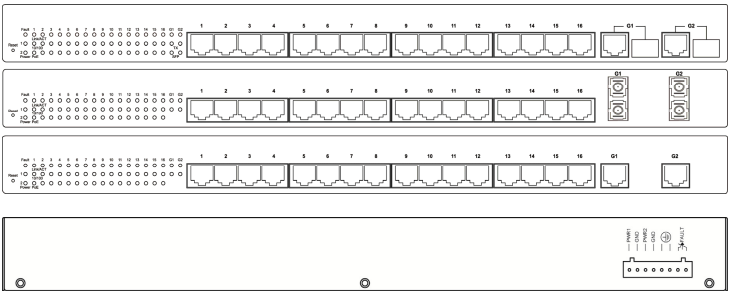
Quick Start Guide

This quick start guide describes how to install and use the Hardened Web-Smart PoE (Power over Ethernet) Ethernet Switch. Port and LED number will vary on different models. This user's manual will only use EX49162 to cover all models.

Physical Description

The Port Status LEDs and Power Inputs



LED	State	Indication
Power1 Power2	Steady	Power on.
	Off	Power off.
Fault	Steady	Power redundant system failure occurred.
	Off	Power redundant system failure is not occurred.
10/100Base-TX		
Link/ACT	Steady	A valid network connection established.
	Flashing	Transmitting or receiving data. ACT stands for ACTIVITY.
10/100	Steady	Valid port connection at 100Mbps.
	Off	Valid port connection at 10Mbps.
PoE	Steady	Powered device (PD) is connected.
	Off	Powered device (PD) is disconnected.

LED	State	Indication
Gigabit Ethernet		
Link/ACT	Steady	A valid network connection established.
	Flashing	Transmitting or receiving data. ACT stands for ACTIVITY.
TX	Steady	A valid TX connection established.
	Off	No valid TX connection established.
SFP	Steady	A valid SFP connection established.
	Off	No valid SFP connection established.

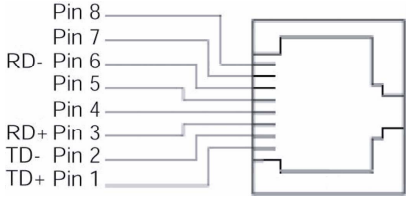
DC Terminal Block Power Inputs: There are two pairs of power inputs can be used to power up this switch. Redundant power supplies function is supported.

Power Input Assignment			
Power2	+	47-57VDC	Terminal Block
	−	Power Ground	
Power1	+	47-57VDC	
	−	Power Ground	
⏚		Earth Ground	
Relay Output Rating			1A @ 24VDC

The 10/100Base-TX (PoE) and Gigabit Ethernet Connectors

1. The 10/100Base-TX (PoE) Connections

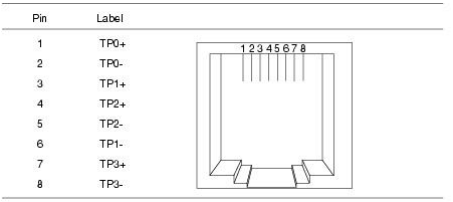
The following lists the pinouts of 10/100Base-TX ports.



Pin	Signal Name	Signal Definition
1	TD＋	Output Transmit Data ＋
2	TD－	Output Transmit Data －
3	RD＋	Input Receive Data ＋
4	PoE	Positive (VCC＋)
5	PoE	Positive (VCC＋)
6	RD－	Input Receive Data －
7	PoE	Negative (VCC－)
8	PoE	Negative (VCC－)

2. The 1000Base-T Connections

The following lists the pinouts of 1000Base-T ports.



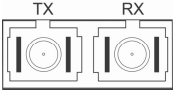
Pin	Signal Name	Signal Definition
1	TP0＋	Transmit and Receive Data 0 ＋
2	TP0－	Transmit and Receive Data 0 －
3	TP1＋	Transmit and Receive Data 1 ＋
4	TP2＋	Transmit and Receive Data 2 ＋
5	TP2－	Transmit and Receive Data 2 －
6	TP1－	Transmit and Receive Data 1 －
7	TP3＋	Transmit and Receive Data 3 ＋
8	TP3－	Transmit and Receive Data 3 －

3. The SFP Socket Connections

The SFP socket for Gigabit fiber optic expansion.

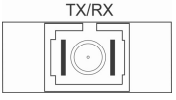
4. The 1000Base-SX/LX Connections

The fiber port pinouts: The Tx (transmit) port of device I is connected to the Rx (receive) port of device II, and the Rx (receive) port of device I to the Tx (transmit) port of device II.



5. The WDM 1000Base-BX Connections

The fiber port pinouts: Only one optical fiber is required to transmit and receive data.



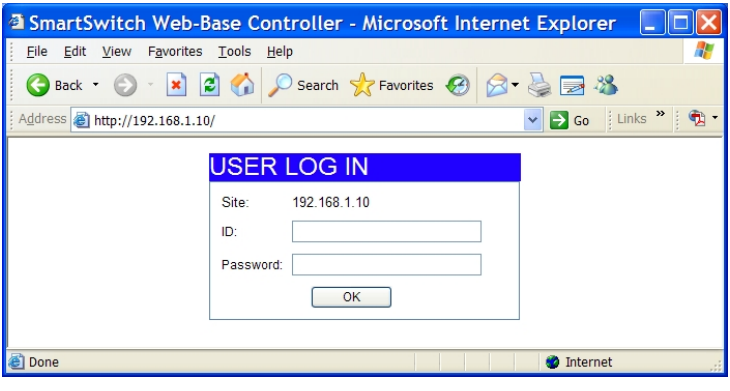
Functional Description

- Meets NEMA TS2 Environmental requirements such as temperature, shock, and vibration for traffic control equipment.
- Meets EN61000-6-2 & EN61000-6-4 EMC Generic Standard Immunity for industrial environment.
- Manageable via Web browser interface.
- Supports IEEE802.3at Power over Ethernet (PoE) Power Sourcing Equipment (PSE).
- Up to Max. 16 IEEE802.3at compliant PoE PSE (30W) ports.
- 2 Gigabit SFP combo ports.
- 1000Mbps-Full-duplex, 10/100Mbps-Full/Half-duplex. Auto-Negotiation, Auto-MDI/MDIX.
- Supports 4096 MAC addresses. Provides 2.25M bits memory buffer.
- Alarms for power and port link failure by relay output.
- Power Supply: Redundant 55VDC Terminal Block power inputs.
- Device power consumption: 15W Max. (without PoE). PoE power budget: 480W Max.
- -40℃ to 75℃ (-40℉ to 167℉) operating temperature range.

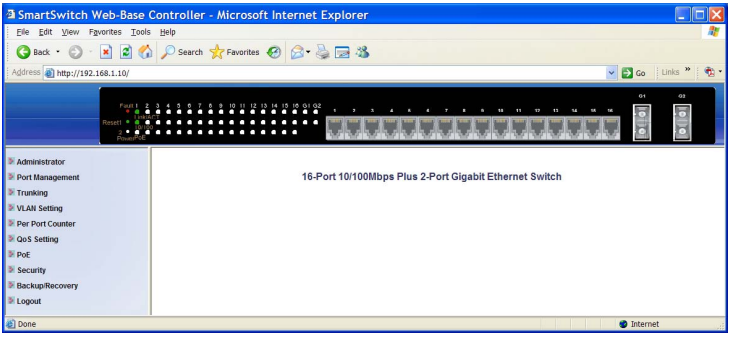
- Supports Rack Mounting installation.

Web Configuration

- Login the switch:
  Specify the default IP address (192.168.1.10) of the switch in the web browser. A login window will be shown as below:



- Enter the factory default user name: admin.
  Enter the factory default password: admin.
  Then click on the “OK” button to log on to the switch.



Preface

This manual describes how to install and use the Hardened Web-Smart PoE Ethernet Switch. This switch introduced here is designed to deliver full scalability with web-based management functions. Capable of operating at temperature extremes of -40℃ to +75℃, this is the switch of choice for harsh environments.

Port 1 to port 16 on this Switch supports IEEE802.3at Power over Ethernet (PoE) Power Sourcing Equipment (PSE) and can detect an IEEE802.3at compliant Powered Device (PD). Using external 47~57VDC power inputs through Terminal Block, data and power can be transmitted to a Powered Device (PD) over the same twisted-pair Ethernet cable through port 1 to port 16 on the Switch.

To get the most out of this manual, you should have an understanding of Ethernet networking concepts.

