

CERIO Corporation

CS-2208-8P

PoE CS-2000 Series 2 Combo Gigabit + 8 port 10/100Mbps

Web Managed PoE+ Switch (160Watt Power)



User 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.

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1. Introduction

CS-2208-8P layer 2 Web Management switch supports Remote on/off control by PoE. CS-2208-8P is a powerful high-performance **8 port POE Fast Ethernet** switch and **supports 2 combo Gigabit UTP/SFP uplink ports**. The model is compliant with POE+ IEEE 802.3at and 802.3af standards, and defines new green power saving idea on the PSE Port. CS-2208-8P can solve the limitation of the power outlet locations and offer the system relocation convenience

The **CERIO's CS-2208-8P PoE+ Switch** is designed for SMB deployment and can also be upgraded to 1U" chassis for standard rack mounting. It is ideal for micro-segmenting large network into smaller networks, connecting subnets for improved performance, and enabling the bandwidth demanded for multimedia and imaging applications. CS-2208-8P supports a PoE power budget of 130 watt, enough to reliably power devices on all ports. CS-2208-8P's hardware utilizes a metal housing and fanless design, making it a durable and silent PoE solution for homes and businesses. Administrators using CS-2208-8P can meet the increasing management requirements when deploying **Wireless AP or VoIP phone or IP Camera**. Cerio's web-managed switches offer convenient configuration which ultimately provides premium performance, easy installation, and is sure to meet the increasing demands of growing networks.

1.1 Front Panel



LED Indicators of 8 port 10/100Mbps + 2 giga

- 1) Hardware Reset to default button, hold down for about 10 seconds until LED flashes rapidly, Release will return to the default
- 2) Power and system LED.
- 3) 8 port 10/100 Ethernet content and PoE and Ethernet Link/ACT LED, Port is linked to Power Device the PoE Lights up LED, Port is data linked the Link/ACT Lights up LED, The Link / ACT Flashing represent 10/100Mbps for data activating
- 4) 2 Giga/ Fiber combo ports. The two gigabit Ethernet ports have LINK/ACT LED lights. When the port is linked to a device the LINK LED will blink. When a port has an active data link, the Link/ACT LED will light up. The Link / ACT Flashing represent 10/100/1000Mbps data transfer.

1.2 Rear Panel Layout

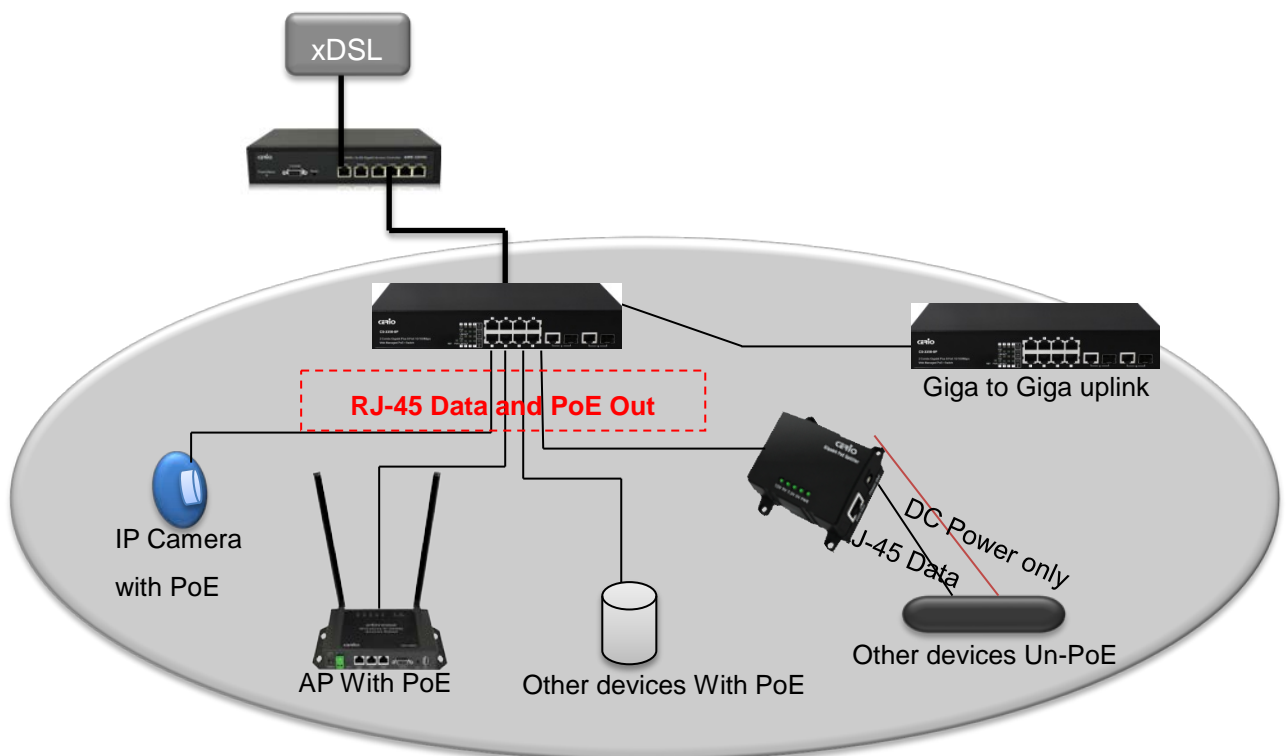


- 1) AC input (100-240V/AC, 50-60Hz) UL Safety)
- 2) One radiator fan.

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 connected to this 8 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 8 port with 8 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

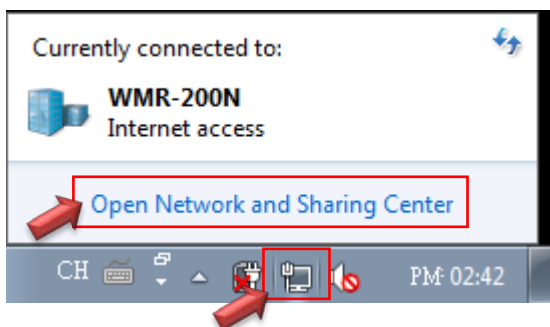
CS-2208-8P supports web-based configuration. Upon the completion of hardware installation, **CS-2208-8P** can be configured through a PC/NB by using its web browser such as Internet Explorer 6.0 or later.

Set the IP segment of the administrator's computer to be in the same range as **CS-2208-8P** for accessing the system. Do not duplicate the IP Address used here with IP Address of **CS-2208-8P** or any other device within the network. *Please refer to the following steps*

Example of Segment: (Windows 7)

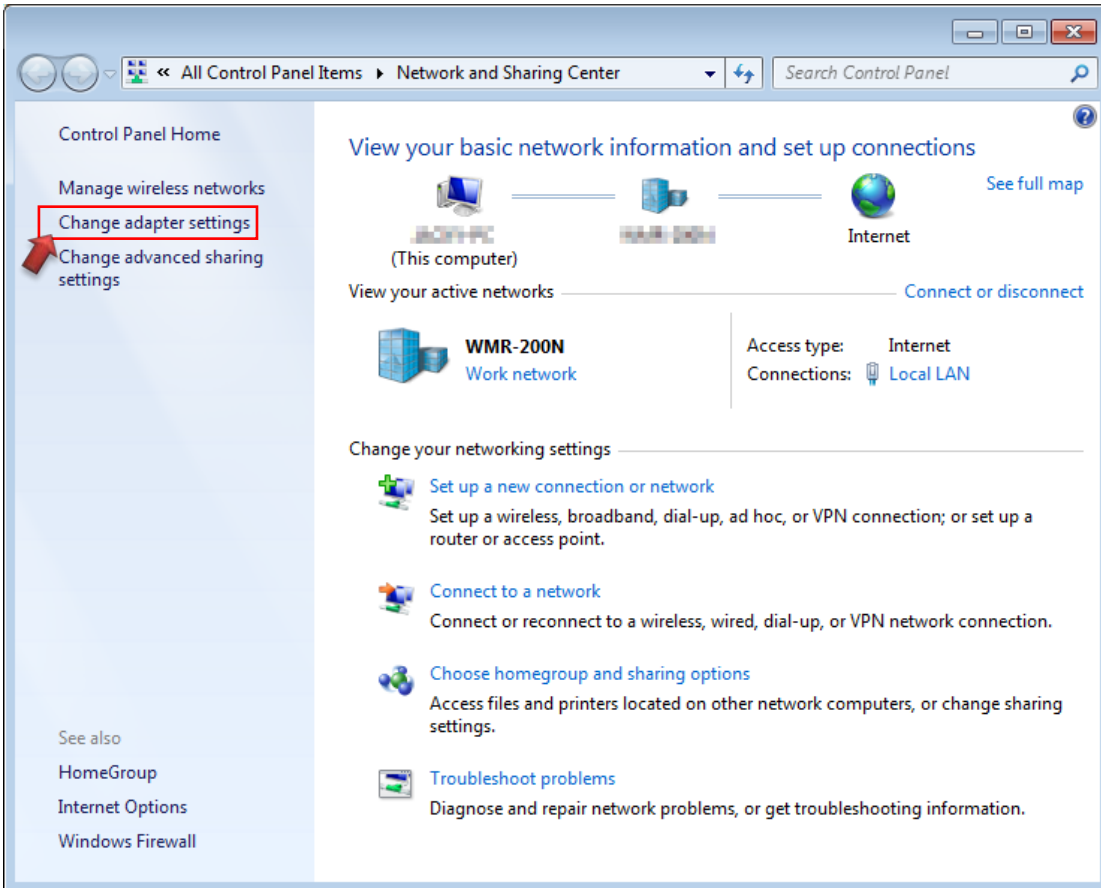
Step 1 :

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



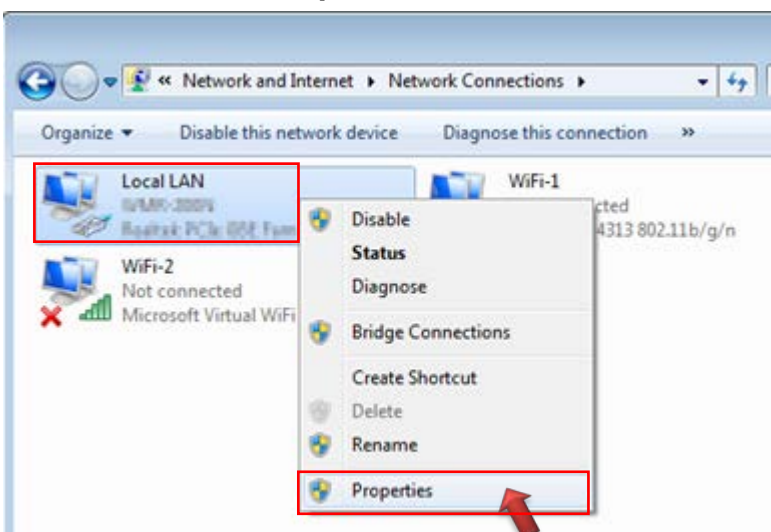
Step 2 :

