factory default settings and expect **Successful** loading message. Then, click **Reboot** button to activate.

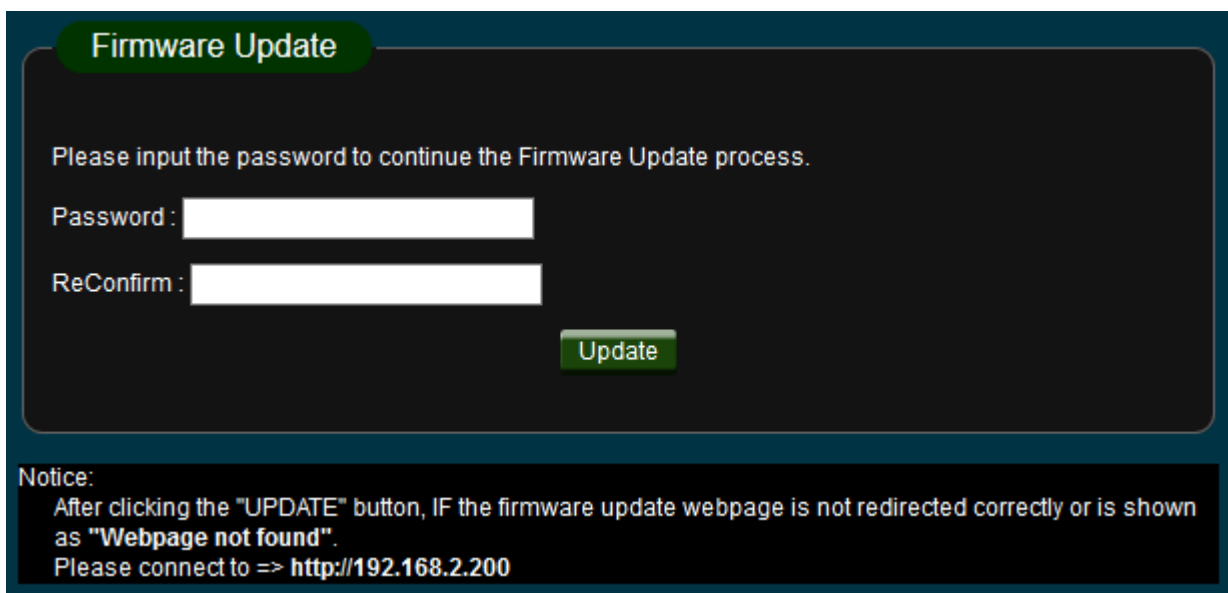
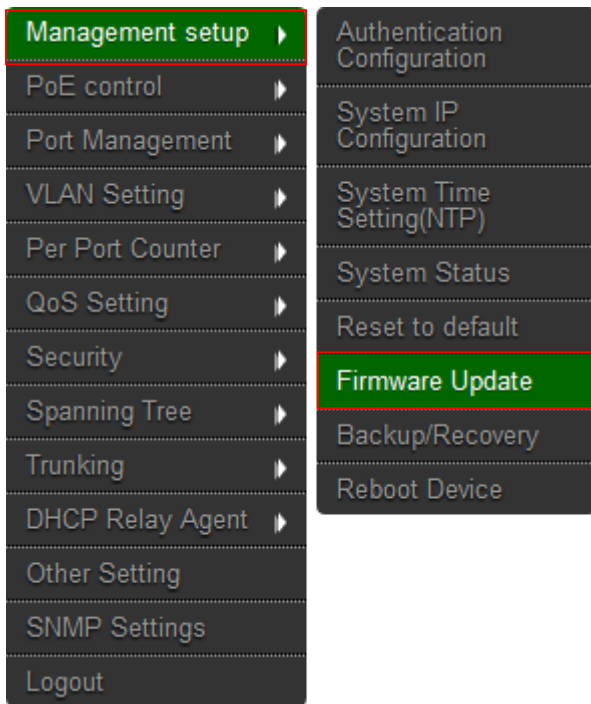


Recover switch system to default setting but excluding the IP address and Password.

### 3.6 Firmware Update

Firmware is the main software image that system needs to respond to requests and to manage real time operations. Firmware upgrades are sometimes required to include new features or bugs fix. It takes around 2 minutes to upgrade due to complexity of firmware. To upgrade system firmware, click Browse button to locate the new firmware, and then click Upgrade button to upgrade.

Please click **Management setup** → **Firmware Update**



**Password:** Enter system password and reconfirm to update firmware



*Do not interrupt during firmware upgrade including power on/off as this may damage system.*

### 3.7 Backup/Recovery

This function includes actions such as: backup current configuration, recovery prior configuration, configuration can be executed via this page.

<b>Management setup</b> ▶	Authentication Configuration
PoE control ▶	System IP Configuration
Port Management ▶	System Time Setting(NTP)
VLAN Setting ▶	System Status
Per Port Counter ▶	Reset to default
QoS Setting ▶	Firmware Update
Security ▶	<b>Backup/Recovery</b>
Spanning Tree ▶	Reboot Device
Trunking ▶	
DHCP Relay Agent ▶	
Other Setting	
SNMP Settings	
Logout	

#### Backup

Switch config to PC

Please check "Download" to download EEPROM contents.

#### Recovery

Config to Switch

Select the image file :

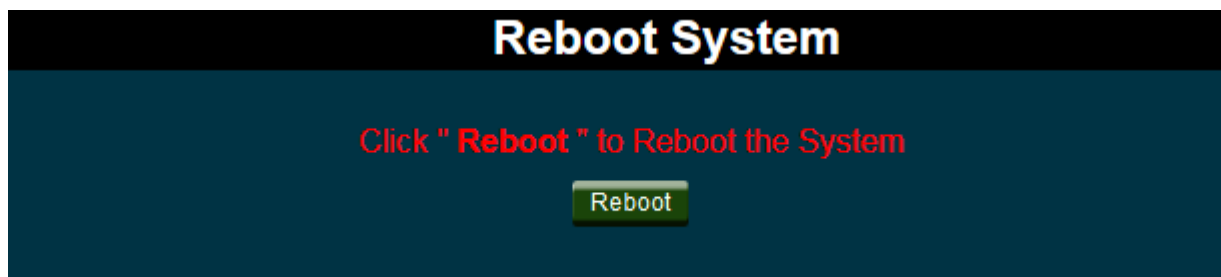
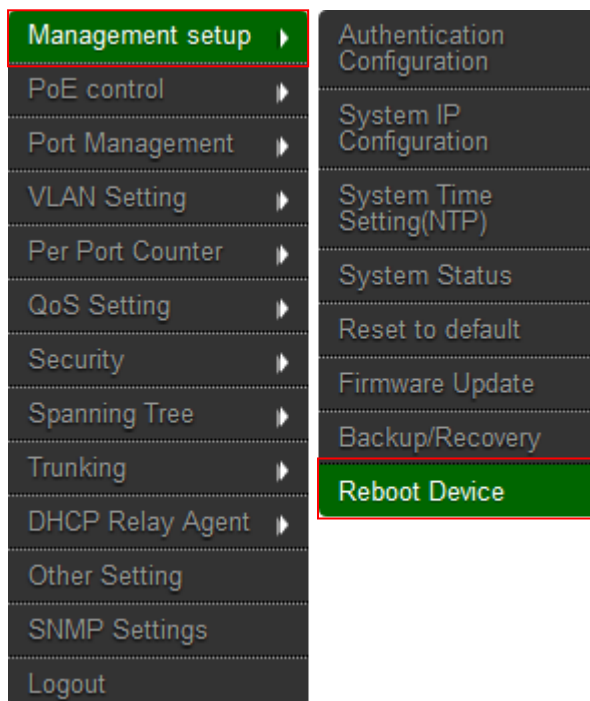
Password :

- **Backup:** Click "**Download**" button to save the current configuration to a local disk.
- **Recovery:** Click "**Browse**" button to locate a configuration file to restore, and then click **Update** button to upload.
  - **Password:** Enter system password.

## 3.8 Reboot Device

This function allows user to restart system with existing or most current settings when changes are made. Click **Reboot** button to proceed and take around one minute to complete.

Please click **Management setup** → **Reboot Device**



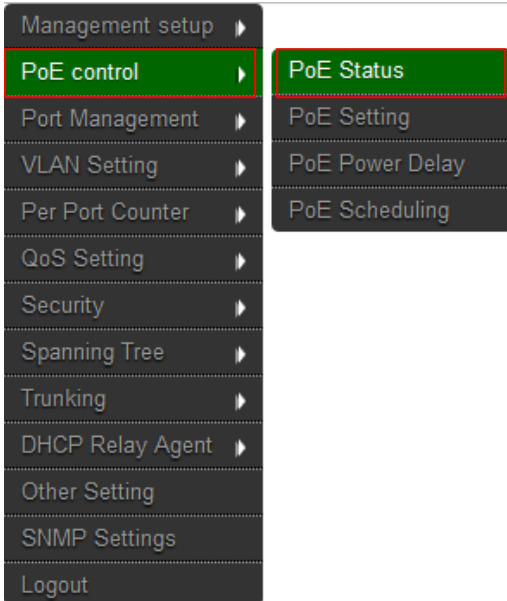


## 4. PoE Control

### 4.1 PoE Status

Administrator can monitor Power consumption / PoE Module Temperature and set Max available Power for PoE.

Please click "PoE control" → PoE Status



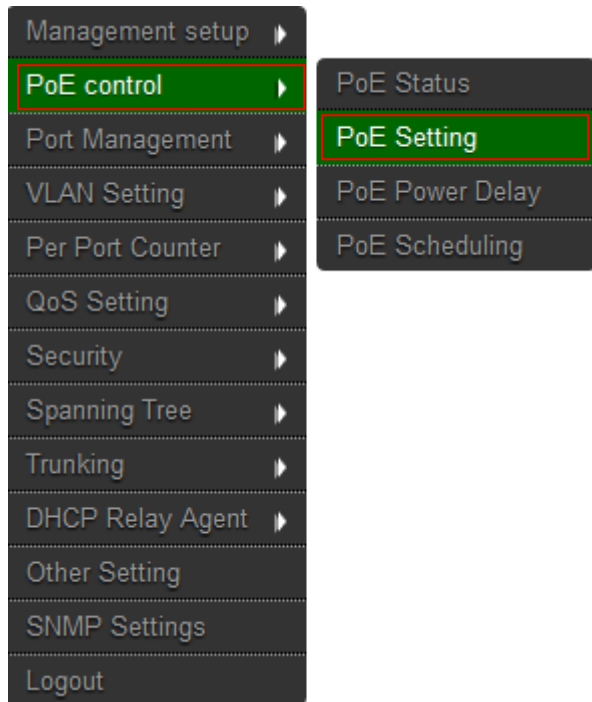
A screenshot of a monitoring dashboard with three sections:

- Total wattage settings:** Max available Power: 350 Watt [Update] (After Internal Consumption)
- PoE Status:** System operation status : On  
Main Power consumption : 7(Watt)
- Device Temperature:** Device #1 : 53 (C)  
Device #2 : 47 (C)  
Device #3 : 47 (C)

## 4.2 PoE Setting

Administrator can enable / disable PoE Port, and can select Critical/High/Low for PoE priority, PoE port support Power Budget (Max to 36Watt).