In this manual, you will find:

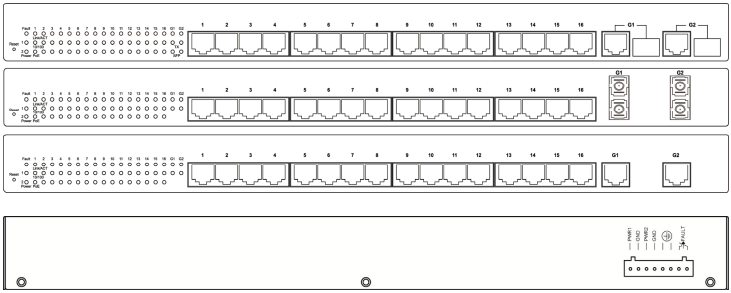
Features on the Hardened Web-Smart PoE Ethernet Switch

- Illustrative LED functions
- Installation instructions
- Management Configuration
- Specifications

Table of Contents

Product Overview

Hardened Web-Smart PoE Ethernet Switch



Front and Back View

Package Contents

When you unpack the product package, you shall find the items listed below. Please inspect the contents, and report any apparent damage or missing items immediately to your authorized reseller.

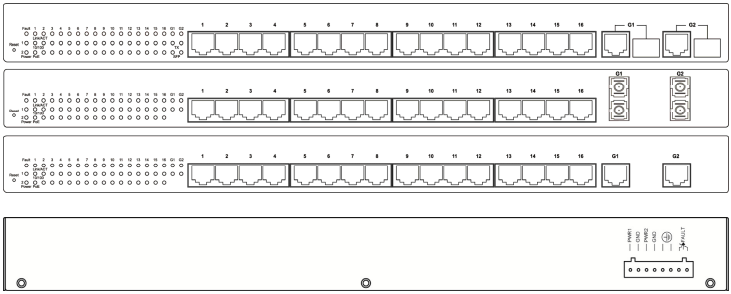
- The Hardened Web-Smart PoE Ethernet Switch
- User's Manual

Product Highlights

Basic Features

- Meets NEMA TS2 Environmental requirements such as temperature, shock, and vibration for traffic control equipment.
- Meets EN61000-6-2 & EN61000-6-4 EMC Generic Standard Immunity for industrial environment.
- Manageable via Web browser interface.
- Supports IEEE802.3at Power over Ethernet (PoE) Power Sourcing Equipment (PSE).
- Up to Max. 16 IEEE802.3at compliant PoE PSE (30W) ports.
- 2 Gigabit SFP combo ports.
- 1000Mbps-Full-duplex, 10/100Mbps-Full/Half-duplex. Auto-Negotiation, Auto-MDI/MDIX.
- Supports 4096 MAC addresses. Provides 2.25M bits memory buffer.
- Alarms for power and port link failure by relay output.
- Power Supply: Redundant 55VDC Terminal Block power inputs.
- Device power consumption: 15W Max. (without PoE). PoE power budget: 480W Max.
- -40℃ to 75℃ (-40℉ to 167℉) operating temperature range.
- Supports Rack Mounting installation.

Front Panel Display



- Power (Power1, Power2)

This LED comes on when the switch is properly connected to power and turned on.

- Port Status LEDs

The LEDs are located on the front panel, displaying status for each respective port. Please refer to the following table for more details.

LED	**State**	**Indication**
Power1 Power2	Steady	Power on.
	Off	Power off.
Fault	Steady	Power redundant system failure occurred.
	Off	Power redundant system failure is not occurred.
10/100Base-TX		
Link/ACT	Steady	A valid network connection established.
	Flashing	Transmitting or receiving data. ACT stands for ACTIVITY.
10/100	Steady	Valid port connection at 100Mbps.
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	Off	Powered device (PD) is disconnected.

LED	State	Indication
Gigabit Ethernet		
Link/ACT	Steady	A valid network connection established.
	Flashing	Transmitting or receiving data. ACT stands for ACTIVITY.
TX	Steady	A valid TX connection established.
	Off	No valid TX connection established.
SFP	Steady	A valid SFP connection established.
	Off	No valid SFP connection established.

Physical Ports

This switch series provides different combinations of RJ-45 copper and fiber ports as below:

- 16 x 10/100Base-TX PoE ports + 2 x Gigabit Ethernet ports
- 12 x 10/100Base-TX PoE ports + 2 x Gigabit Ethernet ports
- 8 x 10/100Base-TX PoE ports + 2 x Gigabit Ethernet ports

CONNECTIVITY

- RJ-45 connectors
- SC or ST connector on 1000Base-SX/LX fiber port.
- SC connector on 1000Base-BX fiber port.
- SFP socket connection on 1000Base-SX/LX/BX fiber port.

<Note> Different product model supports different type of fiber connector.

Switch Management

Web-based browser interface

The switch also boasts a point-and-click browser-based interface that lets user access full switch configuration and functionality from a Netscape or Internet Explorer browser.

Installation

This chapter gives step-by-step instructions about how to install the switch:

Selecting a Site for the Switch

As with any electric device, you should place the switch where it will not be subjected to extreme temperatures, humidity, or electromagnetic interference. Specifically, the site you select should meet the following requirements:

-The ambient temperature should be between -40℃ to 75℃ (-40℉ to 167℉).

-The relative humidity should be less than 95 percent, non-condensing.

-Surrounding electrical devices should not exceed the electromagnetic field (RFC) standards.

-Make sure that the switch receives adequate ventilation. Do not block the ventilation holes on each side of the switch.

-The power outlet should be within 1.8 meters of the switch.

Connecting to Power

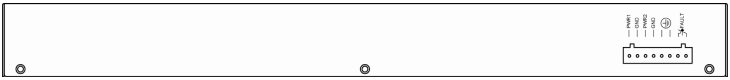
Redundant DC Terminal Block Power Inputs:

Redundant DC Terminal Block Power Inputs

There are two pairs of power inputs for use with redundant power sources. You only need to have one power input connected to run the switch.

Step 1: Connect the DC power cord to the plug-able terminal block on the switch, and then plug it into a standard DC outlet.

Step 2: Disconnect the power cord if you want to shut down the switch.



Back View

Alarms for Power and Port Link Failure

There are two pins on the terminal block are used for power failure detection. Use this as a dry contact application to send a signal for power failure detection.

Power Input Assignment			
Power2	+	47-57VDC	Terminal Block
	−	Power Ground	
Power1	+	47-57VDC	
	−	Power Ground	
⏚		Earth Ground	
Relay Output Rating			1A @ 24VDC

Connecting to Your Network

Cable Type & Length

It is necessary to follow the cable specifications below when connecting the switch to your network. Use appropriate cables that meet your speed and cabling requirements.

Cable Specifications

Speed	**Connector**	**Port Speed Half/Full Duplex**	**Cable**	**Max. Distance**
10Base-T	RJ-45	10/20 Mbps	4-pair UTP/STP Cat. 3, 4, 5	100 m
100Base-TX	RJ-45	100/200 Mbps	4-pair UTP/STP Cat. 5	100 m
1000Base-T	RJ-45	2000 Mbps	4-pair UTP/STP Cat. 5	100 m
1000Base-SX	SC, ST	2000 Mbps	MMF (50 or 62.5µm)	275, 550 m
1000Base-SX	SC	2000 Mbps	MMF (50 or 62.5µm)	2 km
1000Base-LX	SC	2000 Mbps	SMF (9 or 10µm)	10, 20 km
1000Base-BX	SC	2000 Mbps	SMF (9 or 10µm)	20 km

SFP				
1000Base-SX	Duplex LC	2000 Mbps	MMF (50 or 62.5μm)	275 m, 550 m, 2 km
1000Base-LX	Duplex LC	2000 Mbps	SMF (9μm)	10, 20, 40, 70 km
1000Base-BX	Single LC	2000 Mbps	MMF (50 or 62.5μm)	550 m
1000Base-BX	Single LC	2000 Mbps	SMF (9μm)	10, 20 km

Cabling

Step 1: First, ensure the power of the switch and end devices are turned off.

<Note> Always ensure that the power is off before any installation.

Step 2: Prepare cable with corresponding connectors for each type of port in use.

Step 3: Consult Cable Specifications Table on previous section for cabling requirements based on connectors and speed.

Step 4: Connect one end of the cable to the switch and the other end to a desired device.

Step 5: Once the connections between two end devices are made successfully, turn on the power and the switch is operational.

Switch Management

This chapter explains the methods that you can use to configure management access to the switch. It describes the types of management applications and the communication and management protocols that deliver data between your management device (workstation or personal computer) and the system. It also contains information about port connection options.

This chapter covers the following topics:

- Management Access Overview
- Key Concepts
- Key Guidelines for Implementation
- Web Management Access
- Standards, Protocols, and Related Reading

Management Access Overview

The switch gives you the flexibility to access and manage the switch using any or all of the following methods.

The web browser interface support is embedded in the switch software and is available for immediate use.

Web Management

The switch provides a browser interface that lets you configure and manage the switch remotely.