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



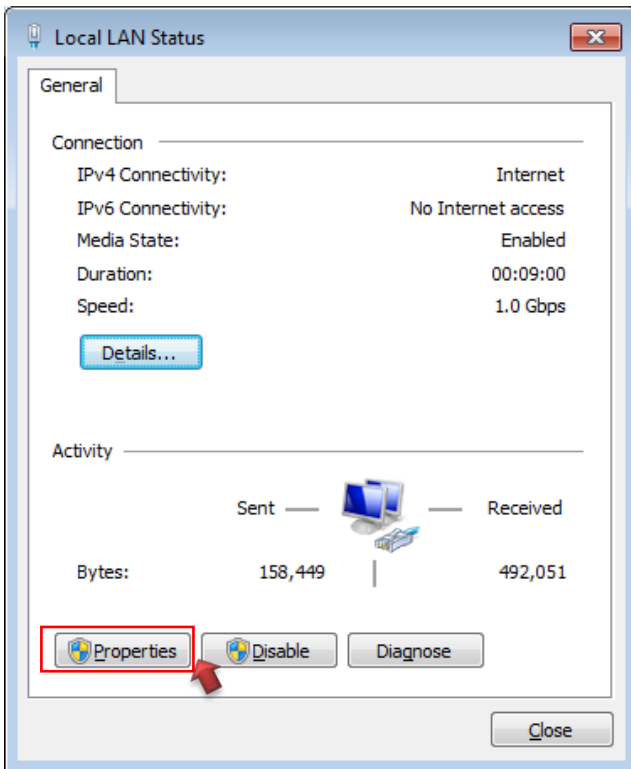
Step 3 :

In “**Change adapter setting**” Page. Please find Local LAN and Click the right button on the mouse and Click “**Properties**”



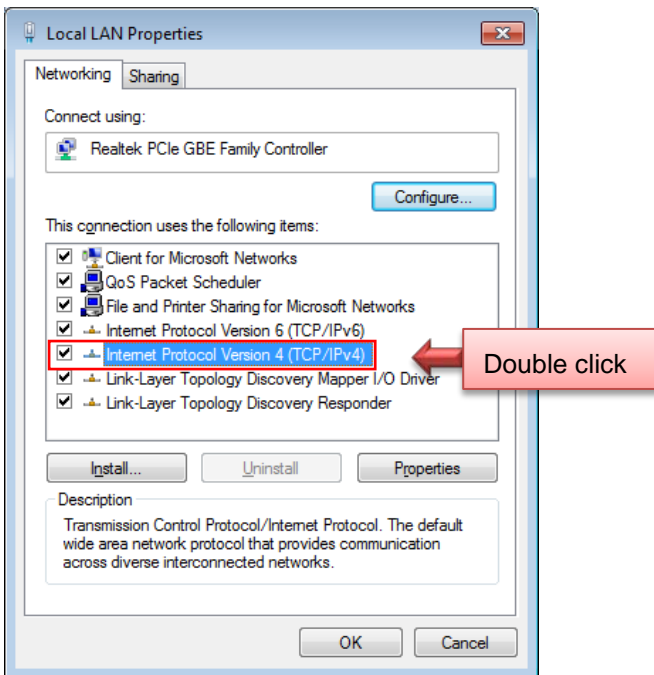
Step 4 :

In “Properties” page, please Click “Properties” button to TCP/IP setting



Step 5 :

In Properties page to setting IP address, please find “Internet Protocol Version 4 (TCP/IPv4)” and double click or click “Install” button.



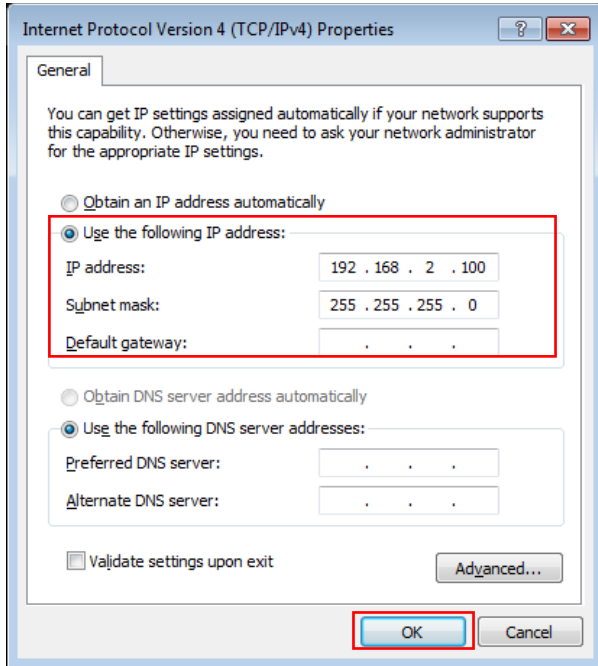
Step 6 :

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

ex. The X is any number by 1 to 253

Subnet mask : 255.255.255.0

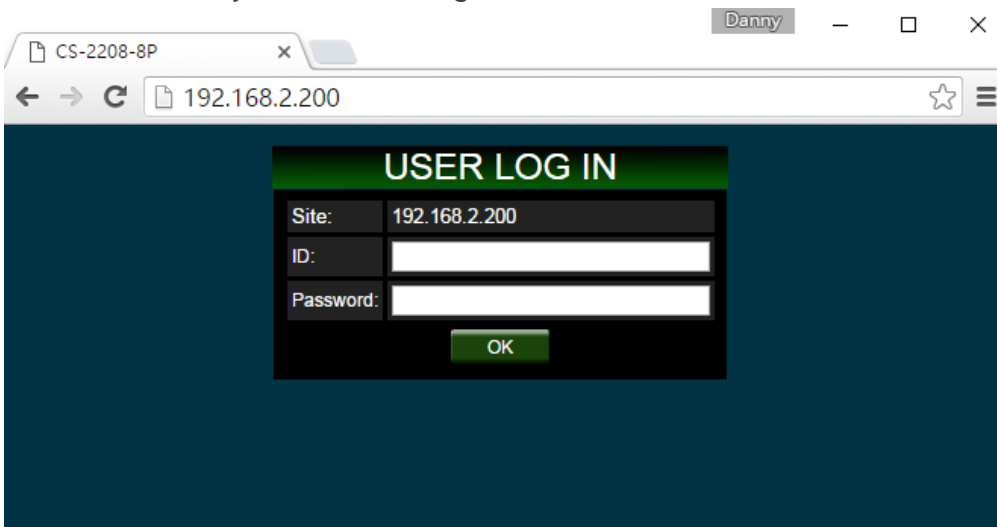
And Click **“OK”** to complete the fixed computer IP setting



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 (<https://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

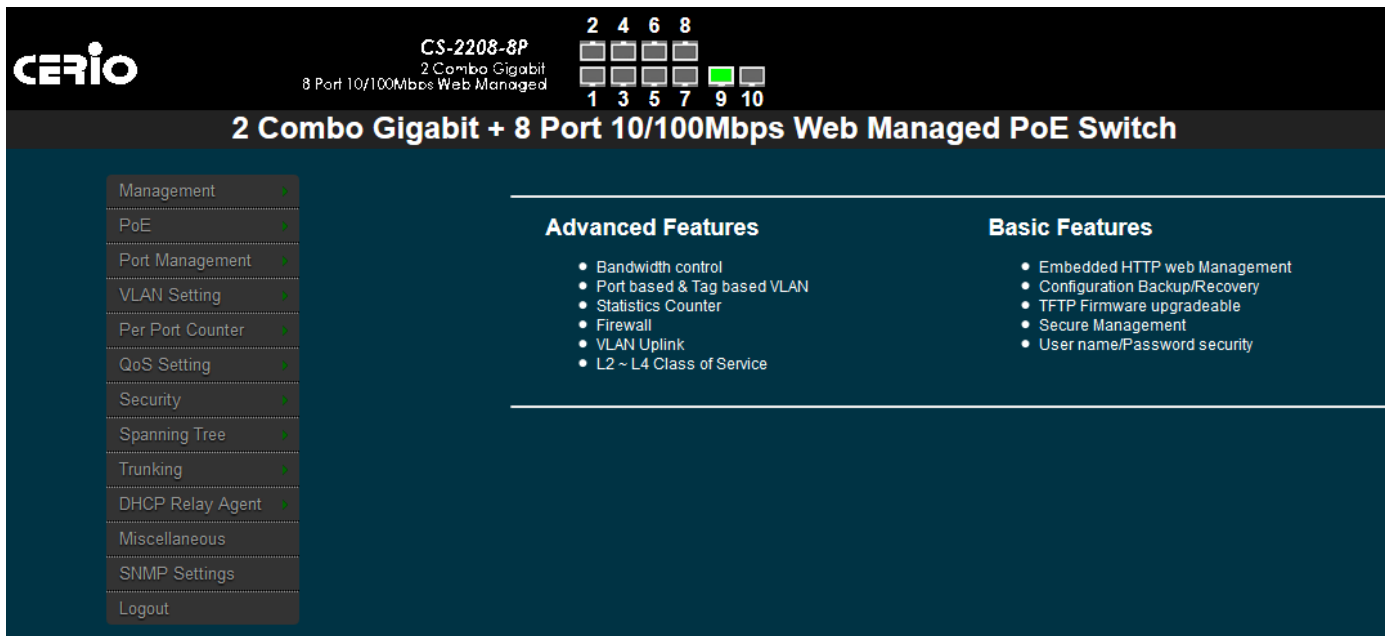
The **CS-2208-8P** web switch default IP is 192.168.2.200

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

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

Management Account	Root Account
Username	root
Password	default

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



CERIO CS-2208-8P
2 Combo Gigabit
8 Port 10/100Mbps Web Managed

2 4 6 8
1 3 5 7 9 10

2 Combo Gigabit + 8 Port 10/100Mbps Web Managed PoE Switch

- Management
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Miscellaneous
- SNMP Settings
- Logout

Advanced Features

- Bandwidth control
- Port based & Tag based VLAN
- Statistics Counter
- Firewall
- VLAN Uplink
- L2 ~ L4 Class of Service

Basic Features

- Embedded HTTP web Management
- Configuration Backup/Recovery
- TFTP Firmware upgradeable
- Secure Management
- User name/Password security

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**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

Once logged in, administrators can change the login password, however the username will remain as “root”.

Change Password

User Name: root

New Password: max:15

Confirm New Password:

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 for confirmation.

Click the “**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**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	
VLAN Setting	System Status
Per Port Counter	NTP Setting
QoS Setting	Load default setting
Security	Backup/Recovery
Spanning Tree	Firmware Update
Trunking	Reboot Device
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

Setting	Value
IP Address	192 168 2 200
Subnet Mask	255 255 255 0
Gateway	192 168 2 254
IP Configure	<input type="radio"/> Static <input checked="" type="radio"/> DHCP

- **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** : Users can configure Static IP or DHCP functions
 - ✓ **Static**: The administrator can manually setup the system IP address when static IP is available/ preferred.
 - ✓ **DHCP**: This configuration type is applicable when the **CS-2208-8P** 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 Status

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

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

System Status

MAC Address	fc:8f:c4:00:00:04
Number of Ports	8+2
Comment	switch <input type="text" value=""/> MAX:40
System Version	CS-2208-8P V1.8
	Idle Time: <input type="text" value="5"/> (1~30 Minutes)
<input checked="" type="checkbox"/> Idle Time Security	<input type="radio"/> Auto Logout(Default). <input type="radio"/> Back to the last display.

Note:
Comment name only can use "a-z","A-Z","_","+", "-", "0-9"

- **MAC Address:** MAC address of the display system
- **Number of Ports:** Display **CS-2208-8P** the Ethernet ports information
- **Comment:** Provide description of the system.
- **System version:** Show currently the **CS-2208-8P** of system software version and software date
- **Idle Time Security:** Administrator can select the check box to set login time out.
 - **Idle Time:** Set Idle Time(1~30 Minutes)
 - **Auto Logout:** Idle Time setting after the system will auto logout. Administrator must re-login system.
 - **Back to the last display:** Idle Time setting after the system will display notice page, administrator can click “**back**” button to the last page.