Please click **PoE control** → **PoE Setting**



Function	Status	Priority	Power Budget
	<input type="text" value="---"/> ▾	<input type="text" value=""/> (Critical-1;High-2;Low-3)	<input type="text" value=""/> (Watt MAX:36W)
Port No.	<input type="checkbox"/> 01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/> 09 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 23 <input type="checkbox"/> 24		
<input type="button" value="Update"/>			

### Function:

- Status: Administrator can select enable or disable the PoE function.
- Priority: Administrator can select Critical/High/Low for PoE priority.
- Power Budget: Administrator can set output power of the PoE.

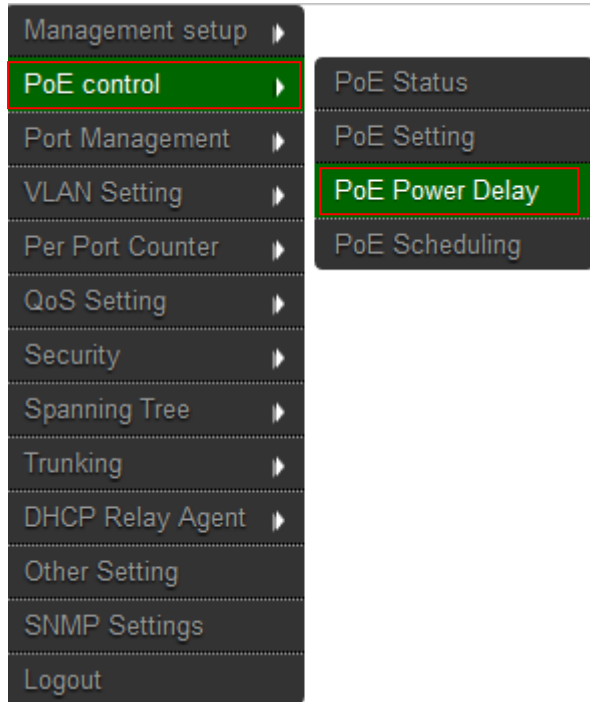
### Port No.

- Administrator can select port to be modified.

### 4.3 PoE Power Delay

The function support PoE delay control. Administrator can set delay time by sec.

Please click "PoE control" → "PoE Setting"



Function	Delay Mode	Delay Time(0~300)
	---	second
Port No.	<input type="checkbox"/> 01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/> 09 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 23 <input type="checkbox"/> 24	
<input type="button" value="Update"/>		

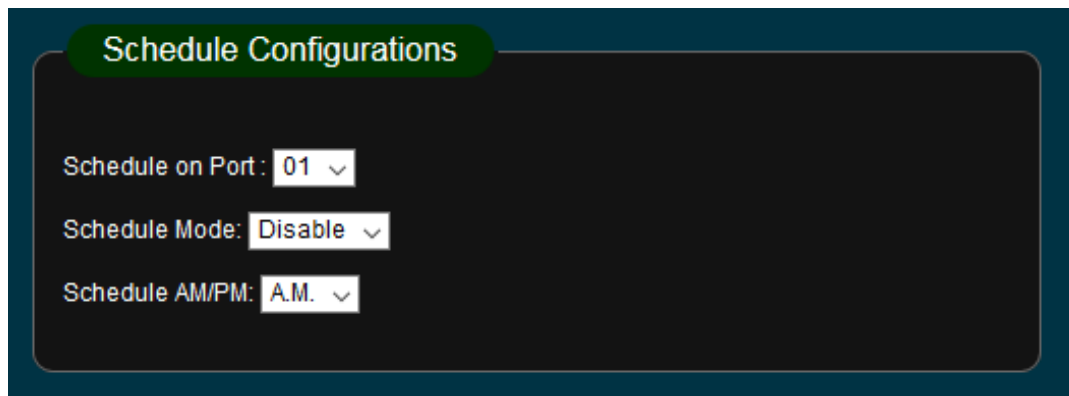
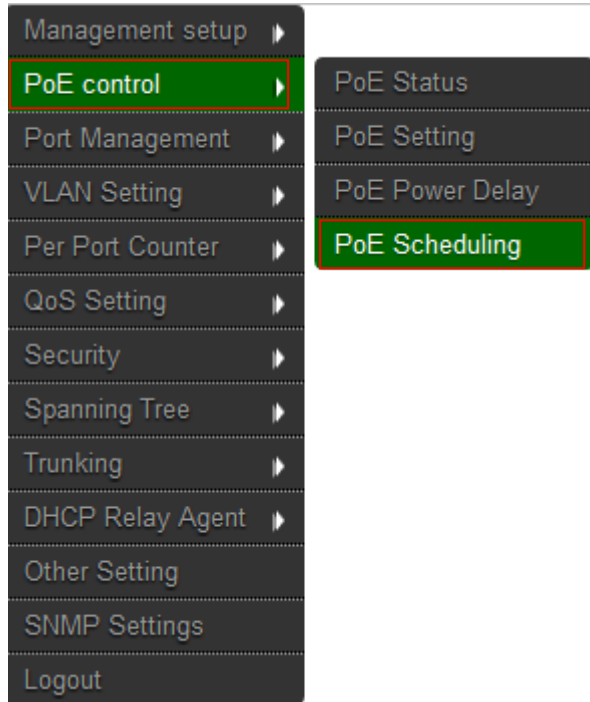
#### Function

- **Delay Mode:** Administrator can select enable/disable the delay function.
- **Delay time:** Administrator can set delay time by sec.(Max.300 sec)
- **Port No:** Administrator can select port to be modified.

## 4.4 PoE Schedule

Administrator can set schedule to control PoE on/off

Please click “PoE control” → “PoE Schedule”



Select all <input type="checkbox"/>	Hour	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
05	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
06	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
07	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
08	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
09	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="button" value="Update"/>								

- **Schedule on Port:** Administrator can select an single port to set on/off schedule.
- **Schedule Mode:** Administrator can select enable or disable schedule of the single port.
- **Schedule AM/PM:** Select time for AM or PM
- **Select all time:** Select all-time in schedule list.
- **Select all hour:** Select all-hour by week

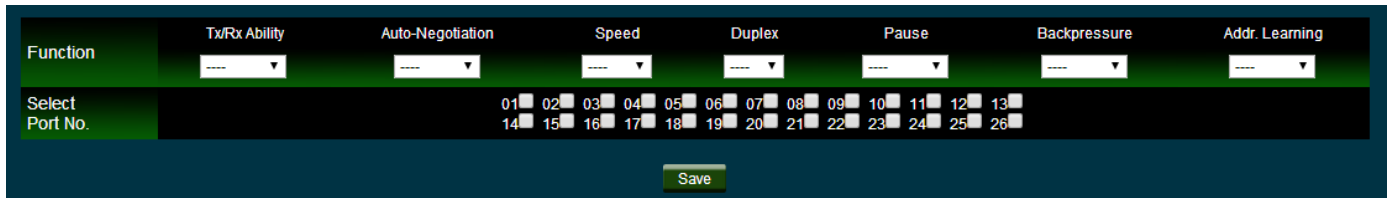
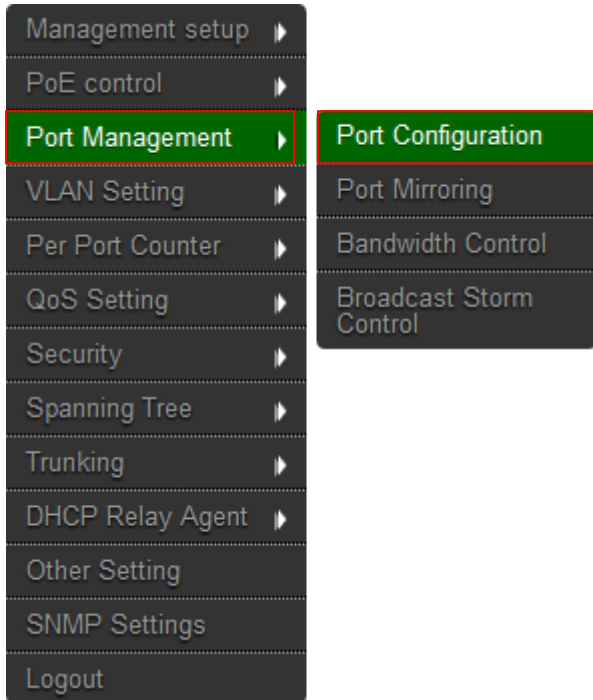


Administrator must confirm the system time is correct. Please to 3.3  
**"Management setup" → "System time Setting"** check and set system  
time.

## 5. Port Management

### 5.1 Port Configuration

Please click **Port Management** → **Port Configuration**



#### Function:

- **Tx/Rx Ability:** Administrator can select enable/disable for the transmission ability.
- **Auto-Negotiation:** Administrator can select enable/disable for the Auto-Negotiation.
- **Speed:** Administrator can select speed for 10M, 100M or 1G mode.
- **Duplex:** Administrator can select Full or Half-Duplex mode for the Ethernet port.
- **Pause:** Administrator can select enable/disable to pause Ethernet port.
- **Backpressure:** Half-Duplex flow control, Administrator can select enable/disable the function.
- **Addr. Learning:** Address learning. Administrator can select enable/disable the function.