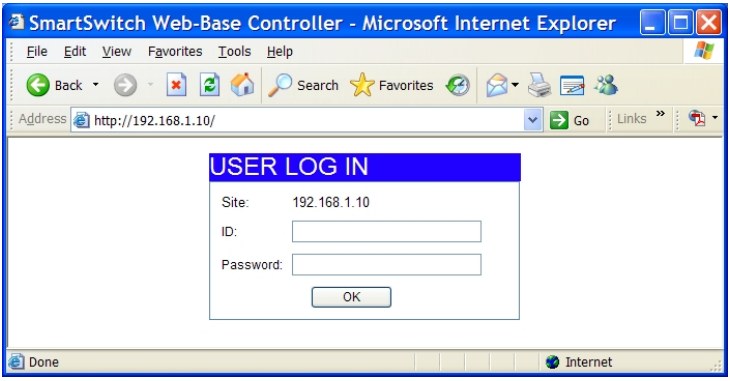
After you set up your IP address for the switch, you can access the switch's web interface applications directly in your web browser by entering the IP address of the switch. You can then use your web browser to list and manage switch configuration parameters from one central location, just as if you were directly connected to the switch's console port.

Web-Based Browser Management

The switch provides a web-based browser interface for configuring and managing the switch. This interface allows you to access the switch using a preferred web browser.

This chapter describes how to configure the switch using its web-based browser interface.

Logging on to the switch



SWITCH IP ADDRESS
In your web browser, specify the IP address of the switch. Default IP address is 192.168.1.10.

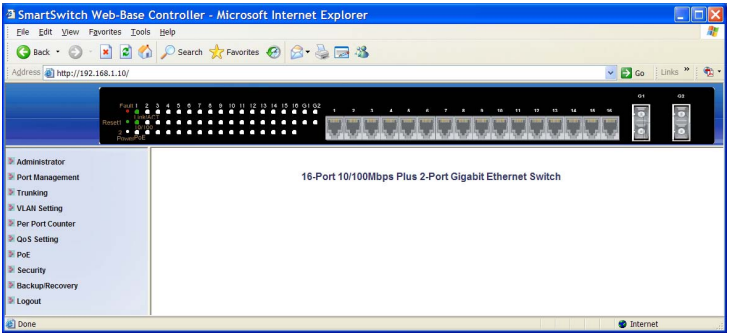
USER NAME
Enter the factory default user name: admin.

PASSWORD
Enter the factory default password: admin.
Or enter a user-defined password if you followed the instructions later and changed the factory default password.

Then click on the “OK” button to log on to the switch.

Understanding the Browser Interface

The web browser interface provides groups of point-and-click buttons at the left field of the screen for configuring and managing the switch.



Administrator
Authentication Configuration, System IP Configuration, System Status, Load Default Setting, Firmware Update, Reboot Device

Port Management
Port Configuration, Port Mirroring, Bandwidth Control, Broadcast Storm Control, Port Alarm Setting

Trunking
Port Trunking

VLAN Setting
VLAN Mode, VLAN Member Setting, Multi to 1 Setting

Per Port Counter
Port Counter

QoS Setting
Priority Mode, Port Based, 802.1p, IP/DS

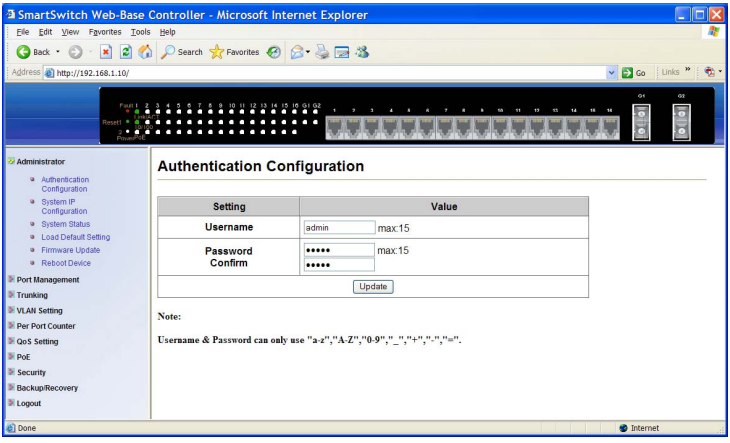
PoE
PoE System Setting, PoE Port Setting, PoE Scheduling

Security
MAC Address Binding

Backup/Recovery

Logout

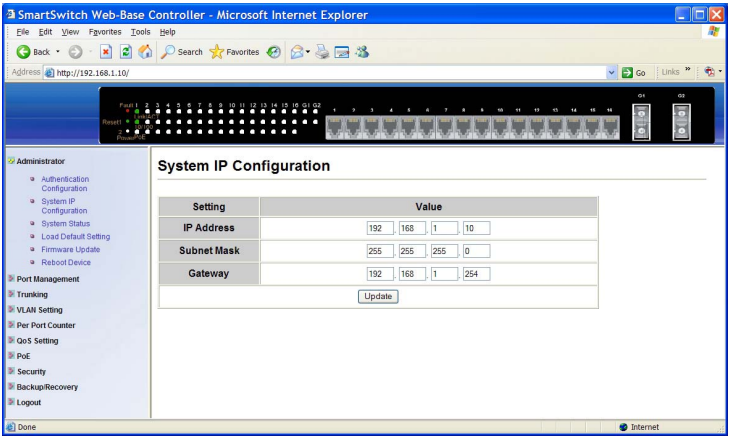
Administrator



Authentication Configuration

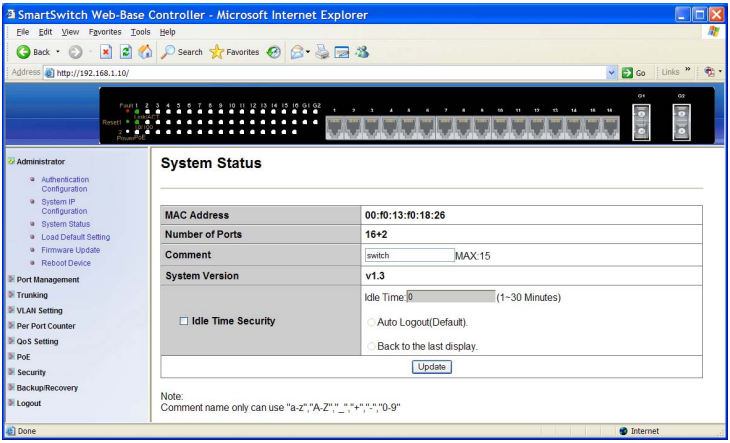
1. Username: Click in “Username” text box and type in a new username.
2. Password: Click in “Password” text box and type in a new password.
3. Confirm: Click in “Confirm” text box. Type the same password in “Password” text box again to verify it.
4. Update: Click “Update” button to update your settings.

<Note> Username & Password can only use “a-z”, “A-Z”, “0-9”, “_”, “＋”, “－”, and “＝”.



System IP Configuration

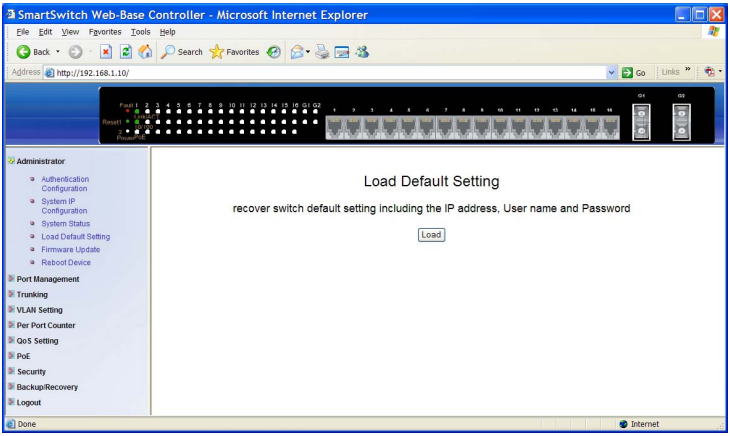
1. IP Address: Click in “IP Address” text box and type a new address to change the IP Address.
2. Subnet Mask: Click in “Subnet Mask” text box and type a new address to change the Subnet Mask.
3. Gateway: Click in “Gateway” text box and type a new address to change the Gateway.
4. Update: Click “Update” button to update your settings.