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

3.4 NTP Setting

Setting system the time, The system will update via NTP server

Please click **Management** → **NTP Setting**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

NTP Enable	Disable ▾
System Time	2011/01/01 01:03:38
NTP Server	#1 <input type="text"/>
	#2 <input type="text"/>
Please enter IP address for the NTP Server	
Time Zone	UTC 0:00 ▾
<input type="button" value="Update"/>	

➤ **System Time:** Display system time.



1. If the switch can't connect to the Internet, the system will display the up time. if connect to internet, system will display right time.
2. Administrator want to set time, please check system IP and gateway.

➤ **NTP Server:** Setting NTP Server IP address.

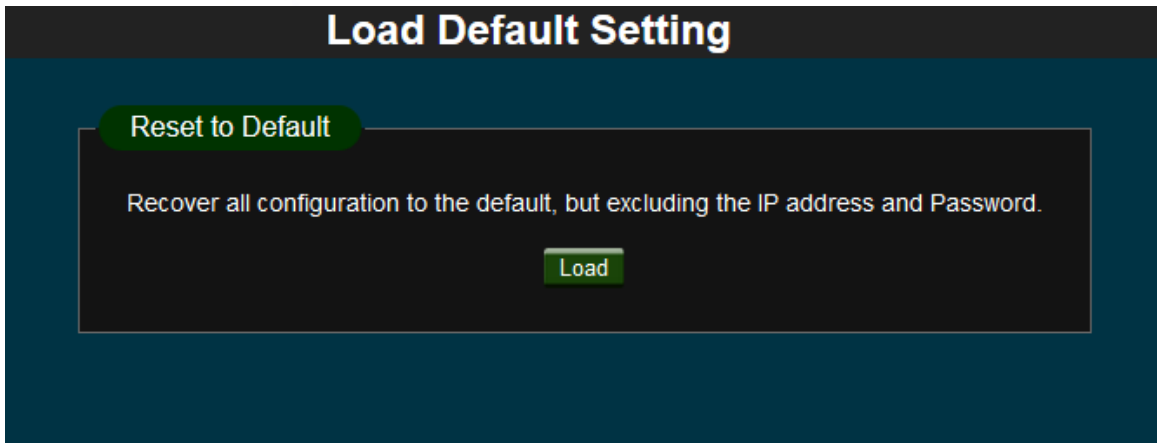
➤ **Time Zone:** Select the correct time zone

Click "**update**" button to save your changes.

3.5 Load default

Please click **Management setup** → **Load default**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	



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



Recover switch default setting excluding the IP address, User name and Password.

3.6 Backup/Recovery

Please click **Management** → **Backup / Recovery**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

The screenshot shows two sections of a web interface. The top section, titled 'Backup to PC', contains the text 'Please check "Download" to download EEPROM contents.' and a green 'Download' button. The bottom section, titled 'Recovery to Switch', contains a 'Password:' label followed by a white input field, a 'Select the image file:' label followed by a file selection button labeled '瀏覽...' and the text '未選擇檔案。', and a green 'Update' button.

- **Backup:** Click “**Download**” button, the switch configuration file will download to PC.
- **Recovery:** Selects a file and key in the password → Click “**Update**” to confirm the setting.



Notice

The Update password is by login password, the login default password is by “default”

3.7 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**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

Firmware Update

Please input the password to continue the Firmware Update process.

Password :

ReConfirm :

Notice:
After clicking the "UPDATE" button, IF the firmware update webpage is not redirected correctly or is shown as "Webpage not found".
Please connect to <http://192.168.2.200>

➤ **Password** : Enter administrator password



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

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**

Management	Authentication Configuration
PoE	System IP Configuration
Port Management	System Status
VLAN Setting	NTP Setting
Per Port Counter	Load default setting
QoS Setting	Backup/Recovery
Security	Firmware Update
Spanning Tree	Reboot Device
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

Reboot Device

Click "**Confirm**" button to Reboot the Switch

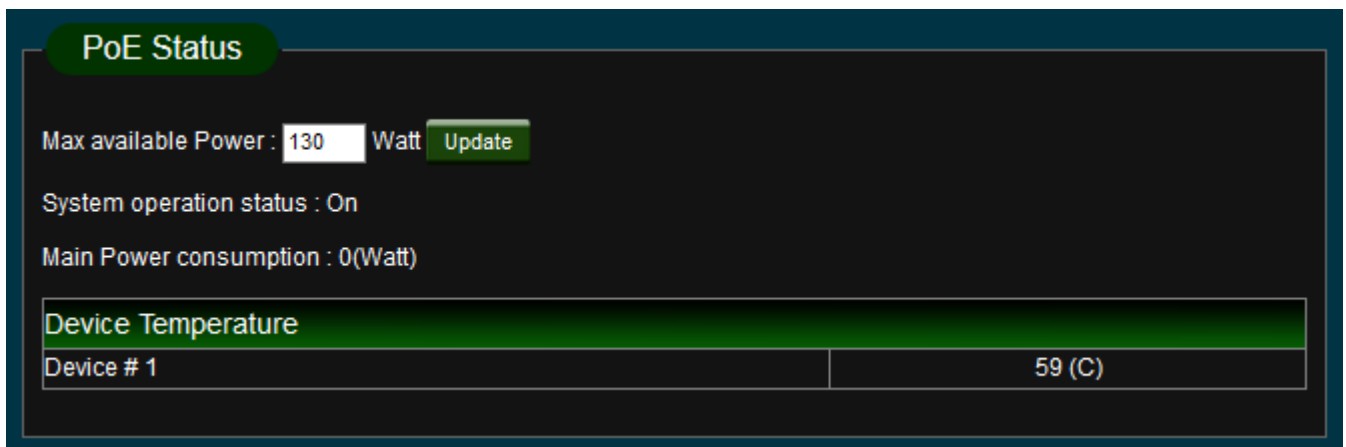
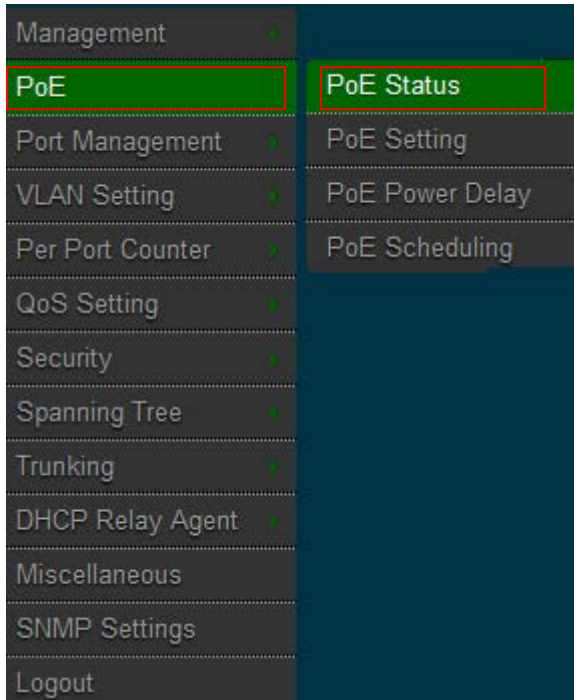
Confirm

4. PoE

PoE control function and detects PoE device power consumption, support PoE on/off by schedule.

4.1 PoE Status

To view the devices PoE Status please click **PoE** → **PoE Status**

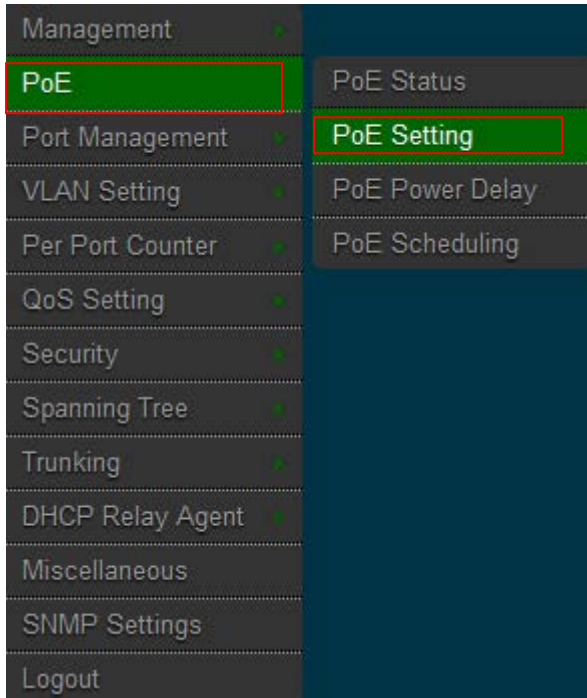


- **Max. available Power:** Show the PoE total power supply
- **System operation status:** Show the system on/off operation status
- **Main power consumption:** Show the Current PoE total power consumption
- **Device Temperature:** Show the system Current Temperature

4.2 PoE Setting

Administrator can change port settings for 802.3af/at mode, port Priority of Critical/High/Low, and port Power Budget for one or more ports.

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



Function	Status	Priority	Power Budget			
	---	(Critical-1;High-2;Low-3)	(Watt MAX:36W)			
Port No.	01 02 03 04 05 06 07 08					
Update						
Refresh						
Port Status						
Port	Status	Class	Priority	Power Consumption(Watt)		Power Budget(Watt)
1	Enable	---	3	0.00		30
2	Enable	---	3	0.00		30
3	Enable	---	3	0.00		30
4	Enable	---	3	0.00		30
5	Enable	---	3	0.00		30
6	Enable	---	3	0.00		30
7	Enable	---	3	0.00		30
8	Enable	---	3	0.00		30

- **Status:** Administrator can select enable or disable the function.
- **Priority:** The PoE priority default is priority 3, administrator can set priority to 1-3 for Critical/High/Low. (1=Critical, 2=High, 3=Low)

If the function setting prioritizes the power allocation to the ports that present a PD power demand. This system will remove power from one or more lower-priority ports to meet the power demand on other, higher-priority ports.

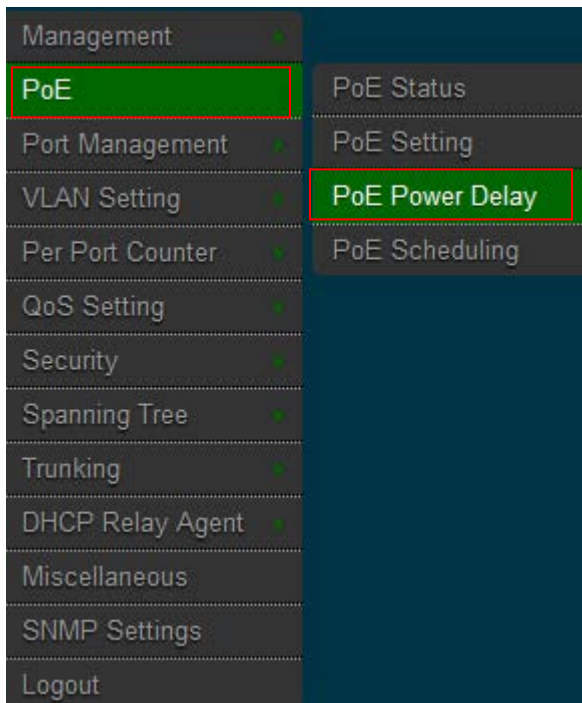
- **Power Budget:** Administrator can set PoE Max. Power Budget

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

4.3 PoE Power Delay

The function can set PoE output power delay time by second.