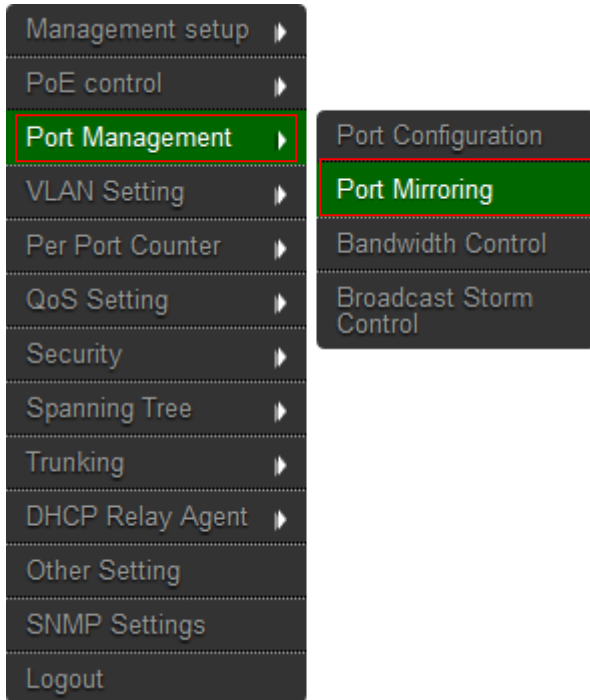
After press the “**Save**”, the setting of “**Port Configuration**” is finished.



## 5.2 Port Mirroring

Port mirroring function can mirror Rx/Tx traffic, Packet can mirror to Destination port and for analysis.

Please click **Port Management** → **Port Mirroring**



Dest Port	1	2	3	4	5	6	7	8	9	10	11	12	13
	14	15	16	17	18	19	20	21	22	23	24	25	26
Monitored Packets	Disable ▾												
Source Port	1	2	3	4	5	6	7	8	9	10	11	12	13
	14	15	16	17	18	19	20	21	22	23	24	25	26

Multi to Multi Sniffer function

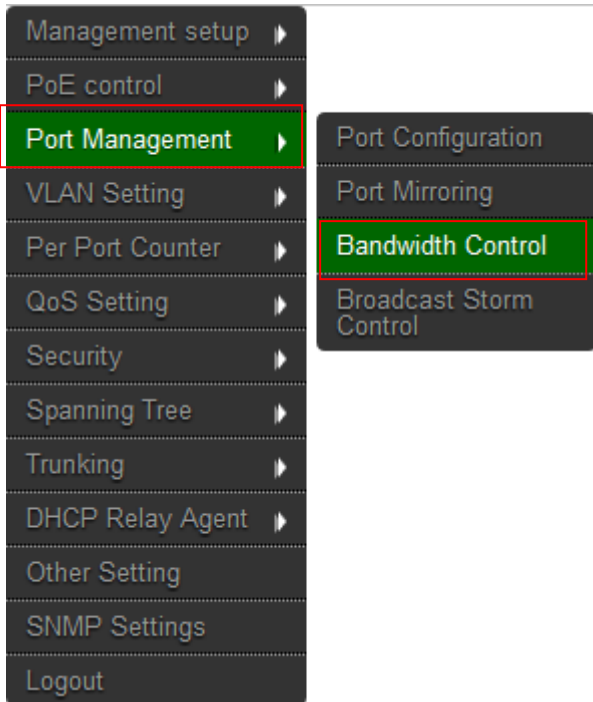
- **Destination port:** Administrator can select port 1~26 for destination port.
- **Monitored Packets:** Administrator can select Tx or Rx to monitor transmission.
- **Source port:** Administrator can select Port 1~26 for source port

Click **“Save”** to save the setting.

## 5.3 Bandwidth Control

If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.

Please click **Port Management** → **Bandwidth Control**



Port No	Tx Rate	Rx Rate
01	(0~255) <input type="text"/> (0:Full Speed)	(0~255) <input type="text"/> (0:Full Speed)
Speed Base	Low <input type="text"/> Low: (1)32Kbps Tx/Rx bandwidth resolution for port 1~ port 26. Actual Tx/Rx bandwidth =Rate value x 32 kbps. The rate value is 1~255. High: (1)256Kbps Tx/Rx bandwidth resolution for port 1~ port 24. Actual Tx/Rx bandwidth=Rate value x 256Kbps. The rate value is 1~255. When link speed is 10MB. The rate value is 1~39. (2)the bandwidth resolution is 2048Kbps for port 25, port 26. Actual Tx/Rx bandwidth=Rate value x 2048Kbps. The rate value is 1~255. When link speed is 10MB. The rate value is 1~4. When link speed is 100MB. The rate value is 1~48.	

- **Port No.:** Administrator can select port 1 to port 26.
- **TX Rate:** Administrator can set the transmission rate. (0:Full speed; 1~255:Specified bandwidth.)
- **RX Rate:** Administrator can set the receiving rate. (0: Full speed; 1~255: Specified bandwidth.)
- **Speed Base :**
  - **Low:** 32Kbps Tx/Rx bandwidth resolution for port 1~ port 26.  
(Actual Tx/Rx bandwidth=Rate value x 32 Kbps, The rate value is 1~255.)
  - **High:**
    - 1) 256Kbps Tx/Rx bandwidth resolution for port 1~ port 24.  
(Actual Tx/Rx bandwidth=Rate value x 256 Kbps, The rate value is 1~255.)

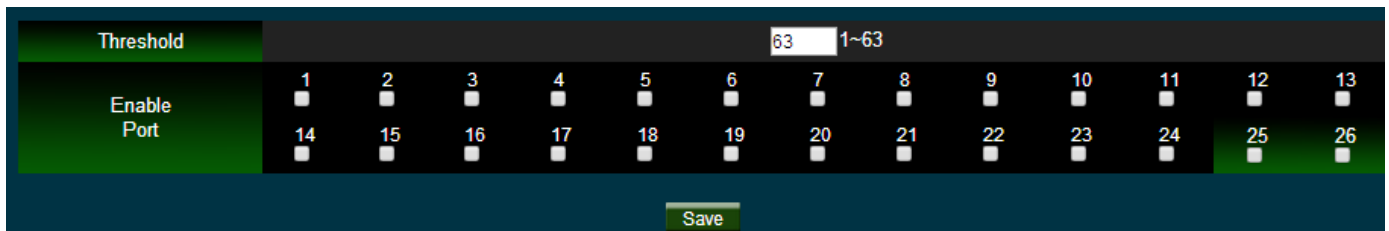
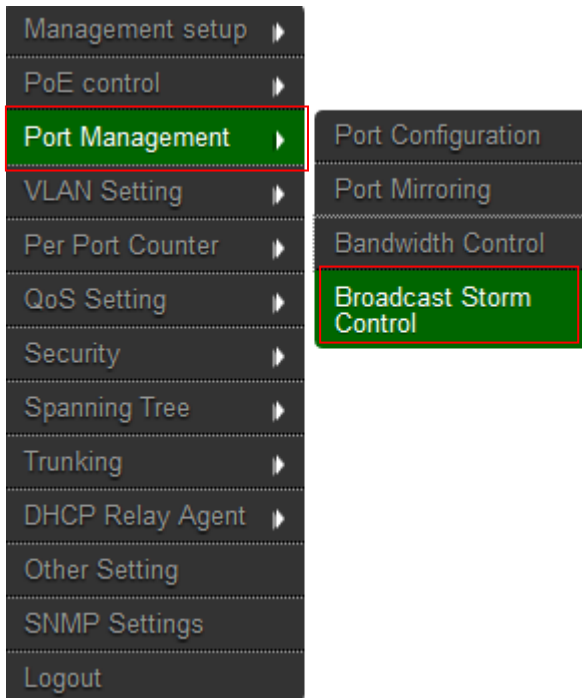
- 2) The bandwidth resolution is 2048Kbps for port 25, port 26.  
(Actual Tx/Rx bandwidth=Rate value x 2048 Kbps, The rate value is 1~255.)

Click “Save” to save the setting.

## 5.4 Broadcast Storm Control

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 50us for Gigabit speed, 500 us for 100Mbps speed and 5000us for 10Mbps speed.

Please click **Port Management** → **Broadcast Storm Control**



- **Threshold:** Set the threshold from 1~63.
- **Enable Port:** Per port to define the status of broadcast packets.



This effect may be not significant for long broadcast packet, since the broadcast packet count passing through the switch in a time unit is probably less than the specified number.

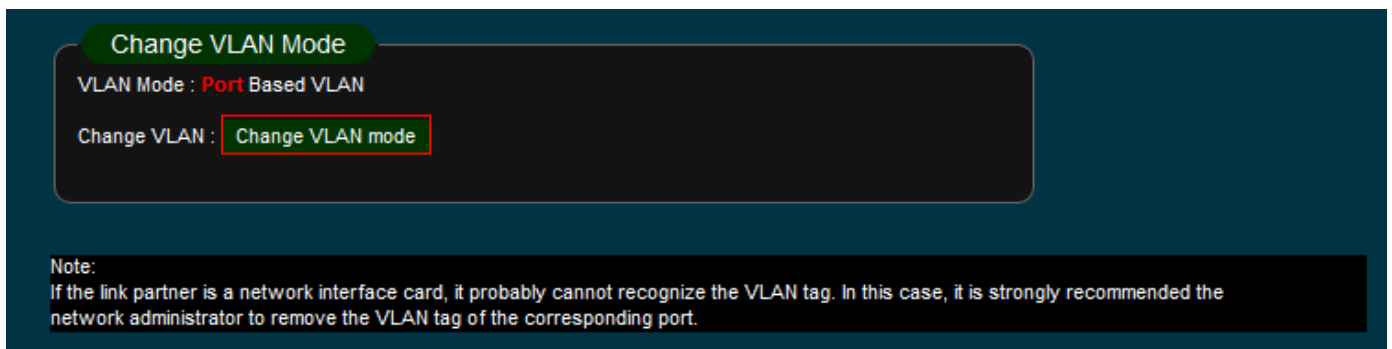
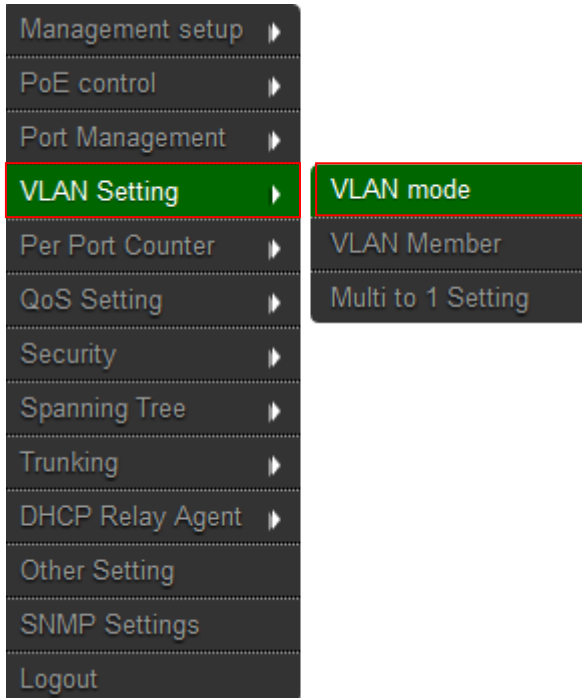
Click “Save” to confirm the setting.