System Status

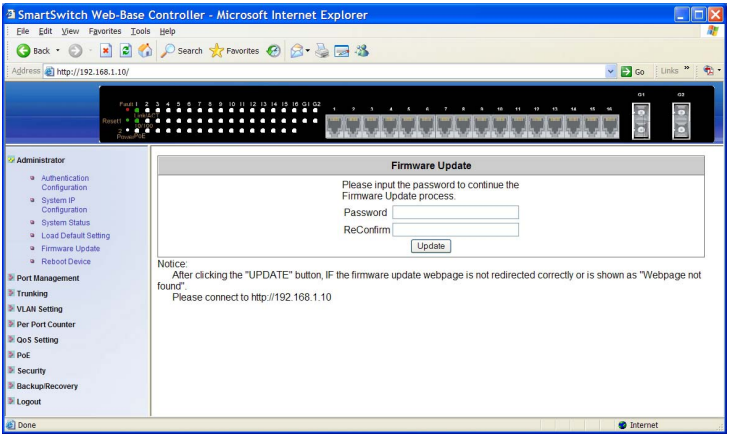
1. Comment: Click in “Comment” text box and type a new comment for this Switch.
2. Idle Time Security: Click and choose “Idle Time Security” to enable or disable protection security for managing the Switch after a period of idle time.
3. Idle Time (1~30 Minutes): Click in “Idle Time” text box and type an idle time. This is for protection security to manage the Switch after a period of idle time.
4. Auto Logout (Default): Click and choose “Auto Logout” to automatically log the user out after a period of idle time. And this is the default setting for Idle Time Security.
5. Back to the last display: Click and choose “Back to the last display” to back to the last displayed web screen before a period of idle time.
6. Update: Click “Update” button to update your settings.

<Note> Comment name can only use “a-z”, “A-Z”, “0-9”, “_”, “+”, “－”, and “＝”.



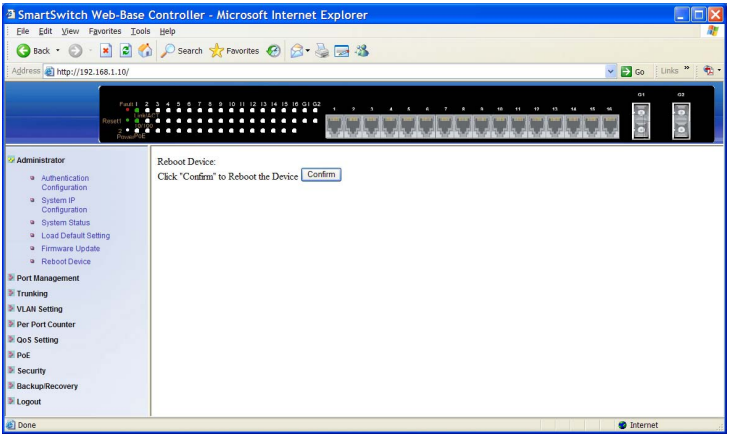
Load Default Setting

Load: Click “Load” button to restore the default setting of the Switch including the IP Address, User Name, and Password.



Firmware Update

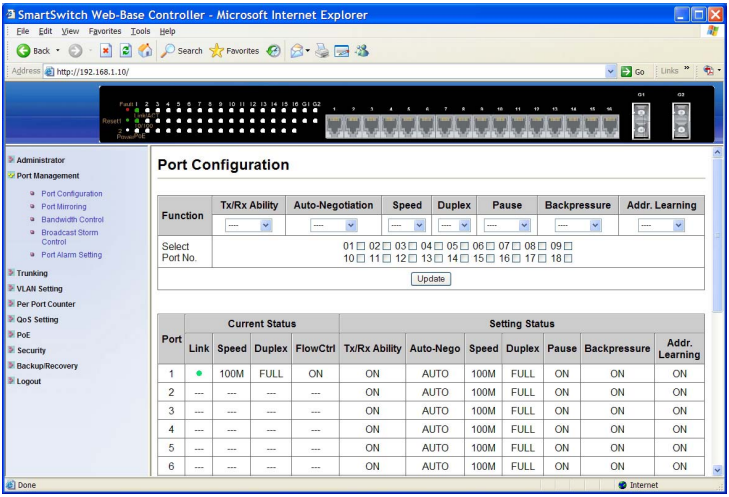
1. Password: Click in “Password” text box and type in the password.
2. ReConfirm: Click in “ReConfirm” text box. Type the same password in “Password” text box again to verify it.
3. Update: Click “Update” button to continue the Firmware Update process.

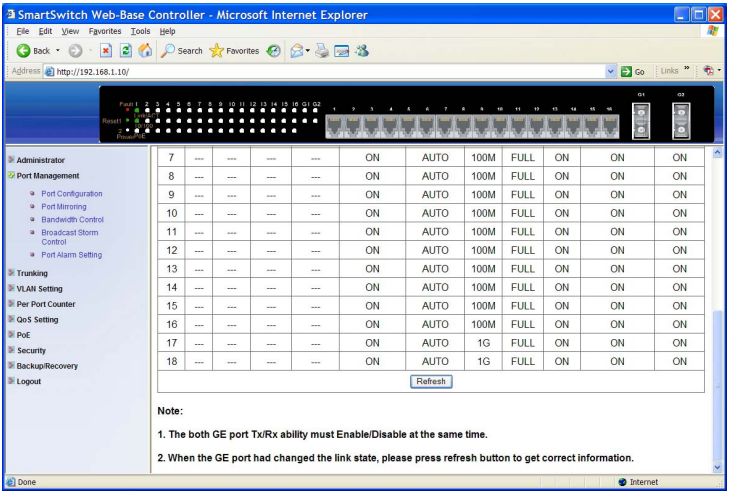


Reboot Device

Confirm: Click “Confirm” button to reboot the Switch.

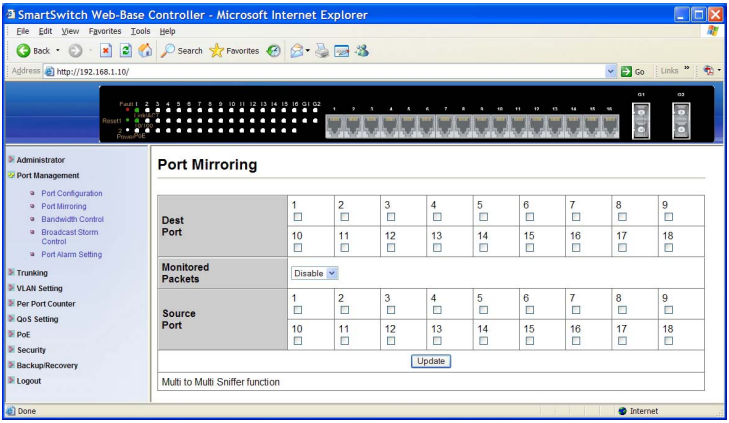
Port Management





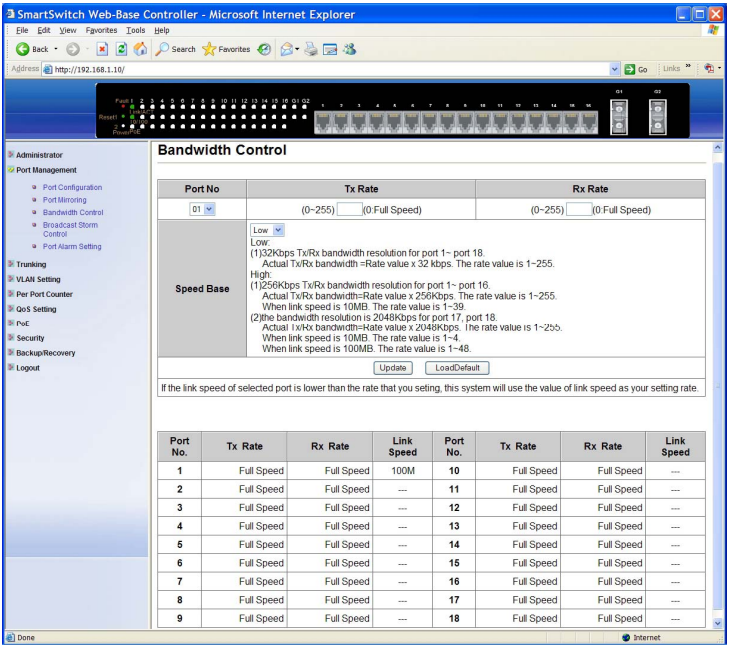
Port Configuration

1. Tx/Rx Ability: Click “Tx/Rx Ability” drop-down menu to choose “Enable” or “Disable” from the “Tx/Rx Ability” drop-down list to enable or disable transmitting/receiving ability for the port.
2. Auto-Negotiation: Click “Auto-Negotiation” drop-down menu to choose “Enable” or “Disable” from the “Auto-Negotiation” drop-down list to enable or disable auto-negotiation for the port.
3. Speed: Click “Speed” drop-down menu to choose “1G”, “100M”, or “10M” from the “Speed” drop-down list to change the line speed for the port.
4. Duplex: Click “Duplex” drop-down menu to choose “Full” or “Half” from the “Duplex” drop-down list to set Full Duplex mode or Half Duplex mode for the port.
5. Pause: Click “Pause” drop-down menu to choose “Enable” or “Disable” from the “Pause” drop-down list to enable or disable pause function for the port.
6. Backpressure: Click “Backpressure” drop-down menu to choose “Enable” or “Disable” from the “Backpressure” drop-down list to enable or disable backpressure function for the port.
7. Addr. Learning: Click “Addr. Learning” drop-down menu to choose “Enable” or “Disable” from the “Addr. Learning” drop-down list to enable or disable MAC address learning function for the port.
8. Select Port No.: By clicking the checking box of the port to select the port to be configured the functions above.
9. Update: Click “Update” button to update your settings.
10. Refresh: Click “Refresh” button to refresh port configuration information.