Please click **PoE → PoE Status**



Function	Delay Mode	Delay Time(0~300)
	<input type="text" value=""/>	<input type="text" value=""/> second
Port No.	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"/>	
<input type="button" value="Update"/>		
Port	Delay Mode	Delay Time (second)
1	Disable	0
2	Disable	0
3	Disable	0
4	Disable	0
5	Disable	0
6	Disable	0
7	Disable	0
8	Disable	0

- **Delay Mode:** Administrator can select enable or disable the function.

- **Delay Time(0~300):** Administrator can set delay time(sec.)
- **Port No.:** Administrator can select ports for the PoE output power delay time.

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

4.4 PoE Scheduling

Setting PoE on/off by Schedule, Please click **PoE** → **PoE Scheduling**

Management	
PoE	PoE Status
Port Management	PoE Setting
VLAN Setting	PoE Power Delay
Per Port Counter	PoE Scheduling
QoS Setting	
Security	
Spanning Tree	
Trunking	
DHCP Relay Agent	
Miscellaneous	
SNMP Settings	
Logout	

PoE Scheduling

Schedule on Port
01 ▾

Schedule Mode
Disable ▾

Schedule AM/PM
A.M. ▾

<input type="checkbox"/> Select all	All 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"/>

Update

- **Schedule on Port:** Administrator can select ports used PoE output power schedule.
- **Schedule Mode:** Administrator can select Enable or disable the schedule.
- **Schedule AM/PM:** Administrator can set AM or PM.
- **Select all time:** Select all-time for schedule list.
- **Select all hour:** Select all-hour by week



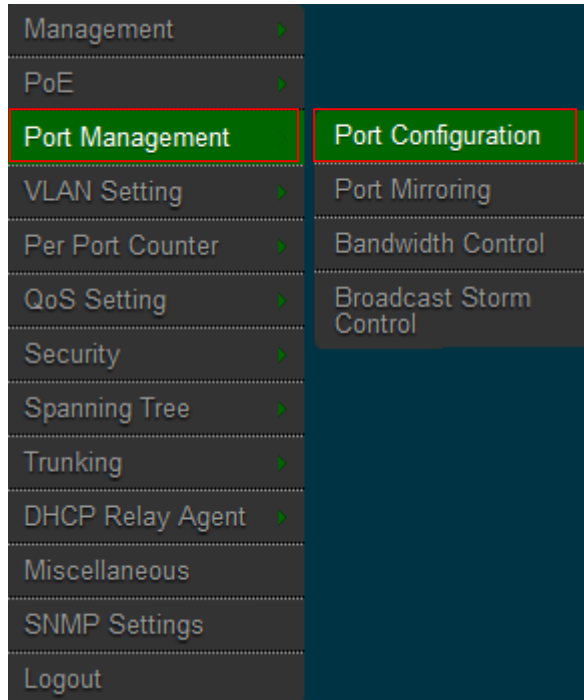
Please to **"NTP Setting"** check the system time is correct.

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

5. Port Management

5.1 Port Configuration

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



Function	Tx/Rx Ability	Auto-Negotiation	Speed	Duplex	Pause	Backpressure	Addr. Learning
Select Port No.	---	---	---	---	---	---	---
	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"/>						
<input type="button" value="Update"/>							

Function:

- **Tx/Rx Ability:** enable/disable for the selected port.
- **Auto-Negotiation:** enable/disable Auto-Negotiation.
- **Speed:** 10M, 100M or 1000M mode for the selected port.
- **Duplex:** Full or Half-Duplex mode for the selected port.
- **Pause:** enable/disable for the selected port.
- **Backpressure:** enable/disable for the selected port.
- **Addr. Learning:** enable/disable for the selected port.
- **Port Status:**

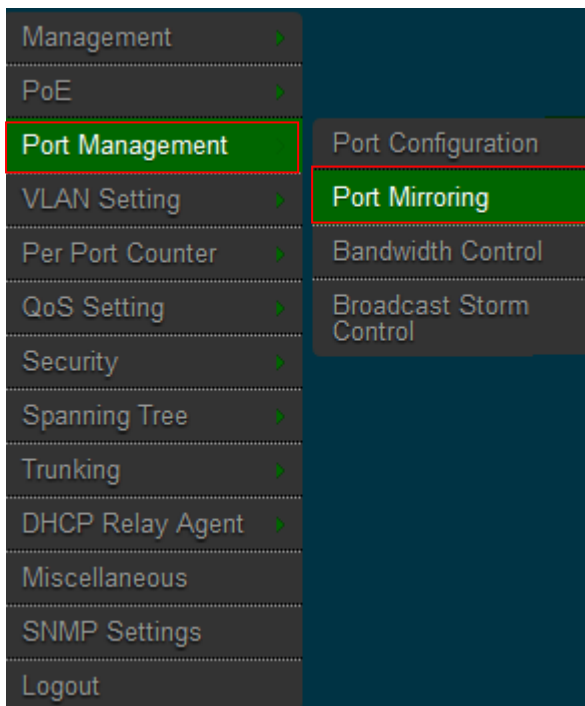
Port	Current Status				Setting Status						
	Link	Speed	Duplex	FlowCtrl	Tx/Rx Ability	Auto-Nego	Speed	Duplex	Pause	Backpressure	Addr. Learning
1	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
2	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
3	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
4	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
5	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
6	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
7	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
8	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	ON
9	●	1G	FULL	OFF	ON	AUTO	1G	FULL	OFF	ON	ON
10	---	---	---	---	ON	AUTO	1G	FULL	OFF	ON	ON

Press the **”Update”** button after changing **“Port Configuration”** to finalize setting changes.

5.2 Port Mirroring

Port Mirroring is used to mirror traffic, RX, TX or TX&RX, from Source port to Destination port for analysis.

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



Dest Port	<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"/>
Monitored Packets	Disable ▾									
Source Port	<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="button" value="Update"/>										

- **Destination port:** you can choose port 1 to port 26.
- **Source port:** by clicking the checking box of the port.

Please click “**Update**” to save the setting changes.

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**

Management	▶	
PoE	▶	
Port Management	▶	Port Configuration
VLAN Setting	▶	Port Mirroring
Per Port Counter	▶	Bandwidth Control
QoS Setting	▶	Broadcast Storm Control
Security	▶	
Spanning Tree	▶	
Trunking	▶	
DHCP Relay Agent	▶	
Miscellaneous		
SNMP Settings		
Logout		

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						
<p>Low: (1)32Kbps Tx/Rx bandwidth resolution for port 1~ port 10. Actual Tx/Rx bandwidth=Rate value x 32 kbps. The rate value is 1~255.</p> <p>High: (1)256Kbps Tx/Rx bandwidth resolution for port 1~ port 8. 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 9, port 10. 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 1~49.</p>								
<input type="button" value="Update"/> <input type="button" value="LoadDefault"/>								
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.								
Port No.	Tx Rate	Rx Rate	Link Speed	Port No.	Tx Rate	Rx Rate	Link Speed	Link Speed
1	Full Speed	Full Speed	---	6	Full Speed	Full Speed	100M	
2	Full Speed	Full Speed	---	7	Full Speed	Full Speed	---	
3	Full Speed	Full Speed	---	8	3200	3200	---	
4	Full Speed	Full Speed	---	9	Full Speed	Full Speed	1G	
5	Full Speed	Full Speed	---	10	Full Speed	Full Speed	---	

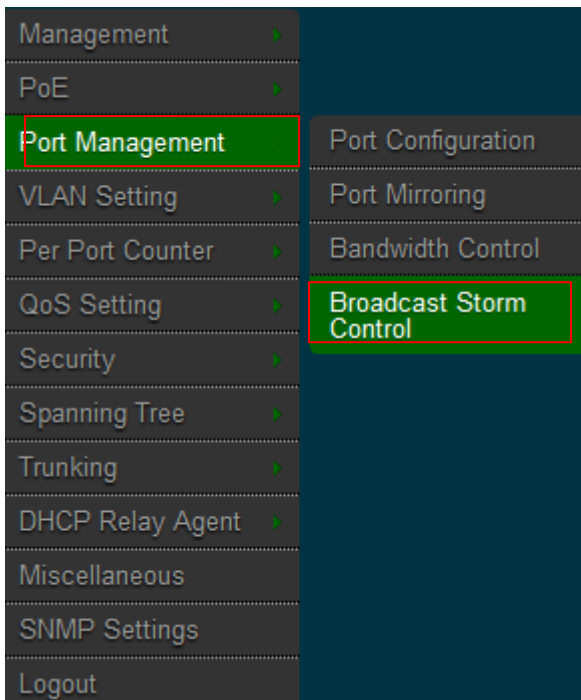
- **Port No.:** you can choose port 1 to port 26.
- **TX Rate:** set the transmission rate of the selected port. (0:Full speed; 1~255:Specified bandwidth.)
- **RX Rate:** set the receiving rate of the selected port. (0: Full speed; 1~255: Specified bandwidth.)
- **Speed Base :**
 - **Low:** 32Kbps Tx/Rx bandwidth resolution for port 1~ port 26.
 - **High:**
 - 1) 256Kbps Tx/Rx bandwidth resolution for port 1~ port 24.
 - 2) The bandwidth resolution is 2048Kbps for port 25, port 26.

Please click **“Update”** to save the setting changes.

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	63 1~63									
Enable Port	<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="button" value="Update"/>										

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

Note: 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.

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



Notice

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.

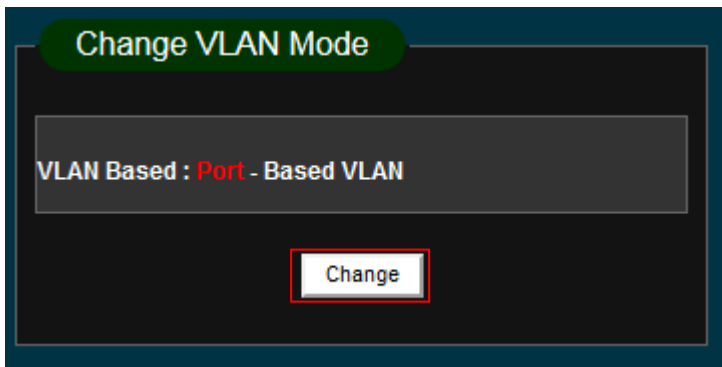
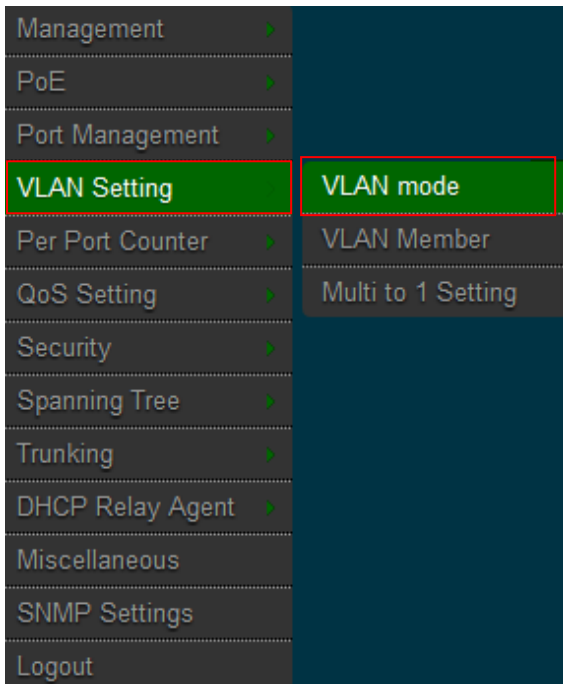
Please click **“Update”** to confirm the setting changes.