## 6. VLAN Setting

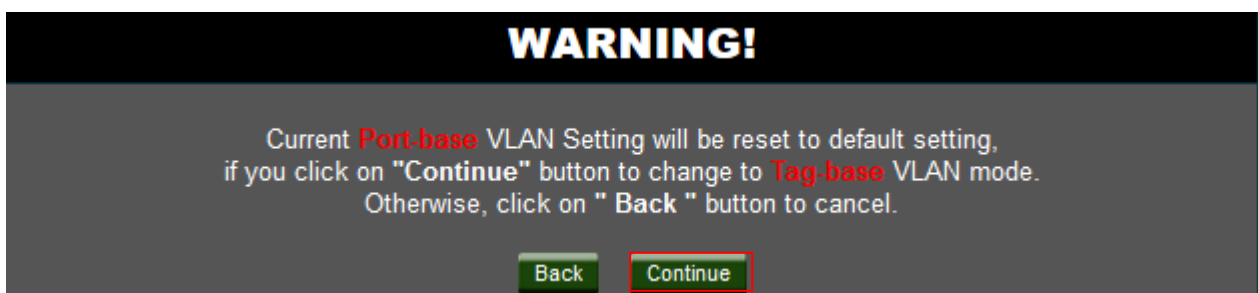
### 6.1 VLAN Mode

The VLAN function can change Port Based VLAN and Tag Based VLAN. System default is Port Based VLAN.

Please click **VLAN Setting** → **VLAN mode**



Administrator can click **"Change VLAN mode"** button to tag VLAN mode.



### Change VLAN Mode

VLAN Mode : Tag Based VLAN

Change VLAN : Change VLAN mode

VLAN Tag Mode : Tag/Untag base on Port v

<b>AddTag Type</b> (Add VLAN Tag to output frames according to the pvid of selected port)	Port 01	Port 02	Port 03	Port 04	Port 05	Port 06
	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag
	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care
	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag
	Port 07	Port 08	Port 09	Port 10	Port 11	Port 12
<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	
<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	
<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	
Port 13	Port 14	Port 15	Port 16	Port 17	Port 18	
<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	
<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	
<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	
Port 19	Port 20	Port 21	Port 22	Port 23	Port 24	
<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	<input type="radio"/> Add Tag	
<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	<input type="radio"/> Don't Care	
<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag	
Port 25	Port 26					
<input type="radio"/> Add Tag	<input type="radio"/> Add Tag					
<input type="radio"/> Don't Care	<input type="radio"/> Don't Care					
<input type="radio"/> Remove Tag	<input type="radio"/> Remove Tag					

Save

Note:  
If the link partner is a network interface card, it probably cannot recognize the VLAN tag. In this case, it is strongly recommended the network administrator to remove the VLAN tag of the corresponding port.

- **Tag:** Insert port's tag for egress packets.
- **Don't Care:** No change any egress packets.
- **Remove Tag:** Remove tag ID.



Notice

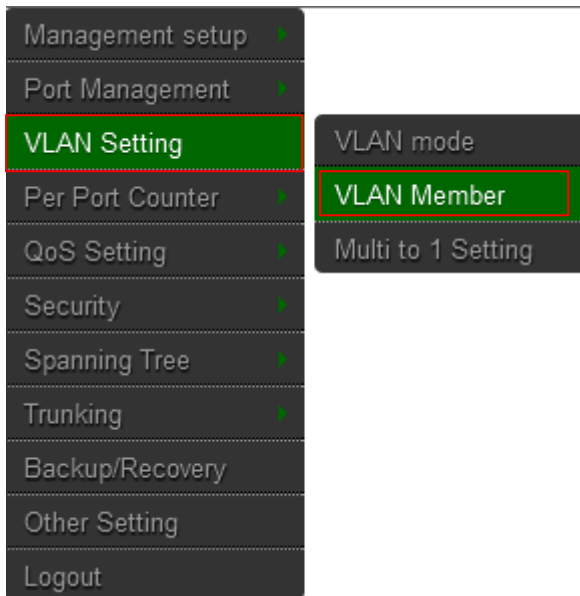
1. Link partner is a network interface card; it probably cannot recognize the VLAN tag. In this case, it is strongly recommended the network administrator to remove the VLAN tag of the corresponding port.
2. If the Port Based VLAN function is enabled, Tag Based VLAN and Multi to 1 setting function will be disabled automatically.

Click **“Save”** to confirm and finish the setting.

## 6.2 VLAN Member Setting (Tag Based)

Administrator can set VLAN Member for Port or Tag VLAN, if VLAN mode used port VLAN function, the VLAN Member will display Port based VLAN function, if VLAN mode used Tag VLAN function, the VLAN member will display Tag VLAN function.

Please click **VLAN Setting** → **VLAN Member**



### Port Based VLAN Function

Name  (max 8 characters) Add Rename

▼
Delete
Update
LoadDefault

Destination PORT	01	02	03	04	05	06	07	08
Select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination PORT	09	10	11	12	13	14	15	16
Select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination PORT	17	18	19	20	21	22	23	24
Select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination PORT	25	26	-	-	-	-	-	-
Select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**VLAN MEMBER**

Port Num	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

- **Name:** Administrator can enter name for the VLAN group.
- **Add:** The button is creating new VLAN group.
- **Rename:** The button is modify VLAN group name.





- : If administrator creates group, the Dropdown opens up created groups
- **Delete:** Administrator can delete group.
- **Update:** After completing group modifications, click Update to finalizes changes
- **LoadDefault:** Delete all groups.

## Tag Based VLAN Function

1	VID(1~4094): 1	Name(Max 8 characters): CPU_CTRL	Add	Delete	Update			
Add: Enter a VID, select the VLAN member for this entry and then press this button to add a VLAN entry to the table. Del: Select a VID in the table and then press this button to remove a VID entry from the table. Update: Modify the existing VID entry, select VID and then press the button.								
VLAN Setting	1	2	3	4	5	6	7	8
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN Setting	9	10	11	12	13	14	15	16
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN Setting	17	18	19	20	21	22	23	24
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN Setting	25	26	-	-	-	-	-	-
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-
PVID	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-	-	-

- **Dropdown:** Administrator can select the created groups.
- **VID:** Administrator can set VLAN VID number (1~4094).
- **Name:** Administrator can set name for VLAN (Max 8 characters).
- **Add:** Enter a VID, select the VLAN member for this entry and then press this button to add a VLAN entry to the table.
- **Delete:** Select a VID in the table and then press this button to remove a VID entry from the table.
- **Update:** Modify the existing VID entry, select VID and then press the button.



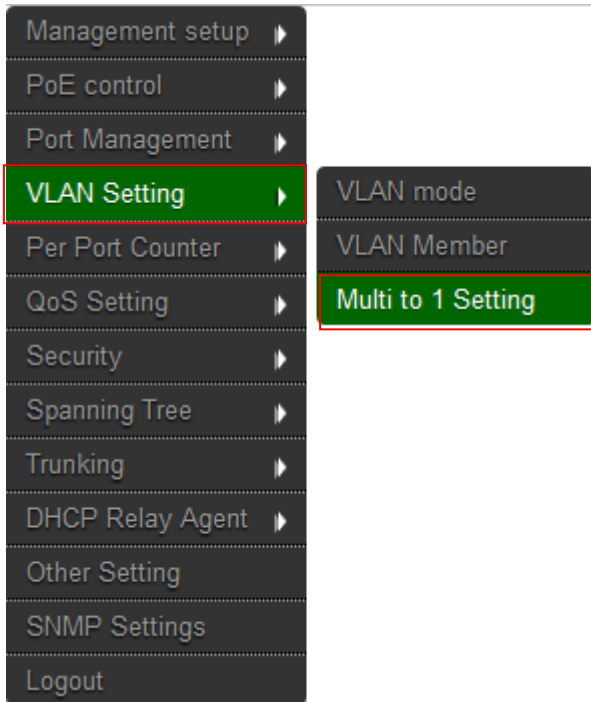
If you do not select any port, this VID will be treated as a VID embedded in a 802.1Q tag.

## 6.3 Multi to 1 Setting

The original setting of the VLAN Group will be cleared and replaced by this special structure if you enable this function.

On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting.

Please click **VLAN Setting** → **Multi to 1 setting**



Multi to 1 Setting

Service: Disable ▾

Destination Port No.: Port : 1 ▾

Current Setting : Port [ -- ]

Disable Port	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Update

1.A example for Multi-to-1 structure

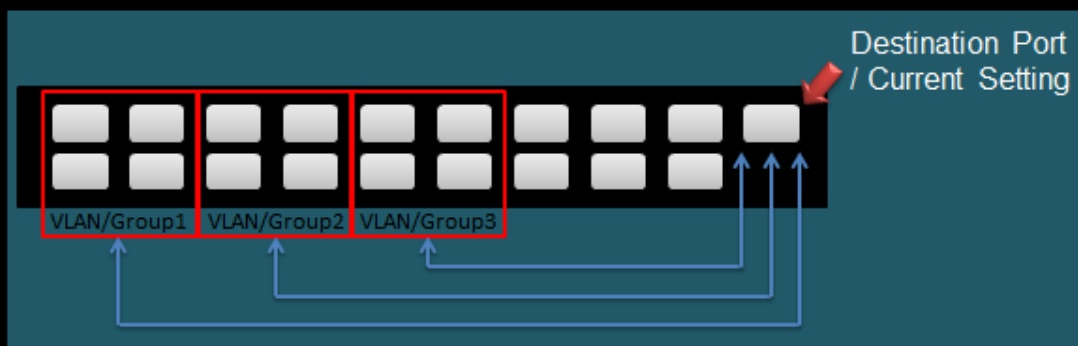
2.The original setting of the VLAN Group will be cleared and replaced by this special structure if you enable this function.  
On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting.

- **Service:** Administrator can select enable/disable the function.
- **Destination Port No.:** Choose a port of Destination Port”.
- **Current Setting:** Display currently set of Destination port No. information
- **Disable Port:** Choose the ports will separate oneself from to destination.