Port Mirroring

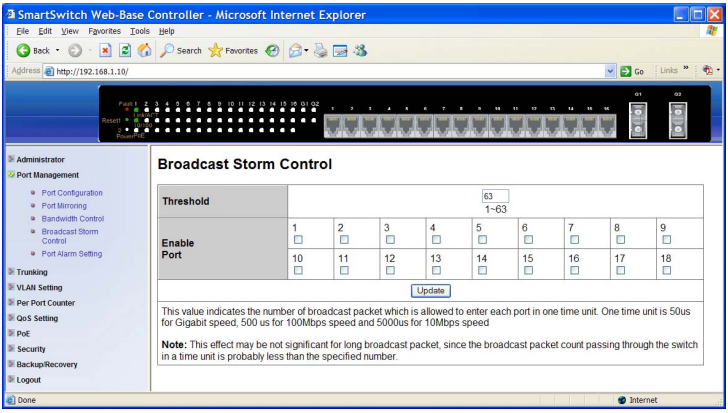
1. Dest Port: By clicking the checking box to select the destination port.
2. Monitored Packets: Click “Monitored Packets” drop-down menu to Choose “Disable”, “Rx”, “Tx”, or “Tx & Rx” from “Monitored Packets” drop-down list.
3. Source Port: By clicking the checking box to select the source port.
4. Update: Click “Update” button to update your settings.



Bandwidth Control

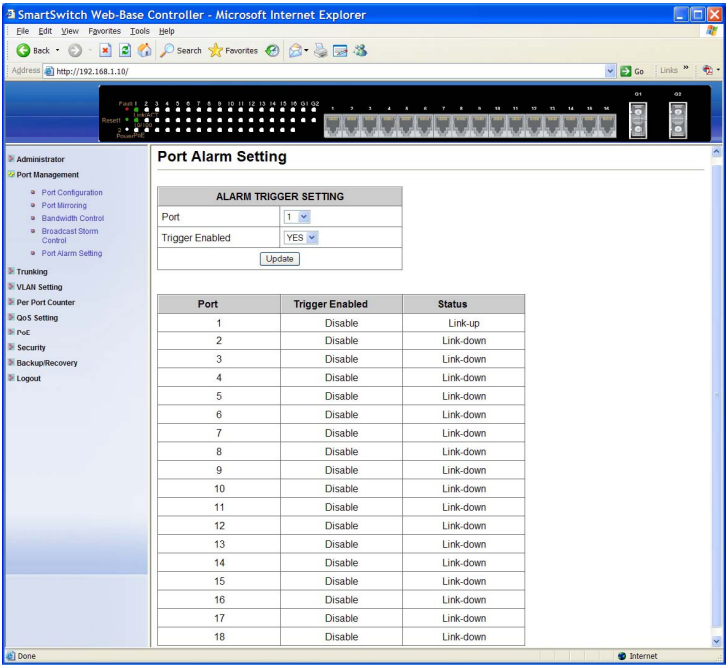
1. Port No: Click “Port No” drop-down menu to choose port from “Port No” drop-down list.
2. TX Rate: Set the transmission rate for the port.
3. RX Rate: Set the receiving rate for the port.
4. Speed Base:
   Low: 32Kbps Tx/Rx bandwidth resolution for port 1 ~ port 18. Actual Tx/Rx bandwidth = Rate value x 32Kbps. The rate value is 1~255.
   High:
   Port 1 ~ port 16: 256Kbps Tx/Rx bandwidth resolution for port 1 ~ port 16. Actual Tx/Rx bandwidth = Rate value x 256Kbps. The rate value is 1~255. The rate value is 1~39 when link speed is 10MB.
   Port 17 ~ port 18: The bandwidth resolution is 2048Kbps for port 17 ~ port 18. Actual Tx/Rx bandwidth = Rate value x 2048Kbps. The rate value is 1~255. The rate value is 1~4 when link speed is 10MB. The rate value is 1~48 when link speed is 100MB.
5. Update: Click “Update” button to update your settings.
6. LoadDefault: Click “LoadDefault” button to load default settings.

<Note> This system will use the link speed as user’s setting if the link speed of selected port is lower than the rate set by user.



Broadcast Storm Control

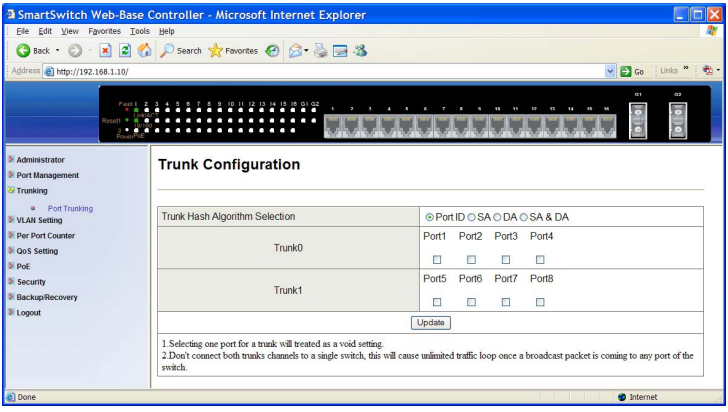
1. Threshold: Set the threshold for port from 1~63.
2. Enable Port: By clicking the checking box to select the port.
3. Update: Click “Update” button to update your settings.



Port Alarm Setting

1. Port: Click “Port” drop-down menu to choose port from the “Port” drop-down list.
2. Trigger Enabled: Click “Trigger Enabled” drop-down menu to choose “YES” or “NO” from the “Trigger Enabled” drop-down list to enable or disable Trigger.
3. Update: Click “Update” button to update settings to the switch.

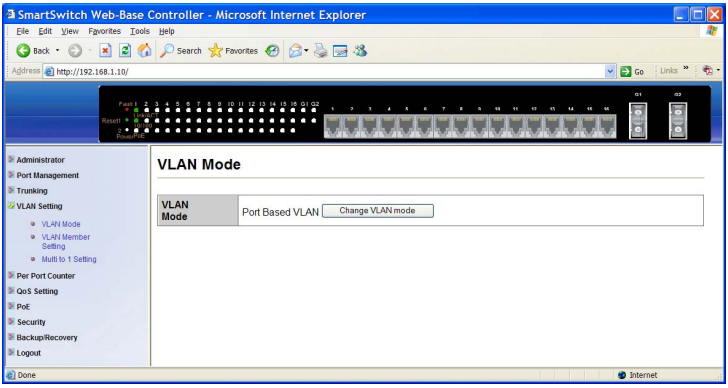
Trunking



Port Trunking

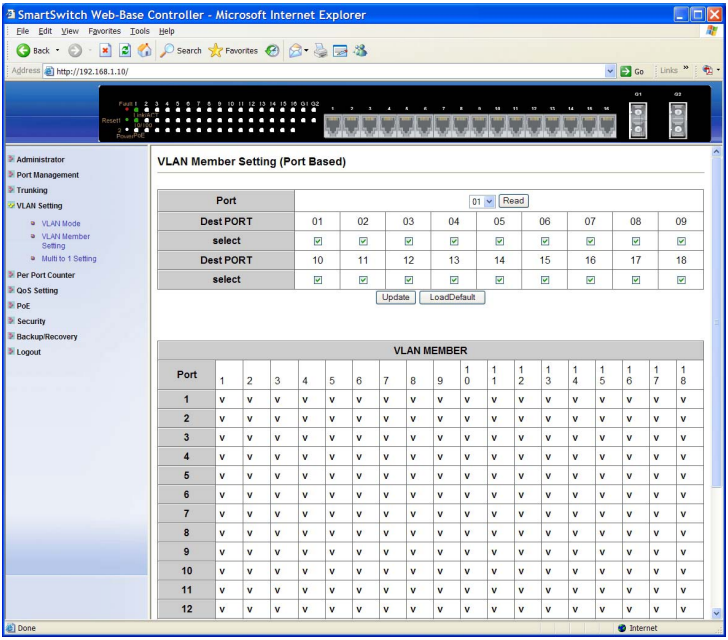
1. Trunk Hash Algorithm Selection: Click and choose “Port ID”, “SA”, “DA”, or “SA & DA” Trunk Hash Algorithm.
2. Trunk0: Click and choose Port1 ~ Port4 to be added into the Trunk0.
3. Trunk1: Click and choose Port5 ~ Port8 to be added into the Trunk1.
4. Update: Click “Update” button to update your settings.