6. VLAN Setting

6.1 VLAN Mode

There are two VLAN modes: Port Based VLAN and Tag Based VLAN.

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



Please click **“Change VLAN mode”** button to change Port or tag VLAN mode.

WARNING!

Current [**Port-base**]VLAN Setting will be reset to default setting, if you click on "Continue" button to change to [**Tag-base**]VLAN mode. Otherwise, click on "Back" button to cancel.

Please click "**Continue**" Enter the settings page.

VLAN Tag Mode	Tag/Untag base on Port					
AddTag Type (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 checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag
	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change
	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag
	Port 07	Port 08	Port 09	Port 10		
	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag	<input checked="" type="radio"/> Tag		
	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change	<input type="radio"/> No Change		
	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag	<input type="radio"/> UnTag		
	<input type="button" value="Update"/>					

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.

➤ **VLAN Tag Mode:** Administrator can select tag/Untag base on PVID or Port.

VLAN Tag Mode
Tag/Untag base on VID

Tag/Untag base on VID
Tag/Untag base on Port



If administrator selects tag/Untag base on PVID function the system will display VID field to setting.

Supports three types of insertion/removal of tags in packet on assigned VLAN Group.

- **Tag:** Insert port's tag for egress packets.
- **No Change:** The packets will don't change.
- **UnTag:** Remove port's tag for egress packets.

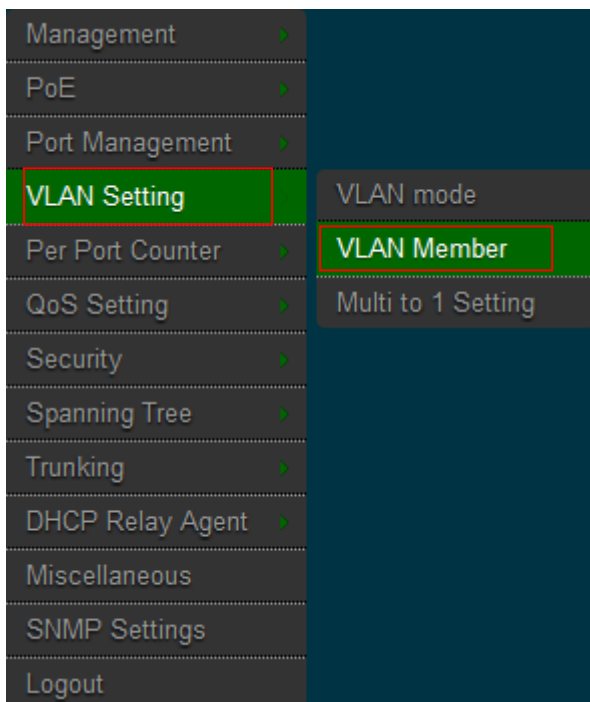


1. Link partner is a network interface card; it probably cannot recognize the VLAN tag. In this case, it is strongly recommended the network administrator to remove the VLAN tag of the corresponding port.
2. If the Port Based VLAN function is enabled, Tag Based VLAN and Multi to 1 setting function will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

Please click “**Update**” to confirm and finish the setting.

6.2 VLAN Member Setting

The VLAN Member function is based on the VLAN mode condition. If administrators select port based VLAN, administrator can set Port VLAN member group settings. If administrators select Tag VLAN, administrator can set PVID member group settings in the VLAN Member function. Please click **VLAN Setting** → **VLAN Member**



VLAN member by Port based VLAN

Name (max 8 characters)

Destination PORT	01	02	03	04	05	06	07	08
Select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination PORT	09	10	-	-	-	-	-	-
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	
test-1	v	v	v	-	-	-	-	-	-	-	
test-2	-	-	-	v	v	v	v	v	-	-	
test-3	-	-	-	-	-	-	-	-	v	v	

- **Name:** Administrator can set group name and select Port number for VLAN member.
- **Add:** Set a Name after administrator click “**add**” button will create VLAN member group.

- **Rename:** Administrator can modify group name.
- **Delete:** Administrator can delete one group.
- **Update:** Administrator can select one name to modify port number and click “Update” button.
- **LoadDefault:** When click “LoadDefault” button, the function will delete all group.

VLAN member by Tag based VLAN

1 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	-	-	-	-	-	-
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-
PVID	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-	-	-

Port VID Map

Port	1	2	3	4	5	6	7	8
VID	1	1	1	1	1	1	1	1
Port	9	10	-	-	-	-	-	-
VID	1	1	-	-	-	-	-	-

VLAN MEMBER

Name(VID)	01	02	03	04	05	06	07	08	09	10
CPU_CTRL(1)	v	v	v	v	v	v	v	v	v	v

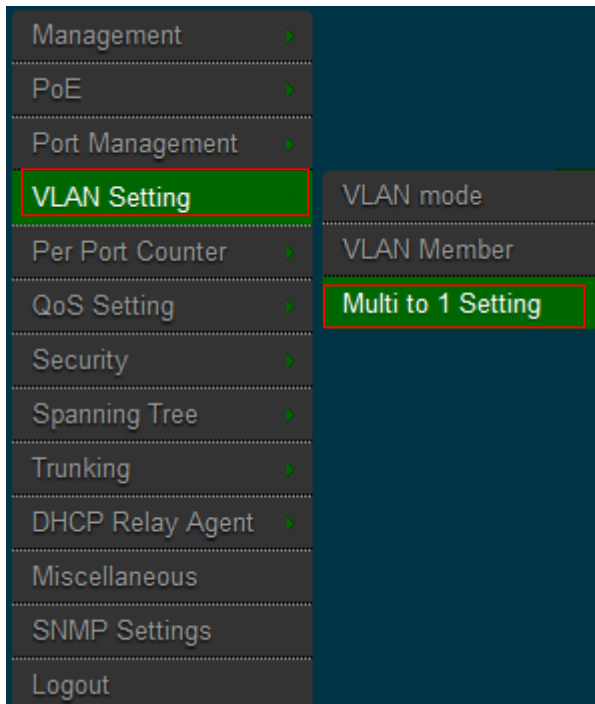
- **VID:** Administrator can set a VID and select VLAN member/PVID for this entry and then press this button to add a VLAN entry to the table.
- **Delete:** Administrator can select a VID in the table and then press this button to remove a VID entry from the table.
- **Update:** Modify the existing VID entry, select VID and then press the button.

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

6.3 Multi to 1 Setting

Administrator can easily set Port Group. If administrators enable the function, the original setting of the VLAN Group will be cleared and replaced by this special structure. If administrator 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**

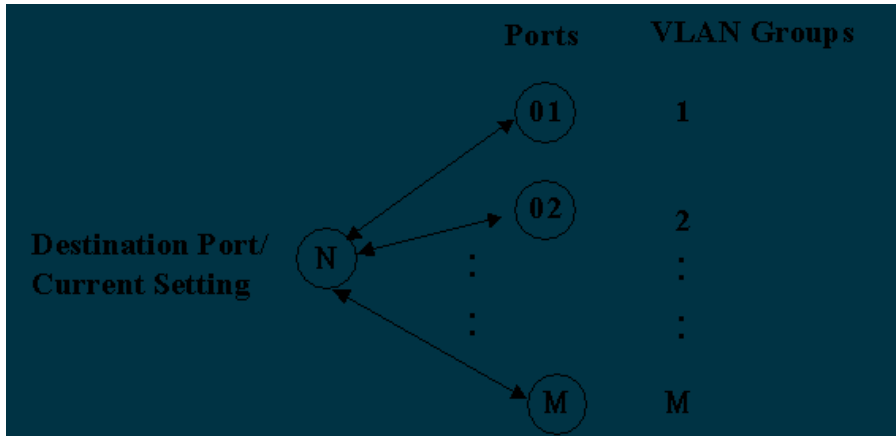


Enable	Disable ▾									
Destination PortNo	Port : 1 ▾									
Current Setting	Port : --									
Disable Port	01	02	03	04	05	06	07	08	09	10
	Update									

- **Enable:** Administrator can select Disable or Enable the function. If administrator used the function, system will take the initiative stop VLAN mode and VLAN member function.
- **Destination Port No.:** Administrator can select port of “Destination Port No”.
- **Current Setting:** System will display currently set of Destination port No. information
- **Disable Port:** Administrator can select the ports which don't want to use



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

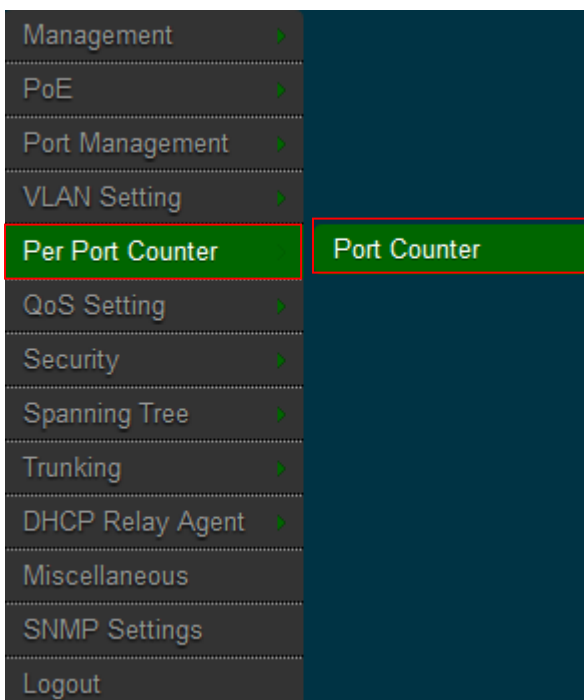


Please click **“Update”** to confirm and finalize the setting changes.

7. Per Port Counter

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

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



Counter Mode Selection: Transmit Packet & Receive Packet Update		
Port	Transmit Packet	Receive Packet
01	0	0
02	0	0
03	0	0
04	0	0
05	0	0
06	11825	5853
07	0	0
08	0	0
09	8719	17331
10	0	0

Clear Refresh

Counter Mode Selection

- **Transmit Packet & Receive Packet:** Display 1 to 10 ports of Transmit Packet and Receive Packet information.
- **Collision Count & Transmit Packet:** Display 1 to 10 ports of Collision Count and Transmit Packet information.
- **Drop Packet & Receive Packet:** Display 1 to 10 ports of Drop Packet and Receive Packet information.
- **CRC error Packet & Receive Packet:** Display 1 to 10 ports of CRC error Packet and Receive Packet information
- **Clear:** Clear all the information to recalculate
- **Refresh:** Update the all Information

Please click “**Update**” to confirm and finalize the setting changes.