1. Disable port can't be the same as the destination port
2. After this setting, all ports can only connect to destination ports.

#### 1.A example for Multi-to-1 structure

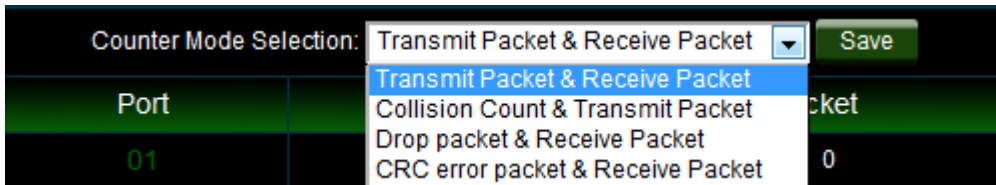
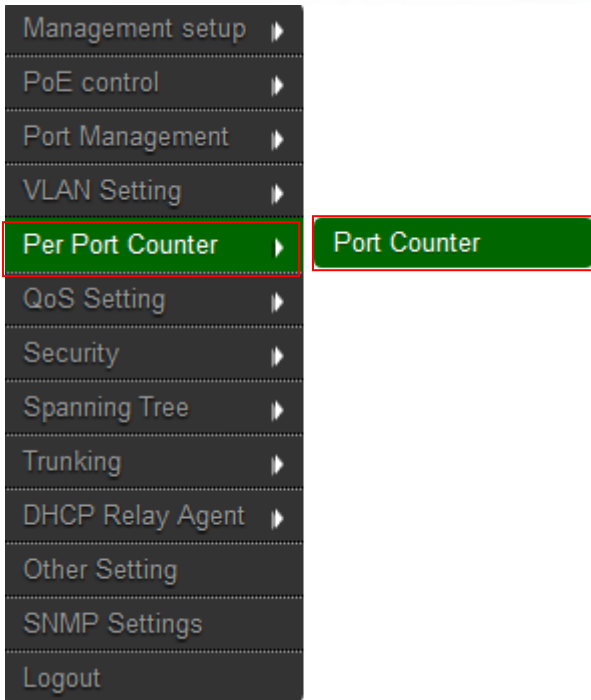


- 2.The original setting of the VLAN Group will be cleared and replaced by this special structure if you enable this function. On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting.
- 3.This configuration is port base VLAN only.

## 7. Per Port Counter

You can read the transmitting and receiving packet of the connecting port.

Please click **Per Port** → **Port Counter**



## Counter Mode Selection

- **Transmit Packet & Receive Packet:** Display 1 to 26 ports of Transmit Packet and Receive Packet information.
- **Collision Count & Transmit Packet:** Display 1 to 26 ports of Collision Count and Transmit Packet information.
- **Drop Packet & Receive Packet:** Display 1 to 26 ports of Drop Packet and Receive Packet information.
- **CRC error Packet & Receive Packet:** Display 1 to 26 ports of CRC error Packet and Receive Packet information
- **Clear:** Clear all the information to recalculate
- **Refresh:** Update the all Information

## 8. QoS Setting

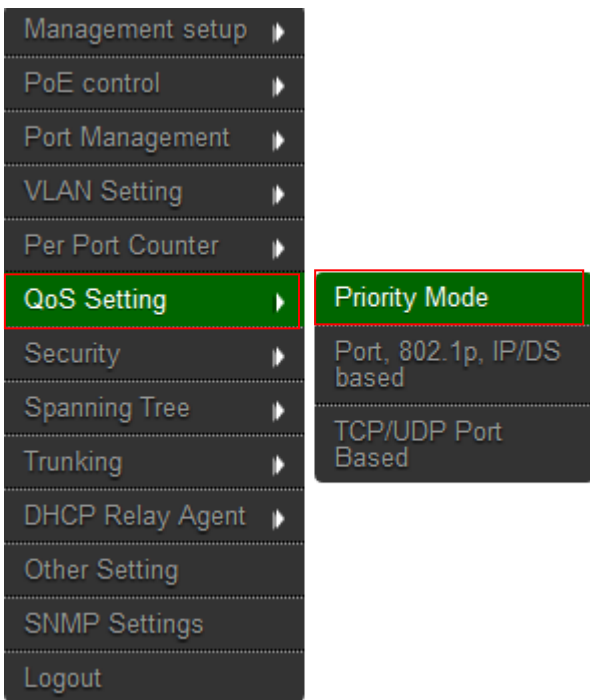
Quality of Service (QoS) prioritizes network traffic and manages available bandwidth so that the most important traffic goes first. QoS is implemented as rules or policies that prioritize packets, optionally change information in the packet header, and assign them to outbound port queues based on their priority.

### 8.1 Priority Mode

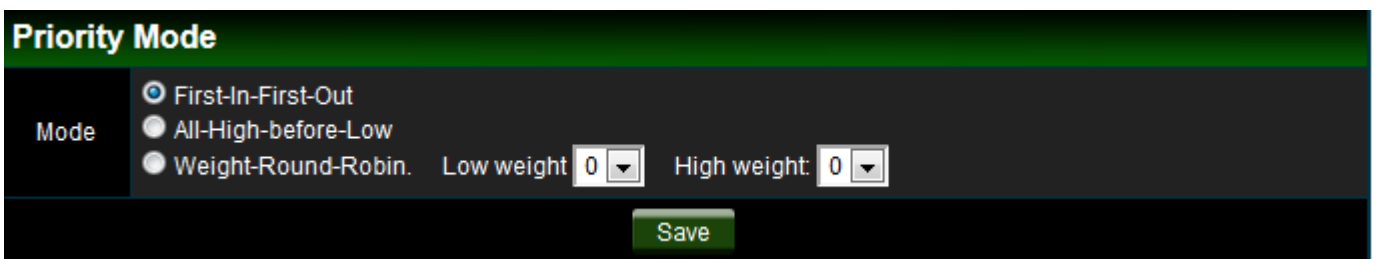
Each switch port has four types of outbound traffic queues based on priority: First-In-First-Out, All-High-before-Low and Weight-Round-Robin.

The queue priority determines the order of exit for packets in the queue. For example, packets in a high priority queue leave the switch before packets in other queues.

Please click **QoS Setting** → **Priority Mode**



There are three Priority Modes to select.



- **First-in-First-Out:** The first receiving packet will be firstly transmitted.
- **All-High-before-Low:** All packets will be assigned to either Q2 (high) priority queue or Q1 (low) priority queue.
- **Weight-Round-Robin:** set the ratio of the transmitting packet for the low priority to high priority.

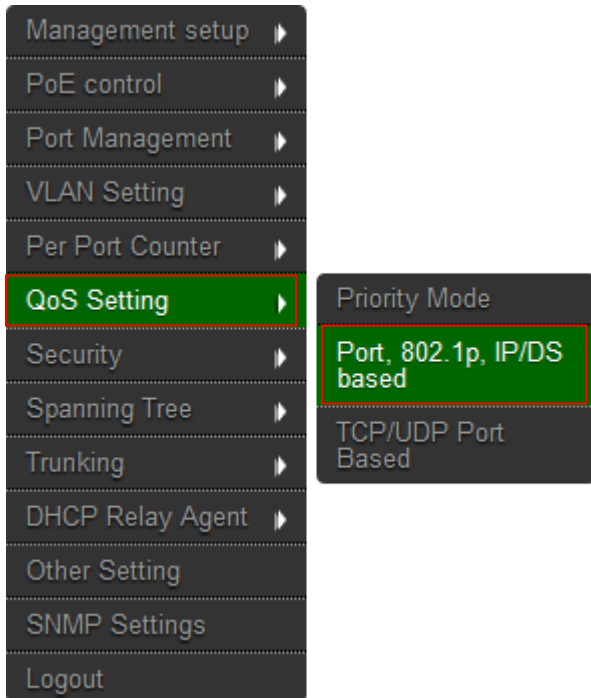


When the queue weight is set to "0", it will be treated as "8"  
The "low weight" and "high weight" means the ratio of the packet in the transmit queue. For example,  
If "low weight" and "high weight" are set to "3" and "5", the ratio of the transmit packet for the low priority to high priority is 3/5.

## 8.2 Port, 802.1p, IP/DS based

You can set QoS mode of per port by different bases.

Please click **QoS Setting**→ **Port, 802.1p, IP/DS based**



As long as any of three COS schemes (802.1p, IP TOS/DS or Port Base) is mapped to "high", the data packet will be treated as the high priority.

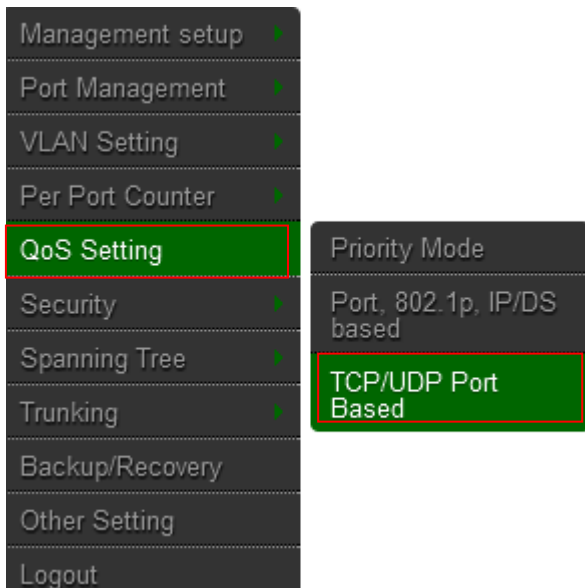


### Enable is High Priority

Port No./Mode	Port Base	VLAN Tag	IP / DS	Port No./Mode	Port Base	VLAN Tag	IP / DS
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 8.3 TCP/UDP Port Based

Please click **QoS Setting** → **TCP/UDP Port Based**



The image shows a configuration menu with the following items:

- Management setup
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting** (highlighted in green)
- Security
- Spanning Tree
- Trunking
- Backup/Recovery
- Other Setting
- Logout

A sub-menu is open for 'QoS Setting', showing:

- Priority Mode
- Port, 802.1p, IP/DS based
- TCP/UDP Port Based** (highlighted in green)

Base on different protocol, you can choose four different types of Class of Service for each TCP/UDP port number -First-in-First-out, Discard, High Priority or Law Priority to control the incoming packet.