VLAN Setting



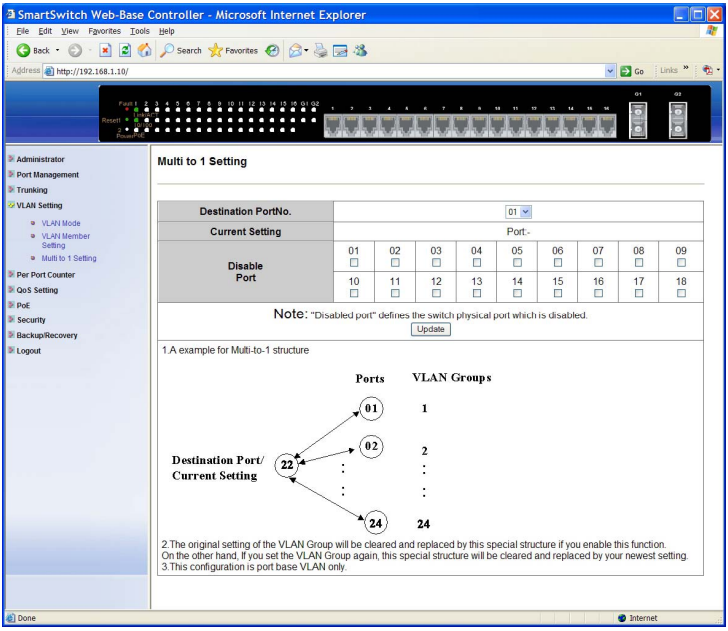
There are two VLAN modes: Port Based VLAN and Tag Based VLAN. Click “Change VLAN mode” to select the mode.

<Note> Tag Based VLAN and Multi to 1 setting function will be disabled automatically if the Port Based VLAN function is enabled.



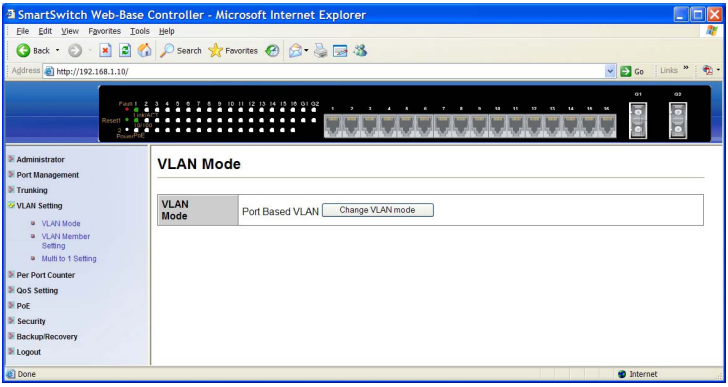
VLAN Member Setting (Port Based)

1. Port: Click “Port” drop-down menu to choose port from the “Port” drop-down list.
2. Read: Click “Read” button to read the VLAN member setting information of the port.
3. Dest PORT: Click and choose ports to be added to VLAN member.
4. Update: Click “Update” button to update your settings.
5. LoadDefault: Click “LoadDefault” button to load default settings.

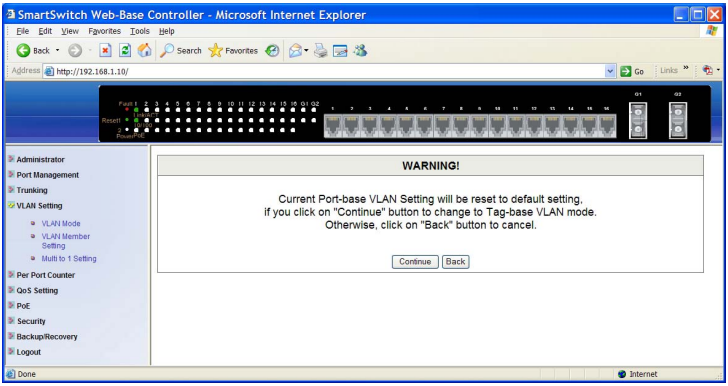


Multi to 1 Setting

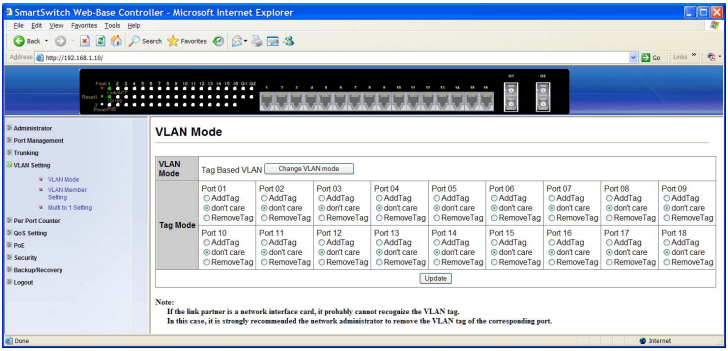
1. Destination PortNo.: Click “Destination PortNo.” drop-down menu to choose destination port from the “Destination PortNo.” drop-down list.
2. Disable Port: Click and choose the port which you don’t want to use.
3. Update: Click “Update” button to update your settings.



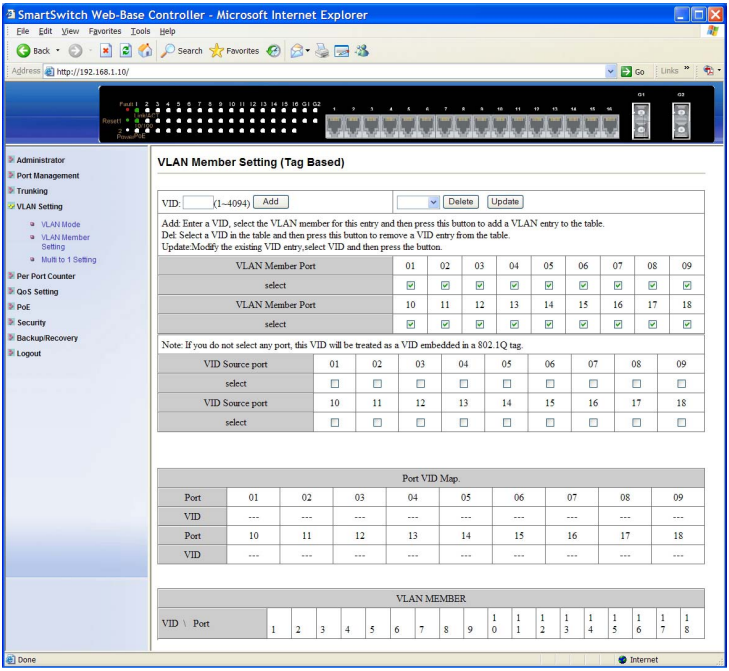
Click “Change VLAN mode” to change to Tag Based VLAN mode.



Change to Tag Based VLAN mode if you click on “Continue” button. Otherwise, click on “Back” button to cancel.



1. Tag Mode: Click and choose “AddTag”, “don’t care”, or “RemoveTag” for ports.
2. Update: Click “Update” button to update your settings.

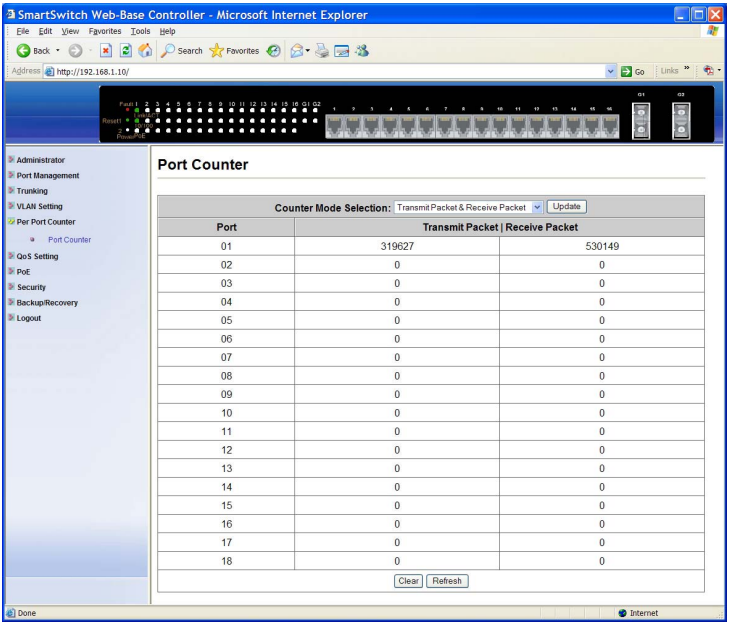


VLAN Member Setting (Tag Based)

1. VID: Enter a VLAN ID entry (1~4094).
2. Add: Press “Add” button to add a VLAN ID entry.
3. VID: Click “VID” drop-down menu to choose VLAN ID entry from the “VID” drop-down list.
4. Delete: Press “Delete” button to remove a selected VLAN ID entry.
5. Update: Click “Update” button to update your settings.
6. VID Source port: Click and choose VLAN ID source port. This VLAN ID will be treated as a VLAN ID embedded in an 802.1Q tag if you don not select any port.