8. QoS Setting

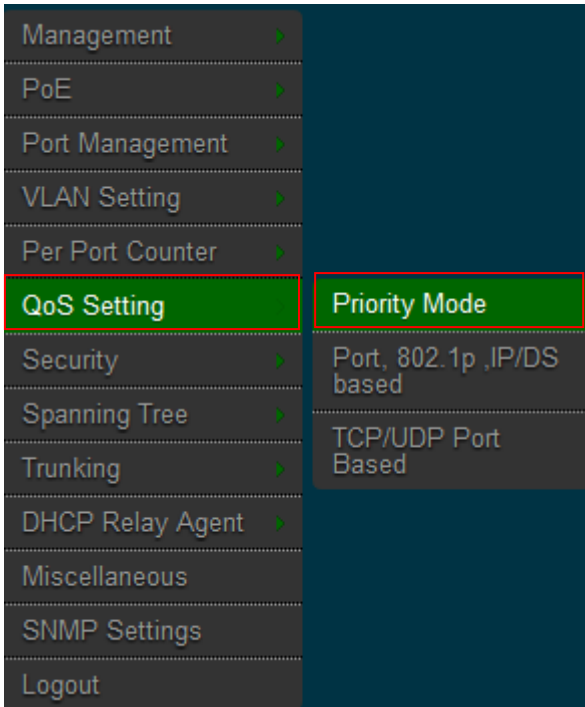
Quality of Service (QoS) prioritizes network traffic and manages available bandwidth so that the most important traffic goes first. QoS is implemented as rules or policies that prioritize packets, optionally change information in the packet header, and assign them to outbound port queues based on their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

8.1 Priority Mode

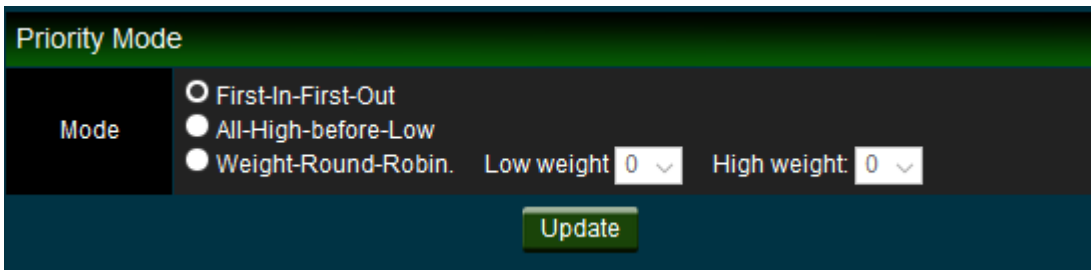
Each switch port has four types of outbound traffic queues based on priority: First-In-First-Out, All-High-before-Low and Weight-Round-Robin.

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.



Notice

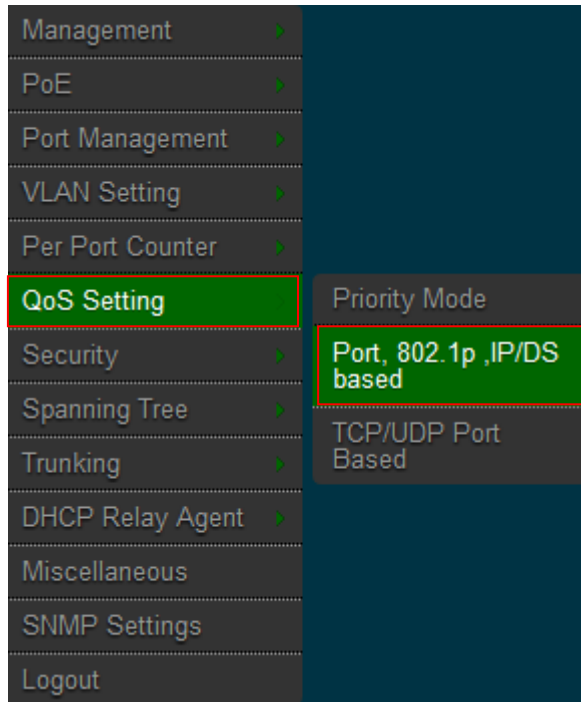
When the queue weight is set to "0", it will be treated as "8"
 The "low weight" and "high weight" means the ratio of the packet in the transmit queue. For example,
 If "low weight" and "high weight" are set to "3" and "5", the ratio of the transmit packet for the low priority to high priority is 3/5.

Please click **“Update”** to confirm and finalize the setting changes.

8.2 Port, 802.1p, IP/DS based

Administrator 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

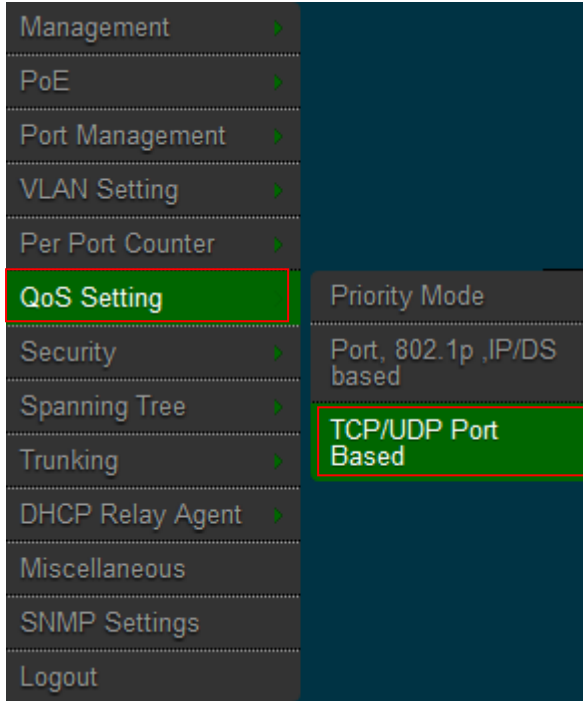
Enable High Priority

Port No	Port Base	VLAN Tag	IP / DS	Port No	Port Base	VLAN Tag	IP / DS
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please click **“Update”** to confirm and finalize the setting changes.

8.3 TCP/UDP Port Based

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



Base on different protocol, Administrator can select 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)	
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: 0	User_Define_b Port: <input type="text"/> Mask: 0	User_Define_c Port: <input type="text"/> Mask: 0	User_Define_d Port: <input type="text"/> Mask: 0
--	--	--	--	--

- 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.

Note: The mask defines which bit is ignored within the Port number 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

Note: When the "override" item is selected, the Port_based, Tag_based, IP TOS_based, CoS listed above will be ignored.

- **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.

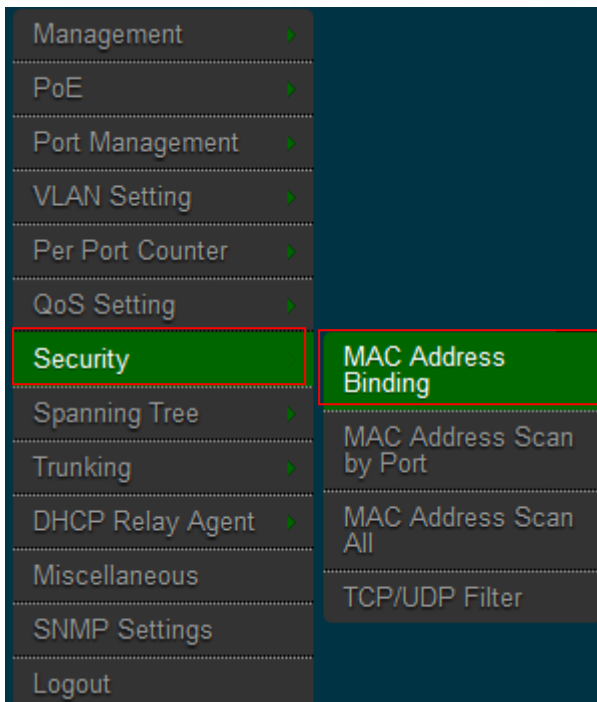
Please click **“Update”** to confirm and finalize the setting changes.

9. Security

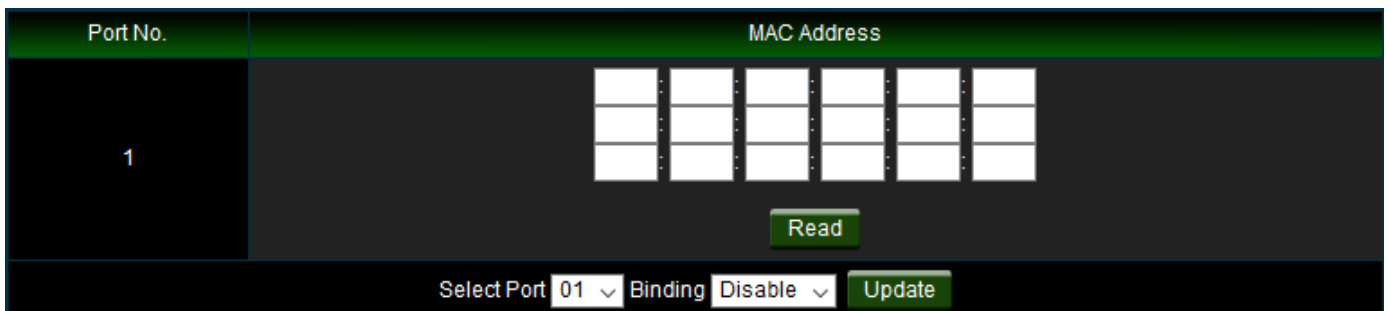
9.1 MAC address Binding

Set special MAC address to activate on the selected port

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



If the administrator sets and enables the binding MAC address in access control list, the port only allow MAC address on the access control list.



The single port you can setting three MAC address.

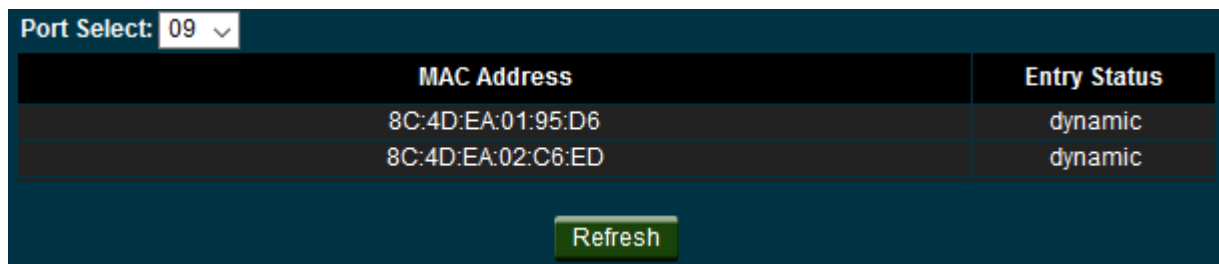
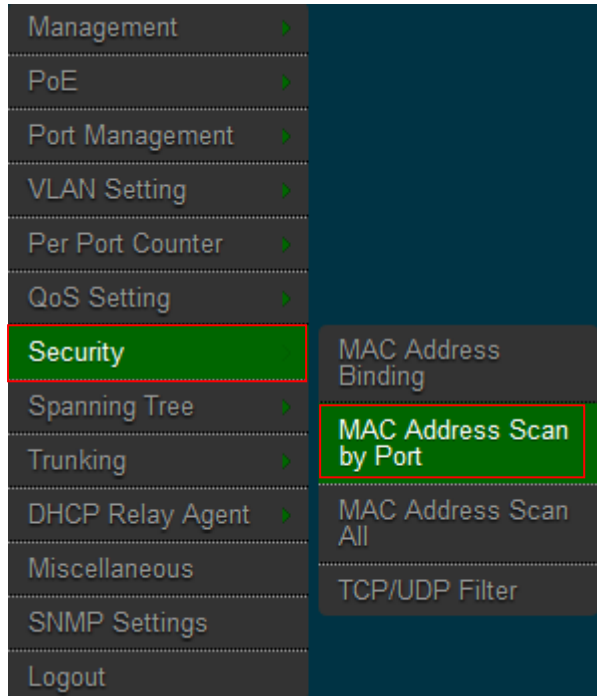
- **MAC Address:** Enter MAC address
- **Select:** Select Port to binding MAC address(you can select 1~10 port)
- **Binding:** [Enable] Allow the packet with the specified source MAC address to enter this port.