Protocol	Option
FTP(20,21)	F-I-F-O
SSH(22)	F-I-F-O
TELNET(23)	F-I-F-O
SMTP(25)	F-I-F-O
DNS(53)	F-I-F-O
TFTP(69)	F-I-F-O
HTTP(80,8080)	F-I-F-O
POP3(110)	F-I-F-O
NEWS(119)	F-I-F-O
SNTP(123)	F-I-F-O
NetBIOS(137~139)	F-I-F-O
IMAP(143,220)	F-I-F-O
SNMP(161,162)	F-I-F-O
HTTPS(443)	F-I-F-O
MSN(1863)	F-I-F-O
XRD_RDP(3389)	F-I-F-O
QQ(4000,8000)	F-I-F-O
ICQ(5190)	F-I-F-O
Yahoo(5050)	F-I-F-O
BOOTP_DHCP(67,68)	Low
User_Define_a	F-I-F-O
User_Define_b	F-I-F-O
User_Define_c	F-I-F-O
User_Define_d	F-I-F-O

The Class of Service for TCP/UDP port number allows the network administrator to assign the specific application to a priority queue.

- **F-I-F-O:** The incoming packet will be forwarded in first-in-first-out scheme.
- **Discard:** The incoming packet will be discarded at the source port.
- **High:** The incoming packet will be forwarded with the high priority.
- **Low:** The incoming packet will be forwarded with the Low priority.

User_Define Port number (1~65535) Mask(0~255)	User_Define_a Port: <input type="text"/> Mask: <input type="text"/>	User_Define_b Port: <input type="text"/> Mask: <input type="text"/>	User_Define_c Port: <input type="text"/> Mask: <input type="text"/>	User_Define_d Port: <input type="text"/> Mask: <input type="text"/>
--	---	---	---	---

- The mask defines which bit is ignored within the IP address bit 0 ~ bit 7.  
For example, UDP/TCP port = 65535 and mask = 5, this means 65530, 65531, 65534 and 65535 are all taken into account. UDP/TCP port = 65535 and mask = 0, this means only 65535 is taken into account.

TCP/UDP port QoS function Not Override

- **TCP/UDP Port QoS function:** When the "override" item is selected, the Port\_based, Tag\_based, IP TOS\_based, CoS listed above will be ignored.

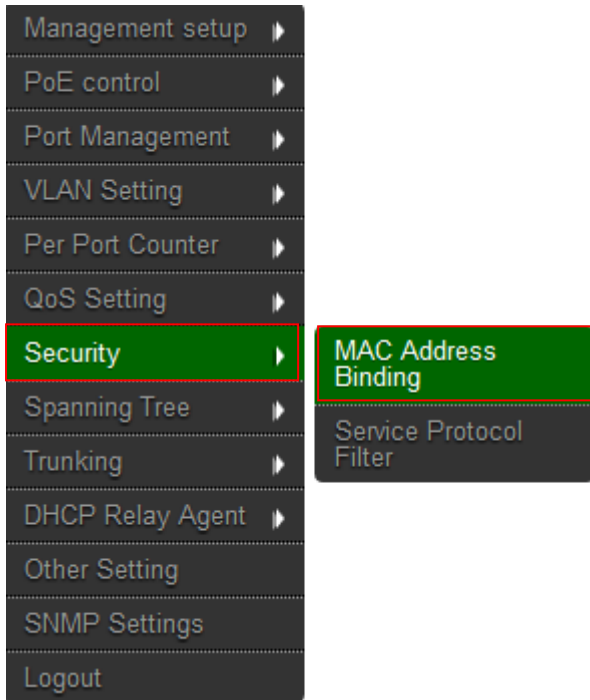
Click **“Save”** to confirm and finish the setting.

## 9. Security

### 9.1 MAC address Binding

Set special MAC address to activate on the selected port

Please click **Security** → **MAC Address Binding**



If you setting and enable the binding MAC address in access control list, The port only allow MAC address on the access control list.

Present Port No.	MAC Address																		
26	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																		
Select Port: <input type="text" value="01"/> <input type="button" value="Change"/> Binding: <input type="text" value="Enable"/> <input type="button" value="Save"/>																			

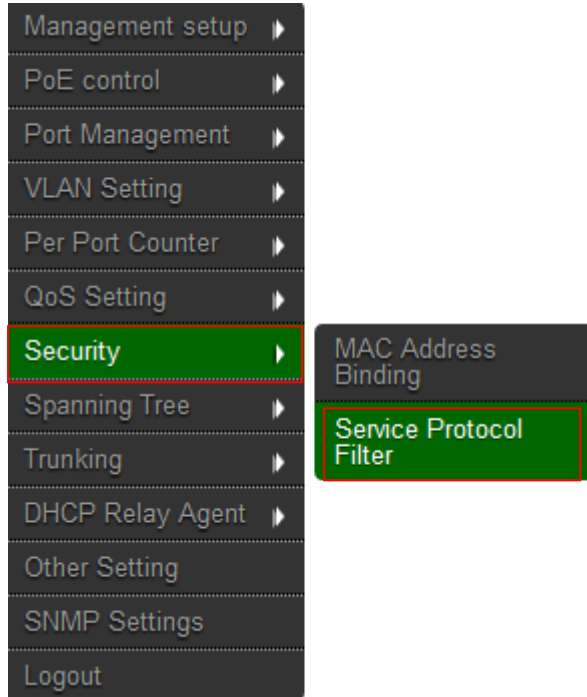
The single port you can setting three MAC address.

- **MAC Address:** Enter MAC address
- **Select:** Select Port to binding MAC address(you can select 1~26 port)
- **Binding:** [Enable] Allow the packet with the specified source MAC address to enter this port.

## 9.2 Service Protocol Filter

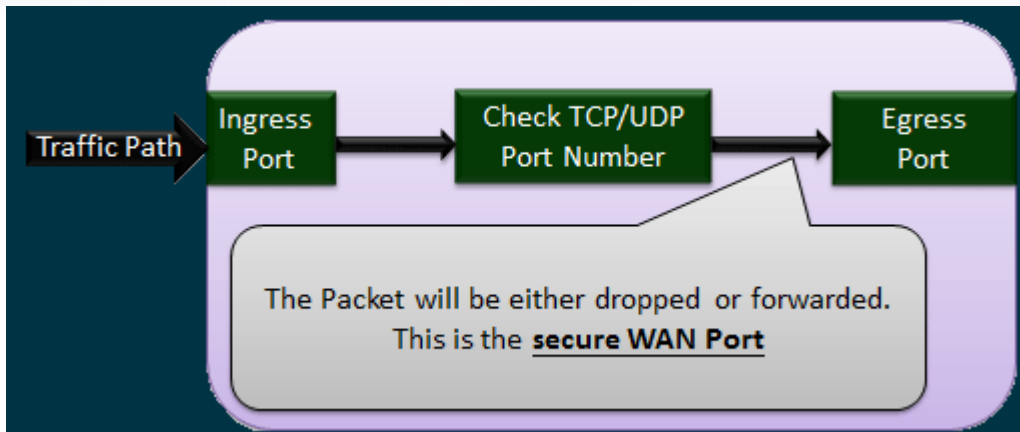
You can enable or disable this function of per port.

Please click **Security** → **Service Protocol Filter**



Function Enable	Enable ▾											
Port Filtering Rule	negative ▾											
	Note: (1)The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as the figure shwon below. (2)"negative" means the selected protocol will be dropped and other protocols will be forwarded. "positive" means the selected protocol will be forwarded and other protocol will be dropped.											
Protocol	<input type="checkbox"/> FTP(20,21)	<input type="checkbox"/> SSH(22)	<input type="checkbox"/> TELNET(23)	<input type="checkbox"/> SMTP(25)	<input type="checkbox"/> DNS(53)	<input type="checkbox"/> TFTP(69)	<input type="checkbox"/> HTTP(80,8080)	<input type="checkbox"/> POP3(110)	<input type="checkbox"/> NEWS(119)	<input type="checkbox"/> SNMP(123)	<input type="checkbox"/> NetBIOS(137~139)	<input type="checkbox"/> IMAP(143,220)
	<input type="checkbox"/> SNMP(161,162)	<input type="checkbox"/> HTTPS(443)	<input type="checkbox"/> XRD_RDP(3389)	<input type="checkbox"/> BOOTP_DHCP(67,68)	<input type="checkbox"/> User_Define_a	<input type="checkbox"/> User_Define_b	<input type="checkbox"/> User_Define_c	<input type="checkbox"/> User_Define_d				
Secure WAN port	<input type="checkbox"/> Port01	<input type="checkbox"/> Port02	<input type="checkbox"/> Port03	<input type="checkbox"/> Port04	<input type="checkbox"/> Port05	<input type="checkbox"/> Port06	<input type="checkbox"/> Port07	<input type="checkbox"/> Port08	<input type="checkbox"/> Port09	<input type="checkbox"/> Port10	<input type="checkbox"/> Port11	<input type="checkbox"/> Port12
	<input type="checkbox"/> Port13	<input type="checkbox"/> Port14	<input type="checkbox"/> Port15	<input type="checkbox"/> Port16	<input type="checkbox"/> Port17	<input type="checkbox"/> Port18	<input type="checkbox"/> Port19	<input type="checkbox"/> Port20	<input type="checkbox"/> Port21	<input type="checkbox"/> Port22	<input type="checkbox"/> Port23	<input type="checkbox"/> Port24
	<input type="checkbox"/> Port 25 <input type="checkbox"/> Port 26											
<input type="button" value="Save"/>												

- **Function:** setting Disable / Enable the function.
- **Port Filtering Rule:** The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as the figure shown below.



- **"Negative"** means the selected protocol will be dropped and other protocols will be forwarded.
- **"Positive"** means the selected protocol will be forwarded and other protocol will be dropped.
- **Protocol:** choose protocols which you want.
- **Secure WAN Port:** choose secure ports which you want.



Notice

1. The secure WAN port should be set at the physical port which is connected to the server.
2. Once this function is enabled, the switch will check the destination TCP/UDP port number at the outgoing direction of the secure WAN port.  
\*\* If the condition matches, this packet will be dropped or forwarded.
3. The description of Secure WAN port is shown on the bottom of this screen.

Click **"Save"** to confirm and finish the setting.