<Note> Please don’t add VLAN tag on your control port.

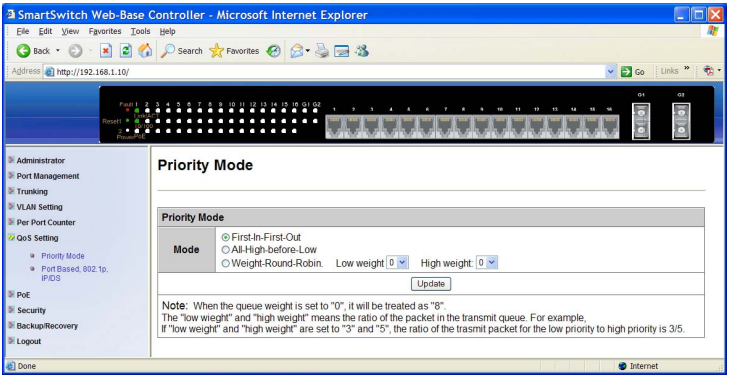
Per Port Counter



Port Counter

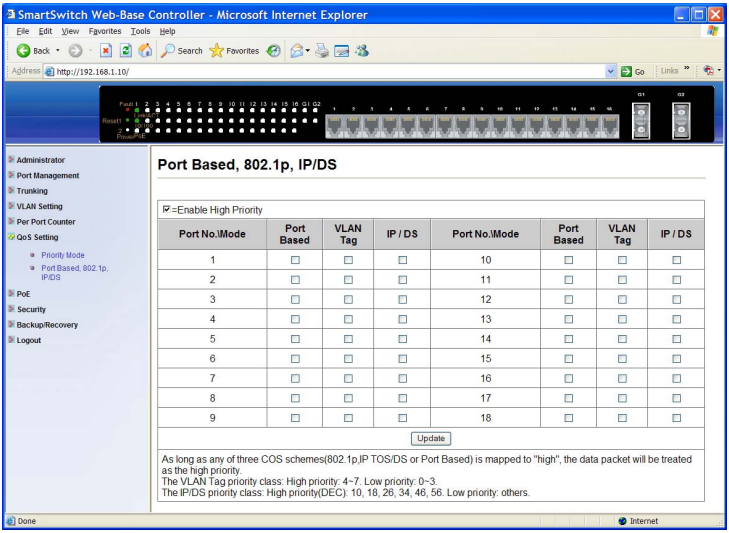
1. Counter Mode Selection: Click “Counter Mode Selection” drop-down menu to choose “Transmit Packet & Receive Packet”, “Collision Count & Transmit Packet”, “Drop Packet & Receive Packet”, or “CRC error Packet & Receive Packet” from the “Counter Mode Selection” drop-down list.
2. Update: Click “Update” button to update your settings.
3. Clear: Click “Clear” button to clear port counter information.
4. Refresh: Click “Refresh” button to refresh port counter information.

QoS Setting



Priority Mode

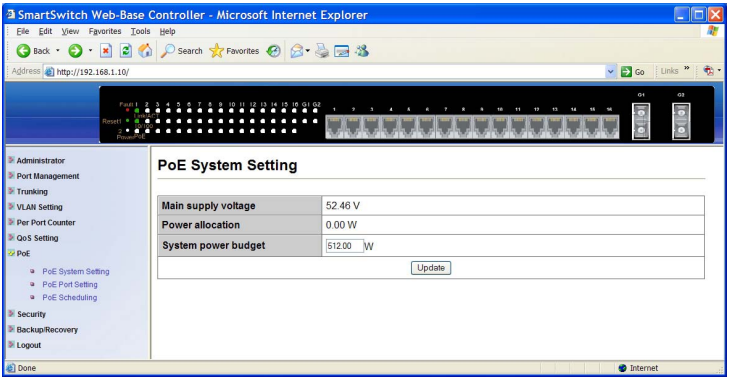
1. First-In-First-Out: First received packet will be transmitted first.
2. All-High-before-Low: Packets set in high priority mode will be transmitted first before packets set in low priority mode.
3. Weight-Round-Robin: Set the ratio of the transmitting packet for the low priority to high priority.
4. Update: Click “Update” button to update your settings.



Port Based, 802.1p, IP/DS

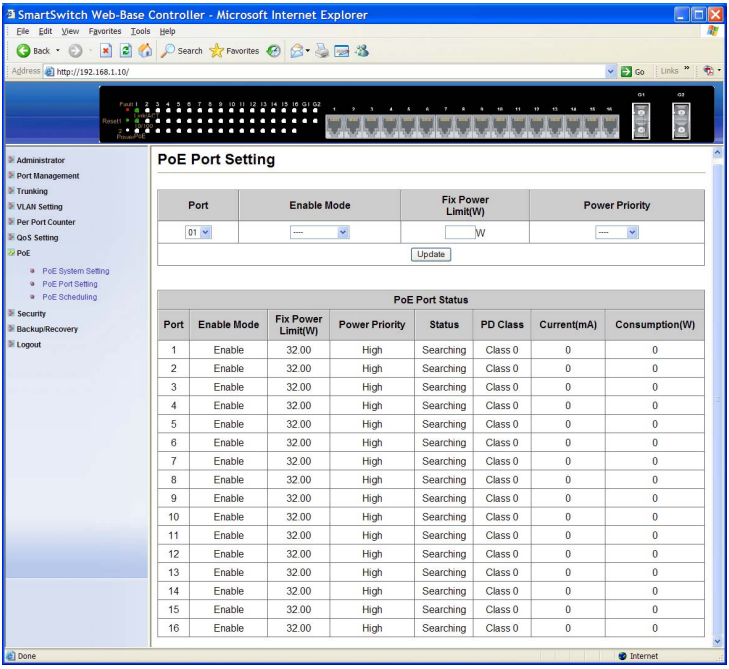
1. Port Based: Click and select the port which you want to configure as high priority. It means the packet of the port will be transmitted first.
2. VLAN Tag: Click and select the port which you want to configure as high priority. The VLAN Tag priority class: High priority: 4~7. Low priority: 0~3.
3. IP/DS: Click and select the port which you want to configure as high priority. The IP/DS priority class: High priority (DEC): 10, 18, 26, 34, 46, 56. Low priority: others.
4. Update: Click “Update” button to update your settings.

PoE



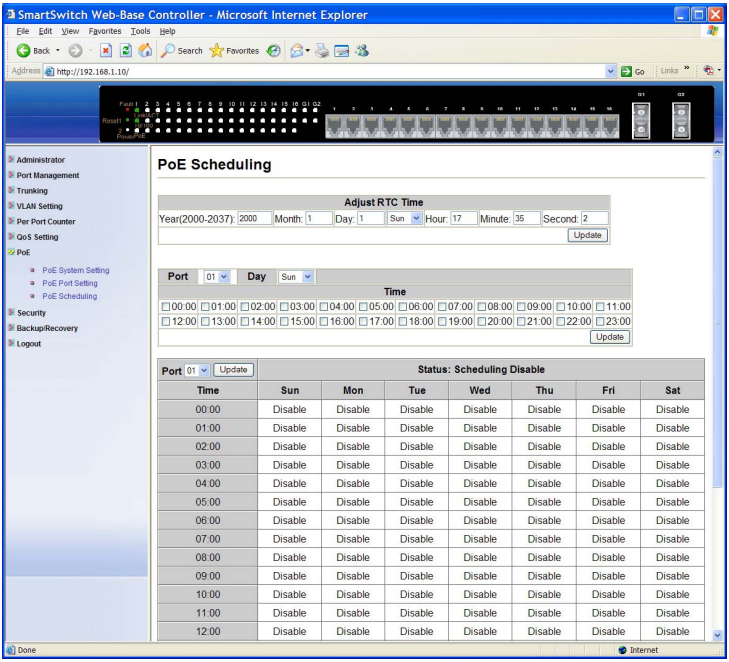
PoE System Setting

1. System power budget: Click in “System power budget” text box and type a new system power budget.
2. Update: Click “Update” button to update your settings.