If Administrators enable the MAC address binding function, the address leaning function will be disabled automatically.

9.2 MAC Address Scan by Port

Administrator can choose a specific port to scan device MAC address.



- **Port Select:** Administrator can select 1-10 ports. After selecting a port, the system will auto scan for device MAC address in the port.
- **MAC Address list:** After the scan, the results will be displayed on the form

9.3 MAC Address scan all port

When administrator click the scan all port function, the system will auto scan connect device MAC address on the switch all port.

Management	>	
PoE	>	
Port Management	>	
VLAN Setting	>	
Per Port Counter	>	
QoS Setting	>	
Security	>	MAC Address Binding
Spanning Tree	>	MAC Address Scan by Port
Trunking	>	
DHCP Relay Agent	>	MAC Address Scan All
Miscellaneous	>	TCP/UDP Filter
SNMP Settings	>	
Logout	>	

Port MAC Address	
Port:6	8C:4D:EA:04:D1:8B
Port:9	8C:4D:EA:01:95:D6
Port:9	8C:4D:EA:02:C6:ED

9.4 Service Protocol Filter

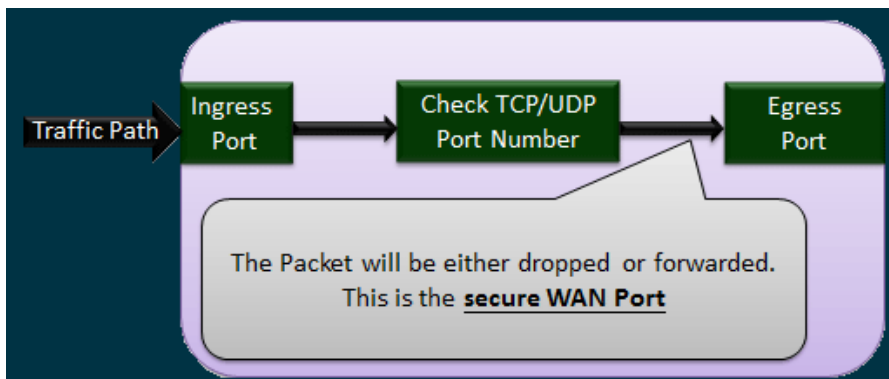
Administrator can enable or disable this function of per port.

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

Management	>	
PoE	>	
Port Management	>	
VLAN Setting	>	
Per Port Counter	>	
QoS Setting	>	
Security	>	MAC Address Binding
Spanning Tree	>	MAC Address Scan by Port
Trunking	>	
DHCP Relay Agent	>	MAC Address Scan All
Miscellaneous	>	TCP/UDP Filter
SNMP Settings	>	
Logout	>	

Function Enable	Disable ▾							
Port Filtering Rule	negative ▾ Note: (1)The outgoing packet with selected protocol will be either forwarded or dropped at secure port as the figure shown 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.							
Note: These User-defined A/B/C TCP/UDP settings use the same port number settings as the Users-defined A/B/C Port number settings in Qos's Class of Service webpage.								
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"/> SNTP(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 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="button" value="Update"/>								

- **Function:** Administrator can select 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.



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/UTP 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.

Please click **“Update”** to confirm and finish the setting.

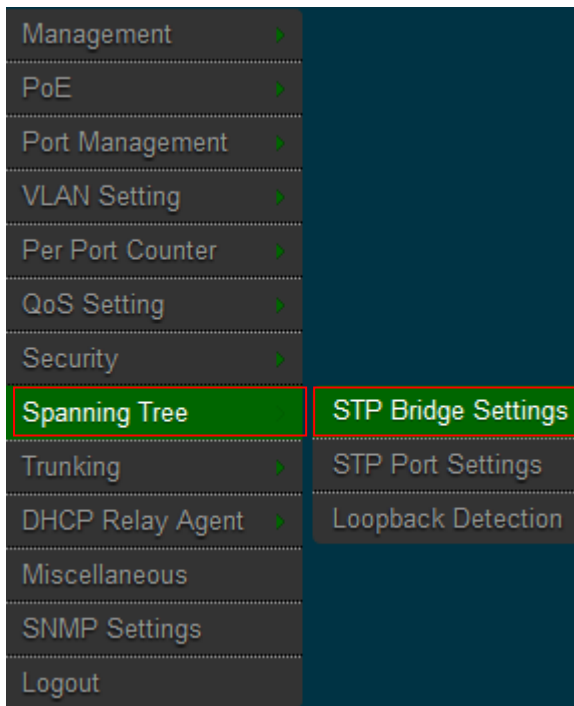
10. Spanning Tree

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

Administrator can setup STP to avoid network looping

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



Management	
PoE	
Port Management	
VLAN Setting	
Per Port Counter	
QoS Setting	
Security	
Spanning Tree	STP Bridge Settings
Trunking	STP Port Settings
DHCP Relay Agent	Loopback Detection
Miscellaneous	
SNMP Settings	
Logout	

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" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Note: $2 * (\text{Forward Delay} - 1) \geq \text{Max Age}$,
 $\text{Max Age} \geq 2 * (\text{Hello Time} + 1)$
 Bridge Priority must be multiples of 4096

- **STP Mode:** Administrator can select Disable the function or set “STP” / “RSTP” functions.
- **Bridge Priority:** Administrator can 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.)

Bridge Status

STP Mode	Bridge ID	Hello Time	Max Age	Forward Delay
Disable	0:00 00 00 00 00 00	2	20	15

Root Status

Root ID	Hello Time	Max Age	Forward Delay
--	--	--	--

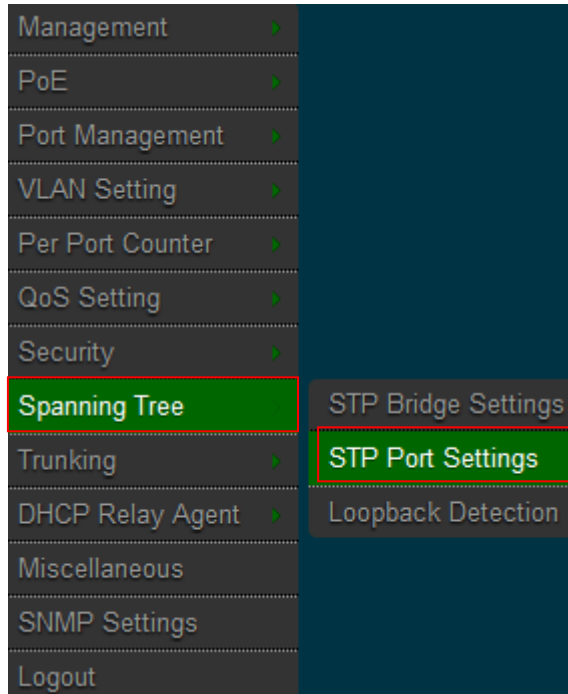
If administrators enable the MAC address binding function, the address learning function will be disabled automatically.

Then both RSTP/STP and address learning will be affected.

Please click “**Update**” to confirm and finalize the setting changes.

10.2 STP Port Setting

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



The 'STP Port Settings' form has a dark background with green text and buttons. It contains three input fields: 'Port No.' with a dropdown arrow, 'Priority (0~240)', and 'RPC (1~200000000) 0=AUTO'. A green 'Submit' button is centered below the fields. A note at the bottom reads '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

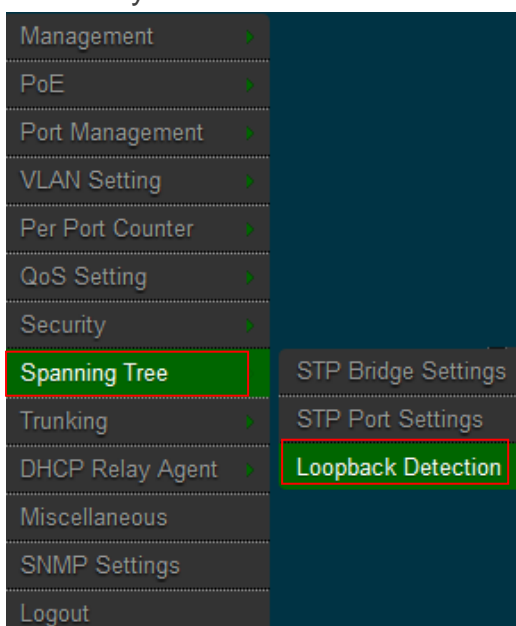
STP Port Status						
Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:0	0x80	--	Disable	--	--
2	Auto:200000	0x80	Designated Port	Forwarding	--	--
3	Auto:0	0x80	--	Disable	--	--
4	Auto:200000	0x80	Designated Port	Forwarding	--	--
5	Auto:0	0x80	--	Disable	--	--
6	Auto:0	0x80	--	Disable	--	--
7	Auto:0	0x80	--	Disable	--	--
8	Auto:0	0x80	--	Disable	--	--
9	Auto:0	0x80	--	Disable	--	--
10	Auto:2000000	0x80	Designated Port	Forwarding	--	--

Please click “Submit” to confirm and finalize the setting changes.

10.3 Loopback Detection Settings

This feature is used to temporarily shut down a port on the Switch when a CTP (Configuration Testing Protocol) packet has been looped back to the Switch. When the Switch detects CTP packets received from a port or a VLAN, this signifies a loop on the network. The Switch will automatically block the port.

The Loopback Detection port will restart when the Loopback Detection Recover Time times out. The Loopback Detection function can be implemented on a range of ports at a time. The user may enable or disable this function using the pull-down menu.



The screenshot shows a web interface titled "STP Port Settings". It contains a table with three rows of settings:

STP Port Settings	
Loopback Detect Function	Disable ▾
Auto Wake Up	Disable ▾
Wake-Up Time Interval	10 sec ▾

Below the table is a "Submit" button.

- **Loopback Detect Function:** Administrator can select Enable or Disable the function.
- **Auto Wake UP:** Administrator can set Enable or Disable the auto Wake up function.
- **Wake-Up Time Interval:** If administrator have enable auto wake up function, administrator must set wake up time interval.

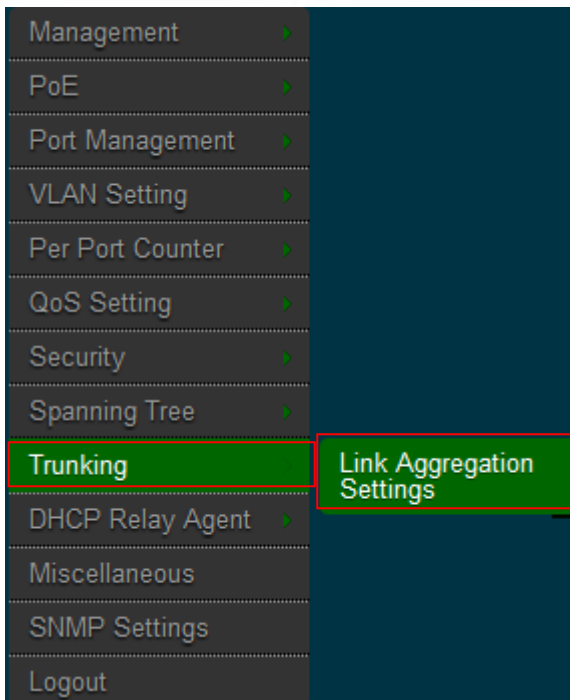
Please click "**Submit**" to confirm and finalize the setting changes.