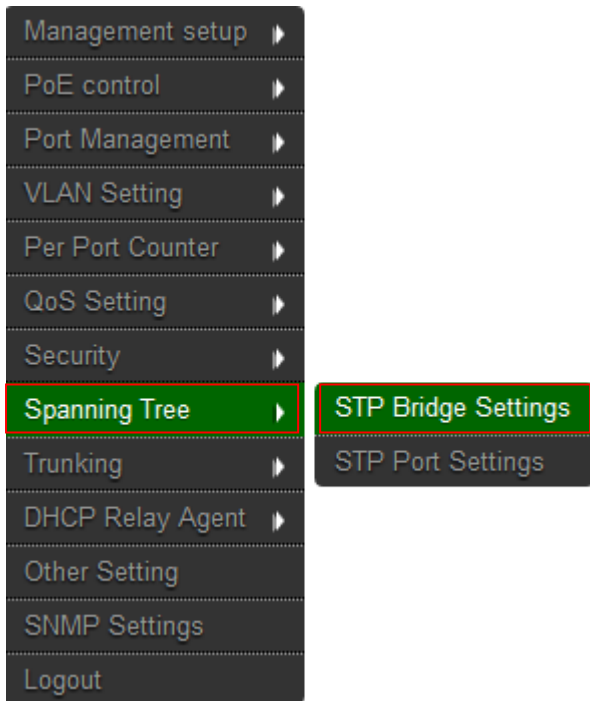
## 10. Spanning Tree

Spanning Tree Protocol(STP) allows only one active path at a time between any two network devices (this prevents the loops) but establishes the redundant links as a backup if the initial link should fail. If STP costs change, or if one network segment in the STP becomes unreachable, the spanning tree algorithm reconfigures the spanning tree topology and reestablishes the link by activating the standby path. Without spanning tree in place, it is possible that both connections may be simultaneously live, which could result in an endless loop of traffic on the LAN.

### 10.1 STP Bridge Settings

This setting is to avoid the loop network.

Please click **Spanning Tree** → **STP Bridge Setting**





Spanning Tree Settings				
STP Mode	Bridge Priority (0~61440)	Hello Time (1~10 Sec)	Max Age (6~40 Sec)	Forward Delay (4~30 Sec)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Save"/>				
<b>Note:</b> 2*(Forward Delay-1) >= Max Age, Max Age >= 2*(Hello Time+1) Bridge Priority must be multiples of 4096				
Note: If you enable the MAC address binding function, the address learning function will be disabled automatically. Then both RSTP/STP and address learning will be affected.				
Bridge Status				
STP Mode	Bridge ID	Hello Time	Max Age	Forward Delay
RSTP	32768:8C 4D EA 00 50 2B	2	20	15
Root Status				
Root ID	Hello Time	Max Age	Forward Delay	
I'm the root bridge!	2	20	15	

- **STP Mode:** choose “Disable”, “STP” or “RSTP”
- **Bridge Priority:** Set the priority of the Bridge.
- **Hello Time:** Provides the time period between root bridge configuration messages.
- **Max Age:** Indicates when the current configuration message should be deleted.
- **Forward Delay:** Provides the length of time that bridges should wait before transitioning to a new state after a topology change. (If a bridge transitions too soon, not all network links might be ready to change their state, and loops can result.)

Click “**Save**” to confirm and finish the setting.

## 10.2 STP Port Setting

Please click **Spanning Tree** → **STP Port Setting**

- Management setup ▶
- PoE control ▶
- Port Management ▶
- VLAN Setting ▶
- Per Port Counter ▶
- QoS Setting ▶
- Security ▶
- Spanning Tree ▶**
  - STP Bridge Settings
  - STP Port Settings**
- Trunking ▶
- DHCP Relay Agent ▶
- Other Setting
- SNMP Settings
- Logout

### STP Port Settings

Port No.	Priority (0~240)	RPC (1~200000000) 0=AUTO
▼	<input type="text"/>	<input type="text"/>
<input type="button" value="Save"/>		

**Priority should be a multiple of 16**

- **Port No.:** Choose Port 1 ~ Port 26
- **Priority:** Setting 0~ 240
- **RPC:** The RPC= Root Path Cost: 0 = AUTO. When the loop is found, the STP/RSTP will calculate the cost of its path.

### STP Port Status

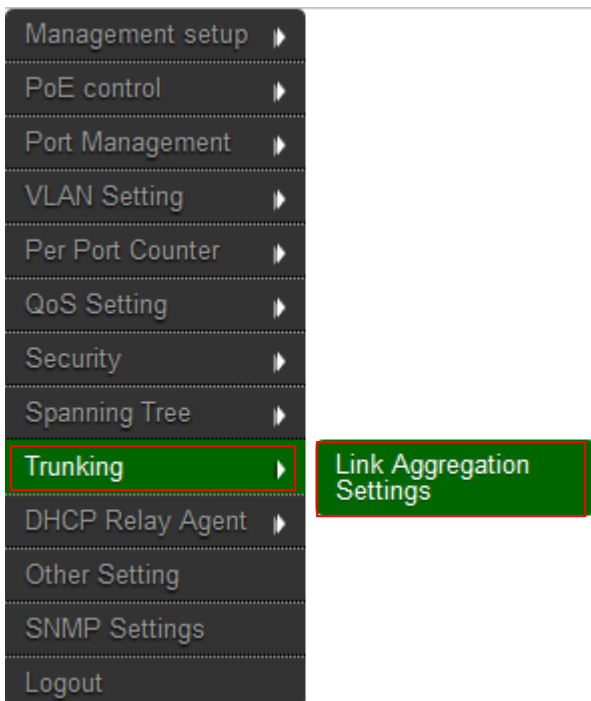
STP Port Status						
Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:0	0x80	--	Disable	--	--
2	Auto:0	0x80	--	Disable	--	--
3	Auto:0	0x80	--	Disable	--	--
4	Auto:0	0x80	--	Disable	--	--
5	Auto:0	0x80	--	Disable	--	--
6	Auto:0	0x80	--	Disable	--	--
7	Auto:0	0x80	--	Disable	--	--
8	Auto:0	0x80	--	Disable	--	--
9	Auto:0	0x80	--	Disable	--	--
10	Auto:0	0x80	--	Disable	--	--

## 11. Trunking (Link aggregation)

Link aggregation can aggregate multiple Ethernet ports together to form a logical aggregation group. To upper layer entities, all the physical links in an aggregation group are a single logical link.

Link aggregation is designed to increase bandwidth by implementing outgoing/incoming load sharing among the member ports in an aggregation group. Link aggregation group also allows for port redundancy, which improves connection reliability.

Please click **Trunking** → **Link Aggregation Setting**



There are two groups to choose and each group is 4 ports and the third group is for 2 ports.

System Priority	<input type="text" value="1"/> (1~65535)
Link Aggregation Algorithm	MAC Src&Dst ▼
<input type="button" value="Submit"/>	

This standard describes the Link Aggregation Control Protocol (LACP), a mechanism for allowing ports on both sides of a redundant link to configure themselves into a trunk link (aggregate link), without the need for manual configuration of the ports into trunk groups.

When you enable link aggregation on a group of Brocade ports, the Brocade ports can negotiate with the ports at the remote ends of the links to establish trunk groups.

Refresh										
	Link Group 1				Link Group 2				Link Group 3	
Member	P1	P2	P3	P4	P5	P6	P7	P8	P25	P26
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	-	-	-	-	-	-	-	-	-	-
State	Disable ▾				Disable ▾				Disable ▾	
Type	LACP ▾				LACP ▾				LACP ▾	
Operation Key	1 (1~65535)				2 (1~65535)				3 (1~65535)	
Time Out	Short Time Out ▾				Short Time Out ▾				Short Time Out ▾	
Activity	Passive ▾				Passive ▾				Passive ▾	
Save										

- **Member:** Choose link group port.
- **State:** Choose Enable / Disable the link group function.
- **Type:** The IEEE 802.3ad Link Aggregation Control Protocol (LACP) enables the dynamic aggregation of physical links and The Link Aggregation Control Protocol (LACP) is defined in IEEE 802.3ad. It uses link aggregation control protocol data units (LACPDUs) for information exchange between LACP-enabled devices. With the usage of preserved fields in LACPDUs, LACP can deliver extended functions in addition to its basic functions.
  - **Static:** switch and switch between must be fixed and setting Link Aggregation Group (LAG) function.
  - **LACP:** switch sides set to LACP mode, the ports on the switch through asking way to check whether to join LAG, If there to join LAG, LACP connection can be achieved, otherwise they skipped LACP connection.
- **Activity:** Both switches use “LACP” to configure the Trunk, at least one of them should be “Active”.
  - **Active :** Set the port in this category will take the initiative to ask link port whether the LACP trunk. If yes, Join the Manage Connections in LACP
  - **Passive :** The main can reply to active, and passive connectivity to reach LACP.

Click “Save” to confirm and finish the setting

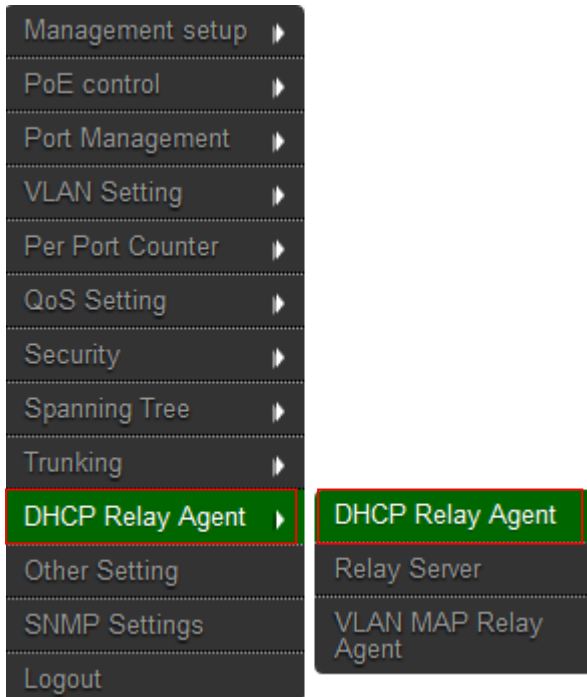
## 12. DHCP Relay Agent

### 12.1 DHCP Relay Agent

Since DHCP clients request IP addresses via broadcast messages, the DHCP server and clients must be on the same subnet. Therefore, a DHCP server must be available on each subnet. It is not practical.

DHCP relay agent solves the problem. Via a relay agent, DHCP clients communicate with a DHCP server on another subnet to obtain configuration parameters. Thus, DHCP clients on different subnets can contact the same DHCP server for ease of centralized management and cost reduction.