PoE Port Setting

1. Port: Click “Port” drop-down menu to choose port from the “Port” drop-down list.
2. Enable Mode: Click “Enable Mode” drop-down menu to choose “Enable”, “Disable”, or “Scheduling from the “Enable Mode” drop-down list to enable, disable, or schedule port to discover Powered Device (PD) connected to port of the Switch.
3. Fix Power Limit(W): Click in “Fix Power Limit(W)” text box and type a new fixed power limit for port to provide power to PD.
4. Power Priority: Click “Power Priority” drop-down menu to choose “Low”, “Middle”, or “High” from the “Power priority” drop-down list to determine power priority of port.
5. Update: Click “Update” button to update your settings.



PoE Scheduling

Adjust RTC Time: Adjust system time for this Switch.

1. Year(2000-2037): Click in “Year” text box and specify year 2000 to 2037.
2. Month: Click in “Month” text box and specify 1 to 12.
3. Day: Click in “Day” text box and specify 1 to 31. Click drop-down menu to choose “Mon” to “Sun” from the drop-down list.
4. Hour: Click in “Hour” text box and specify 0 to 23.
5. Minute: Click in “Minute” text box and specify 0 to 59.
6. Second: Click in “Second” text box and specify 0 to 59.
7. Update: Click “Update” button when you finished Adjust RTC Time.

1. Port: Click “Port” drop-down menu to choose port from the “Port” drop-down list.
2. Day: Click “Day” drop-down menu to choose “Mon” to “Sun” from the “Day” drop-down list.
3. Time: Click the “Time” check box to enable PoE scheduling to this port during these time periods.
4. Update: Click “Update” button to update your settings.

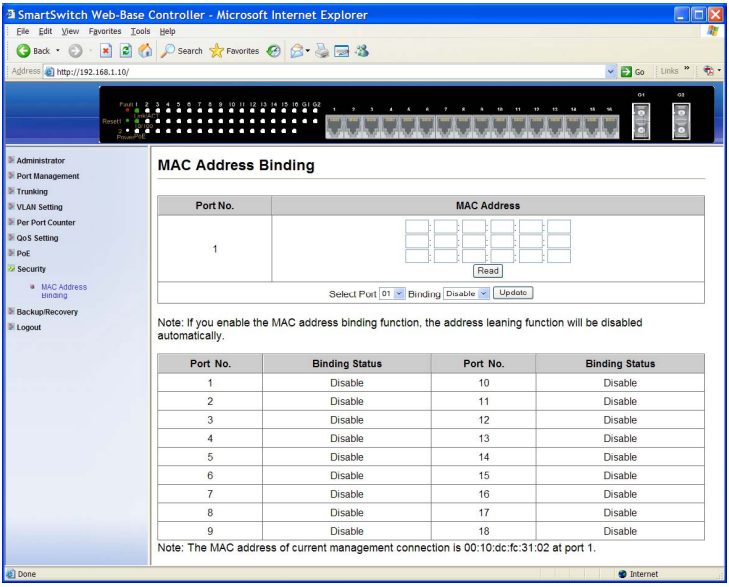
Status

1. Port: Click “Port” drop-down menu to choose port from the “Port”

drop-down list.

2. Update: Click “Update” button to update the PoE Schduling status of this port.

Security

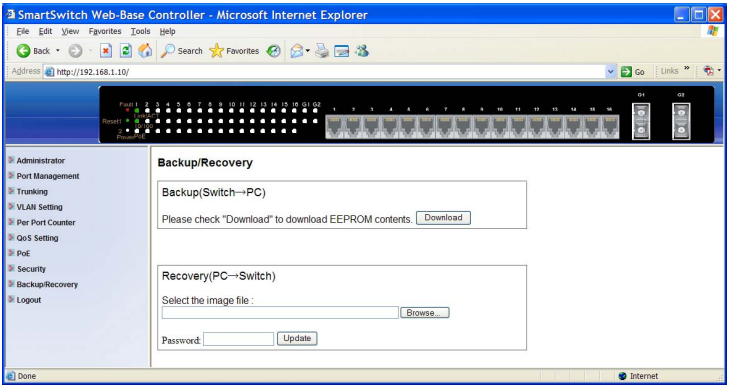


MAC Address Binding

1. MAC Address: Set MAC address to be activated on the selected port.
2. Read: Click “Read” button to read the MAC address binding information of the port.
3. Select Port: Click “Select Port” drop-down menu to choose port from the “Select Port” drop-down list.
4. Binding: Click “Binding” drop-down menu to choose “Enable” or “Disable” from the “Binding” drop-down menu. Click the “Enable” check box to enable Port Security for each port. The MAC address learning function will be disabled for the port automatically if you enable the MAC address binding function.
5. Update: Click “Update” button to update your settings.

<Note> Please don’t enable MAC address binding on your control port.

Backup/Recovery

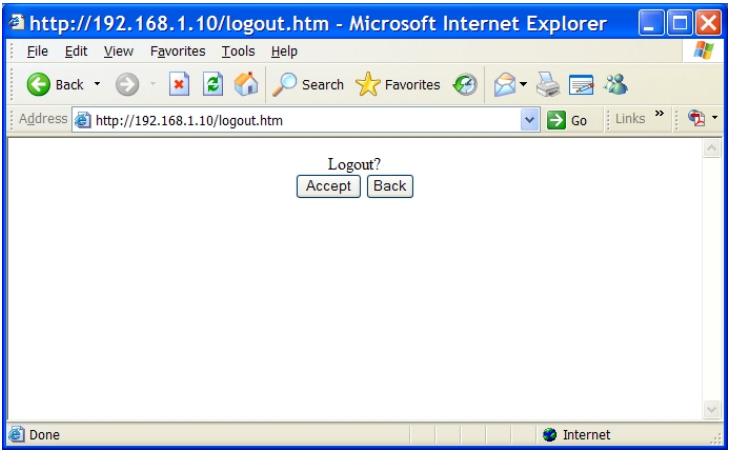


Backup(Switch→PC): Click “Download” button to download EEPROM contents.

Recovery(PC→Switch)

1. Select the image file: Click “Browse” button to select the image file to be recovered to the Switch.
2. Password: Click in “Password” text box and type in the password.
3. Update: Click “Update” button to confirm the recovery process.

Logout



1. Accept: Click “Accept” button to logout of the Switch.
2. Back: Click “Back” button to cancel the logout of the Switch.

Specifications

Applicable Standards	IEEE802.3 10Base-T IEEE802.3u 100Base-TX/FX IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-SX/LX
Switching Method	Store-and-Forward
Forwarding Rate	
10Base-T	10/20Mbps half / full-duplex
100Base-TX	100/200Mbps half / full-duplex
1000Base-T/SX/LX	2000Mbps full-duplex
Performance	14,880pps for 10Mbps 148,810pps for 100Mbps 1,488,100pps for 1000Mbps
Cable	
10Base-T	4-pair UTP/STP Cat. 3, 4, 5 Up to 100m (328ft)
100Base-TX	4-pair UTP/STP Cat. 5 Up to 100m (328ft)
1000Base-T	4-pair UTP/STP Cat. 5 Up to 100m (328ft)
1000Base-SX/LX/BX	MMF (50 or 62.5μm), SMF (9 or 10μm)
LED Indicators	Per unit – Power status (Power1, Power2), Fault Per port – 10/100TX: Link/ACT, 10/100, PoE Gigabit Ethernet: Link/ACT, TX, SFP
Dimensions	442mm (W) x 205mm (D) x 44.2mm (H) (17.4" (W) x 8.07" (D) x 1.73" (H))
Net Weight	3Kg (6.61lbs.)
Power Input	Terminal Block: 55VDC
Operating Voltage & Max. Current Consumption	9A @ 55VDC
Power Consumption	495W Max.
Operating Temperature	-40℃ to 75℃ (-40℉ to 167℉)
Storage Temperature	-40℃ to 85℃ (-40℉ to 185℉)
Humidity	5%-95% non-condensing
EMI	FCC Part 15, Class A EN61000-6-4: EN55022, EN61000-3-2, EN61000-3-3
EMS	EN61000-6-2: EN61000-4-2 (ESD Standard) EN61000-4-3 (Radiated RFI Standards) EN61000-4-4 (Burst Standards) EN61000-4-5 (Surge Standards) EN61000-4-6 (Induced RFI Standards) EN61000-4-8 (Magnetic Field Standards)
Environmental Test Compliance	IEC60068-2-6 Fc (Vibration Resistance) IEC60068-2-27 Ea (Shock) FED STD 101C Method 5007.1 (Free Fall w/ package)
NEMA TS2 Environmental requirements for traffic control equipment	