11. Trunking (Link aggregation)

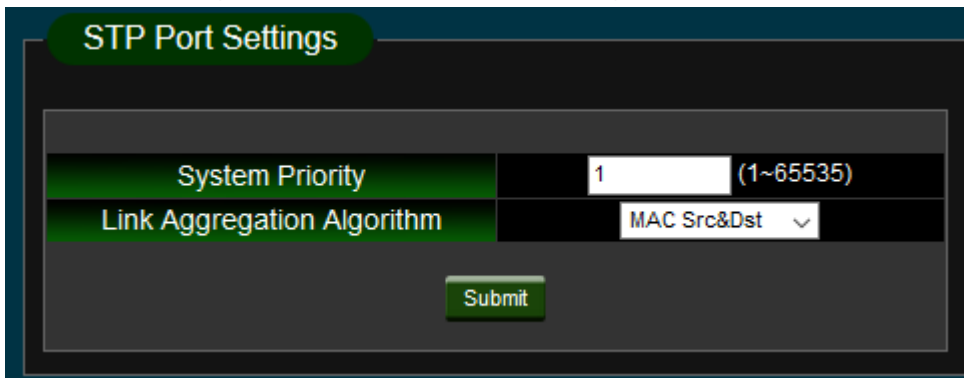
Link aggregation can aggregate multiple Ethernet ports together to form a logical aggregation group. To upper layer entities, all the physical links in an aggregation group are a single logical link.

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.



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	P9	P10
	<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 ▾	

Submit

- **Member:** Administrator can select link group port.
- **State:** Administrator can select 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.
- **Time Out:** The LACP time out value is a periodic interval. When the interval expires, an LACP PDU is sent out regularly. The default value for LACP time out is long.
- **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.

Please click “**Submit**” to confirm and finalize the setting changes.

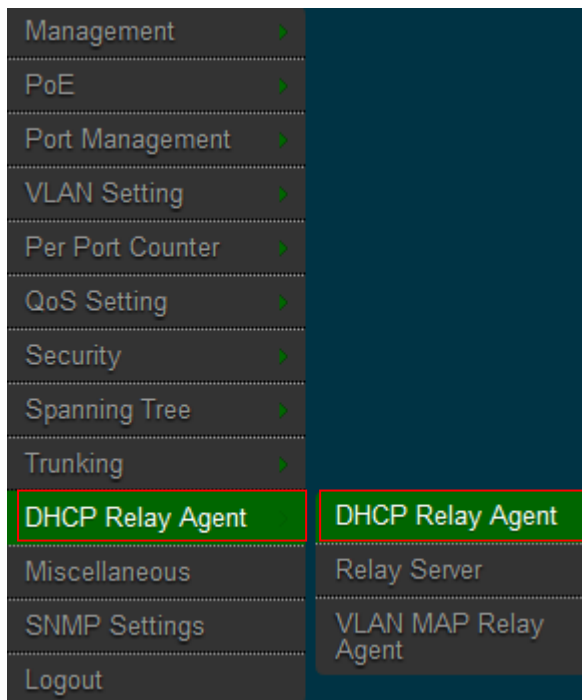
12. DHCP Relay Agent

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="Update"/>	

- **DHCP Relay State:** Administrator can select Disable or Enable for DHCP Relay function.
- **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

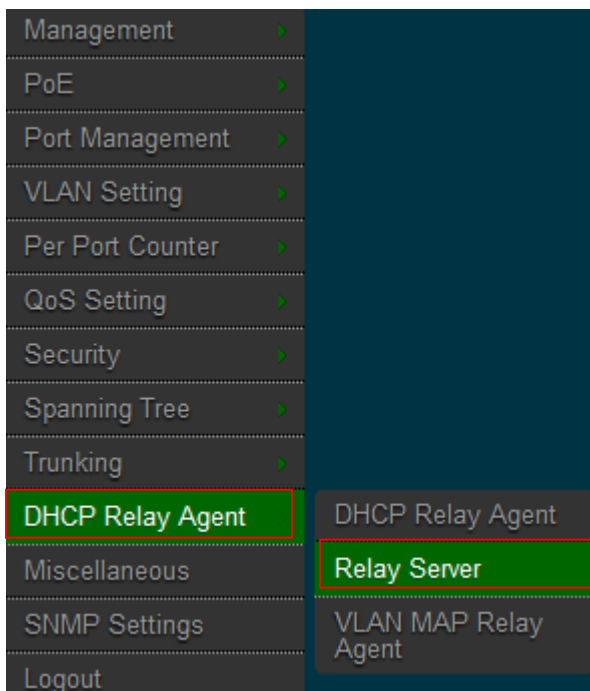
Your DHCP server must be configured to accept DHCP option 82. If the server is not configured for DHCP option 82, the server does not use the DHCP option 82 information in the requests sent to it when it formulates its reply messages

Please click **“Update”** to confirm and finish the setting.

12.2 Relay Server

If administrator enable DHCP Relay Agent function then must enter DHCP Server IP address in Page.

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



- **DHCP Server IP:** Please enter IP address for DHCP Relay agent
Please click “add” to confirm and add IP address.

DHCP Server IP List	
192.168.2.1	DEL

- **DEL:** Click DEL the button will delete IP address for DHCP Server.

12.3 VLAN MAP Relay Agent

This VLAN MAP Relay Agent function allows configuring VLAN MAP Relay Agent Settings.
Please click **DHCP Relay Agent** → **VLAN MAP Relay Agent**

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent**
 - DHCP Relay Agent
 - Relay Server
 - VLAN MAP Relay Agent**
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

- **ID:** Please Enter VLAN ID number.
- **Map Server IP:** If administrator set the completed of Relay Server function, administrator can select IP address for the Map server IP.

Please click “**add**” to confirm and add IP address.

MAP List		
VLAN ID	Server IP	Action
100	192.168.2.1	<input type="button" value="DEL"/>

13. Miscellaneous Setting

The function administrator can setting Aging time / VLAN Striding / and IGMP Snooping etc.
Please click “**Miscellaneous**”

Management	➤
PoE	➤
Port Management	➤
VLAN Setting	➤
Per Port Counter	➤
QoS Setting	➤
Security	➤
Spanning Tree	➤
Trunking	➤
DHCP Relay Agent	➤
Miscellaneous	
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 packetbuffer, resulting in the poor utilization of the buffer and the poor switch performance.

- **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

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.

- **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

IGMP Snooping:

IGMP Snooping V1 & V2 function enable

IGMP Leave Packet:

Leave packet will be forwarded to IGMP router ports.

- **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								
Port 01 Uplink <input type="checkbox"/>	Port 02 Uplink <input type="checkbox"/>	Port 03 Uplink <input type="checkbox"/>	Port 04 Uplink <input type="checkbox"/>	Port 05 Uplink <input type="checkbox"/>	Port 06 Uplink <input type="checkbox"/>	Port 07 Uplink <input type="checkbox"/>	Port 08 Uplink <input type="checkbox"/>	Port 09 Uplink <input type="checkbox"/>
Port 10 Uplink <input type="checkbox"/>								
<p>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.</p>								

- **VLAN Uplink Setting:** Set “uplink1 or uplink2” or “Clear uplink1” or “Clear uplink2”

Please click “**Update**” 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.

- Management >
- PoE >
- Port Management >
- VLAN Setting >
- Per Port Counter >
- QoS Setting >
- Security >
- Spanning Tree >
- Trunking >
- DHCP Relay Agent >
- Miscellaneous
- SNMP Settings**
- Logout

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

Please click “**Update**” to confirm and finish the setting.

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

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

Please click “**Update**” to confirm and finish the setting.

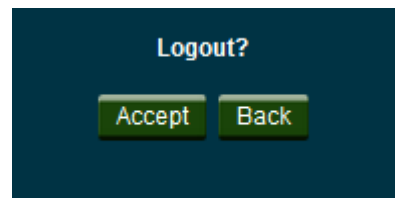
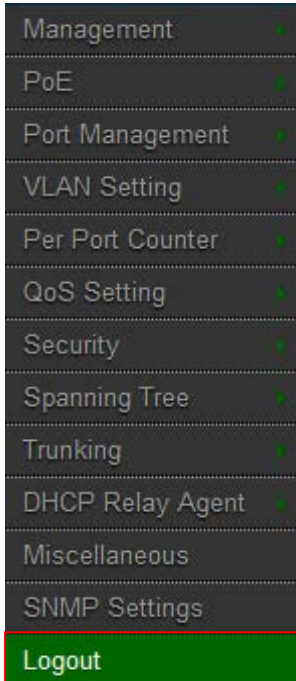
SNMP Trap Settings	
Trap State	Disable ▾
Enable Trap Server	Disable ▾
Trap Server Address	<input type="text"/>
Trap Server Status	–

- **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.

Please click “**Update**” to confirm and finish the setting.

15. Logout

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



Specifications

Standards & Hardware Specifications

IEEE 802.3 10Base-T
IEEE 802.3u 100Base-TX,
IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-SX/LX
IEEE 802.3x Flow Control

Standards Conformance

IEEE 802.3az EEE
IEEE 802.1p QoS
IEEE 802.1Q VLAN Tag
IEEE 802.3ad Link Aggregation
IEEE 802.3af Power over Ethernet (15.4 Watt PoE+)
IEEE 802.3at Power over Ethernet Plus (30 Watt PoE+)
8ports RJ-45 connectors for 10/100 BASE-TX and PSE/ PoE function

Port Configuration

2 port Gigabit Combo SFP/ RJ-45

Media Access Protocol

CSMA / CD

Network Media

10BASE –T: UTP Cat. 3 or up,
100BASE-TX: UTP Cat. 5 or up,
1000BASE-T: UTP Cat. 5 or up

Transmission Method

Store and Forward

MAC Address Table

4K

Built-in Buffer

2.75Mb

Data Transfer Rate

10/100Mbps (Half-duplex), 20/200Mbps (Full-duplex)
1000Mbps (Half-duplex), 2000Mbps (Full-Duplex)

Auto MDI/MDIX

Yes
Fast ETH : Per Port:(Link / ACT): Status * 8 ,
Fast ETH : PoE Status* 8,
Gigabit ETH : 10/100M Speed * 2 ,

LED Indicators

Gigabit ETH : 10/100/1000M Speed * 2 ,
Gigabit SFP Link : Status * 2 ,
Per Unit: Power* 1
Per Unit: SYS* 1

Internal Bus Speed

5.6Gbps

Switch Specifications

Link Aggregation

up to 3 groups: ports 1-4, ports 5-8, and ports 9-10

Priority Queue	IEEE Class of Service (3 Queues)
Port Mirror	Supported
Bandwidth Control	Supported
Spanning Tree(STP)	Supported
Rapid Spanning Tree(RSTP)	Supported
IGMP Snooping	v1 and v2
MAC Filtering	Supported
DHCP Relay Agent	Supported
VLAN	IEEE802.1Q Tagging VLAN , Port-Based ,Tag based VLAN
SNMP	V1 / v2c supported
POE Scheduling Control	Supported

Environmental & Mechanical Characteristics

PoE Power Budget	54V2.7A for 130Watt (shared) for all PoE ports
Power Consumption	12V/1A for 9 Watt (max. with no PoE Device connected)
Power Type	Power cord: Internal Power supply
Power Requirement	AC 100~240VAC, 50-60Hz Auto-sensing
Operating Temperature	0° to 40° C
Storage Temperature	-40° to 70° C
Operating Humidity	10% to 90% non-condensing
Storage Humidity	10% to 90% non-condensing
Dimension (W x D x H)	330 x 44 x 230 mm
Weight	1.645Kg
Certification	FCC, CE, RoHS-compliant