Please click **DHCP Relay Agent** → **DHCP Relay Agent**



DHCP Relay State :	Disable ▼
DHCP Relay Hops Count Limit (1-16):	16
DHCP Relay Option 82 State :	Disable ▼
<input type="button" value="Save"/>	

- **DHCP Relay State:** Select DHCP Relay function Disable or Enable.
- **DHCP Relay Hops Count Limit (1-16):** The maximum numbers of DHCP relay agents that will handle DHCP relayed traffic. The maximum value is 16 hops.

- **DHCP Relay Option 82 State:** The DHCP Information option (Option 82) is commonly used in metro or large enterprise deployments to provide additional information on “physical attachment” of the client. Option 82 is supposed to be used in distributed DHCP server/relay environment, where relays insert additional information to identify the client’s point of attachment. You can select the function Disable or Enable.



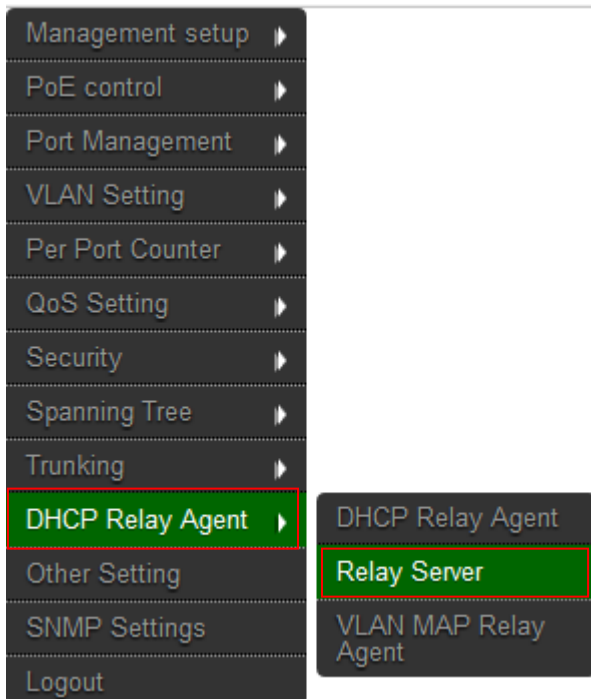
Notice

Your DHCP server must be configured to accept DHCP option 82. If the server is not configured for DHCP option 82, the server does not use the DHCP option 82 information in the requests sent to it when it formulates its reply messages

Click “**Save**” to confirm and finish the setting.

## 12.2 Relay Server

Enter DHCP Server IP address. Please click **DHCP Relay Agent → Relay Server**



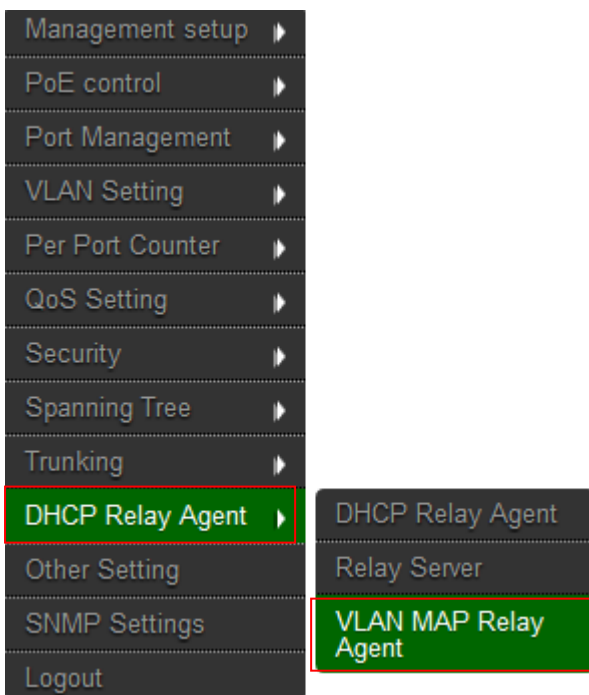


The screenshot shows a web interface for configuring DHCP settings. At the top, there is a section titled "DHCP Server IP" with four input fields for IP address segments and a "Save" button. Below this is a section titled "DHCP Server IP List" containing a table with one entry: "192.168.2.1" and a "DEL" button next to it.

Click **“Save”** to confirm and finish the setting.

## 12.3 VLAN MAP Relay Agent

Please click **DHCP Relay Agent** → **VLAN MAP Relay Agent**



**DHCP Relay Agent Setting**

VLAN ID :  (1-4094)  
Map Server IP :  ▾

**MAP List**

VLAN ID	Server IP	Action
101	192.168.2.1	<input type="button" value="DEL"/>

- **VLAN ID:** Please Enter VLAN 10 number.
- **Map Server IP:** If setting the completed of Relay Server function, The Map server IP you can select IP address.

Click “**Save**” to confirm and finish the setting.

## 13. Other Setting

The function you can setting Aging time / VLAN Striding / and IGMP Snooping etc.

Please click **Other Setting**

- Management setup ▶
- PoE control ▶
- Port Management ▶
- VLAN Setting ▶
- Per Port Counter ▶
- QoS Setting ▶
- Security ▶
- Spanning Tree ▶
- Trunking ▶
- DHCP Relay Agent ▶
- Other Setting**
- SNMP Settings
- Logout

### Output Queue Aging Time

Aging time :  ms

The output queue aging function allows the administrator to select the aging time of a packet stored in the output queue. A packet stored in the output queue for a long time will lower the free packet buffer, resulting in the poor utilization of the buffer and the poor switch performance.

### VLAN Striding

VLAN Striding :

When this function is enabled, the switch will forward a uni-cast packet to the destination port. No matter whether the destination port is in the same VLAN group.

### IGMP Snooping V1 & V2

IGMP Snooping :

IGMP Snooping V1 & V2 function enable

IGMP Leave Packet :

Leave packet will be forwarded to IGMP router ports.

### VLAN Uplink Setting

Port 01 <input type="checkbox"/> Uplink	Port 02 <input type="checkbox"/> Uplink	Port 03 <input type="checkbox"/> Uplink	Port 04 <input type="checkbox"/> Uplink	Port 05 <input type="checkbox"/> Uplink	Port 06 <input type="checkbox"/> Uplink	Port 07 <input type="checkbox"/> Uplink	Port 08 <input type="checkbox"/> Uplink	Port 09 <input type="checkbox"/> Uplink	Port 10 <input type="checkbox"/> Uplink	Port 11 <input type="checkbox"/> Uplink	Port 12 <input type="checkbox"/> Uplink	Port 13 <input type="checkbox"/> Uplink
Port 14 <input type="checkbox"/> Uplink	Port 15 <input type="checkbox"/> Uplink	Port 16 <input type="checkbox"/> Uplink	Port 17 <input type="checkbox"/> Uplink	Port 18 <input type="checkbox"/> Uplink	Port 19 <input type="checkbox"/> Uplink	Port 20 <input type="checkbox"/> Uplink	Port 21 <input type="checkbox"/> Uplink	Port 22 <input type="checkbox"/> Uplink	Port 23 <input type="checkbox"/> Uplink	Port 24 <input type="checkbox"/> Uplink	Port 25 <input type="checkbox"/> Uplink	Port 26 <input type="checkbox"/> Uplink

In normal operation, if the destination and source are located in different VLANs, the packets will be dropped. This option supports to forward the packets filtered by this condition to up-link ports.

Save

- **Output Queue Aging Time:** Choose Aging time is 200/400/600/800ms or disable etc. The output queue aging function allows the administrator to select the aging time of a packet stored in the output queue. A packet stored in the output queue for a long time will lower the free packet buffer, resulting in the poor utilization of the buffer and the poor switch performance.
- **VLAN Striding:** You can choose VLAN Striding disable or enable function. When this function is enabled, the switch will forward a uni-cast packet to the destination port. No matter whether the destination port is in the same VLAN group.

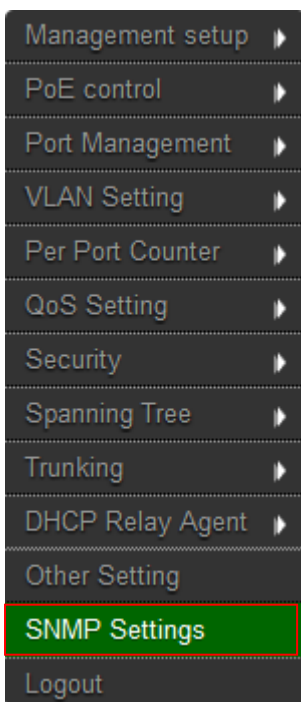
- **IGMP Snooping V1 & V2:** You can choose IGMP Snooping disable or enable function. After enable IGMP, will use both V1 and V2 function. If enable IGMP Snooping function, you can choose disable or enable the IGMP Leave Packet. Mainly allows Leave packet will be forwarded to IGMP router ports.
- **VLAN Uplink Setting:** Set “uplink1 or uplink2” or “Clear uplink1” or “Clear uplink2”

Click “**Save**” to confirm and finish the setting.

## 14. SNMP Setting

Use Simple Network Management Protocol (SNMP) management software to monitor any network device configured with SNMP agent software.

An SNMP community is the group that devices and management stations running SNMP belong to. It helps define where information is sent. The community name is used to identify the group. A SNMP device or agent may belong to more than one SNMP community. It will not respond to requests from management stations that do not belong to one of its communities.



Community Settings	
Community Name	Access Right
<input type="text" value="public"/>	Read Only ▼
<input type="text"/>	Read Only ▼

**Community Names:** Only requests from computers in the list of community names will be accepted.



SNMP default communities are: public=Read / Write

Click “**Save**” to confirm and finish the setting.

SNMP Settings	
System Description	<input type="text" value="IP1826"/>
System Contact	<input type="text" value="ICPlus"/>
System Location	<input type="text" value="ICPlus"/>

- **System Description:** Enter the System description.
- **System Contact:** Enter the System Contact.
- **System Location:** Enter the System Location.

Click “**Save**” to confirm and finish the setting.

SNMP Trap Settings	
Trap State	Enable ▼
Enable Trap Server	Disable ▼
Trap Server Address	<input type="text"/>
Trap Server Status	—

- **Trap state:** The function can select Trap state of Enable or Disable.

- **Enable Trap Server:** The function can select Trap Server of Enable or Disable.
- **Trap Server Address:** Enter Trap Server address.
- **Trap Server Status:** Display Trap Server Status information.

Click “**Save**” to confirm and finish the setting.

## 15. Logout

Click “**Logout**” The system will logout and automatically go to the login page.

