PLANET
Networking & Communication

User's Manual

FSD-804PS

8-Port 10/100Mbps with
4-Port PoE
Web Smart Ethernet Switch

Trademarks

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 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 radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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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.

WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

PLANET 8-Port 10/100Mbps with 4-Port PoE Web Smart Ethernet Switch User's Manual

FOR MODEL: FSD-804PS

REVISION: 2.0(SEPTEMBER .2007)

Part No.: 2080-A31120-003

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Checklist

Check the contents of your package for following parts:

- FSD-804PS x1
- User's manual CD x1
- Quick installation guide x1
- Power cord x 1
- Rubber feet x 4

If any of these pieces are missing or damaged, please contact your dealer immediately, if possible, retain the carton including the original packing material, and use them against to repack the product in case there is a need to return it to us for repair.

1.2 About the Switch

The FSD-804PS is equipped with unshielded twisted-pair (UTP) cable ports providing dedicated 10 or 100Mbps bandwidth. The FSD-804PS supports MDI/ MDI-X convertible on 8-10/100Mbps ports, also provide PoE inject function on port#1, 2, 3, 4, which is able to drive 4 IEEE 802.3af compliant powered devices. The dual speed ports use standard twisted-pair cabling and are ideal for SOHO or segmenting networks into small. Each 10/100Mbps port can supports up to 200Mbps of throughput in full-duplex mode, the FSD-804PS also provides a simple, cost-effective, and highly reliable network connection for data as well as power. Furthermore, it is the ideal device for bridging among Ethernet, Fast Ethernet workgroups and networks.

With 4 PoE interfaces, the FSD-804PS is ideal for small business and workgroups requiring to deploy the PoE for the wireless access points, IP-based surveillance camera or IP phones in any places easily, efficiently and cost effective.

The front panel of FSD-804PS provides LEDs for easy recognition of the switch operation status and troubleshooting. These LED indicators display the power status for the system, LNK/ACT and speed for each10/100M port. Also the PoE in use LED indicates for PoE ports (port#1 to port#4).

With data and power over Ethernet from one unit, the FSD-804PS shall reduce cables and eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. A wire carries both data and power lowering the installation costs, simplifying the installation effort and eliminating the need for electricians or extension cords. We are also proud of the key feature – energy saving. With more efficient switching power supply, the efficiency of the FSD-804PS would be much better than four linear power adapters in a long run.

The smart functions make it easy to survey and control the PoE power provision to the devices by the Web interface. Basic switching functions such as VLAN, Trunk, QoS are available for network management.

1.3 Features

- 8-Port 10/100Mbps Fast Ethernet ports
- 4-Port support 48VDC power to PoE Powered Device
- Ethernet standards comply with IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet, IEEE 802.3x Flow Control and IEEE 802.3af Power over Ethernet.
- Hardware based 10/100Mbps auto-negotiation
- Flow control for full duplex operation and back pressure for half duplex operation
- Integrates address look-up engine, support 2K absolute MAC addresses
- Automatic address learning and address aging
- Supports Auto MDI/MDI-X function
- LED indicators for easy network diagnostic
- Web management
- VLAN for network segregation

- Port trunk bandwidth aggregation
- Per port High/Low transmission priority configuration
- PoE power Disable/Enable by management interface
- PoE power consumption monitoring
- Supports PLANET Smart-DISCOVERY Utility for deploy management
- EMI standards comply with FCC, CE class A

1.4 Specification

Model	FSD-804PS
Hardware Specification	
Network Connector	8-Port RJ-45 for 10/100TX
PoE Inject Port	4-Port with PoE injector function, Port-1 to Port-4
PoE Output power budget	55 Watts
LED Display	One power, 1-4 port PoE in-use, LNK/ACT, 100, 5-8 port LNK/ACT, 100
Switch Architecture	Store and forward switch architecture
Switch Fabric	1.6Gbps
MAC Address	2K MAC address table with Auto learning function
Throughput	1.19Mbps
Remote power feeding	End-point insert type and compatible with IEEE 802.3af Per port feeding power: 48V DC, 15.4W, 350mA (Maximum) (Pin 1, 2, 3, 6)
Power	AC 100~240V, 50/60Hz,
Power Consumption	Max. 65 watts / 221 BTU
Dimension (W x D x H)	217 x 135 x 43 mm
Weight	1.0 kg
Layer 2 Function	
Management	Web management
VLAN	Port-Based VLAN and IEEE 802.1Q Tag-Based VLAN, up to 8 VLAN groups
Port priority	High/Low
Storm Control	Disable, 10%, 20%, 40%, 4 levels
Port Trunk	Port #7 and #8, fixed
PoE power control	Power provision Enable/Disable, priority configuration, Power Limit
Standard Conformance	
EMI Safety	FCC Class A, CE
Operating environment	0~40 degree C, 10%~95%RH
Storage environment	-40 ~70 degree C, 95% RH
Operating Humidity	5% to 90% , relative humidity, non-condensing
Storage Humidity	5% to 90% , relative humidity, non-condensing
Standard Compliance	IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet, IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet. IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging

2. HARDWARE DESCRIPTION

This product provides two different running speeds – 10Mbps, 100Mbps in the same Switch and automatically distinguishes the speed of incoming connection.

This section describes the hardware features of FSD-804PS. For easier management and control of the Switch, familiarize yourself with its display indicators, and ports. Front panel illustrations in this chapter display the unit LED indicators. Before connecting any network device to the FSD-804PS, read this chapter carefully.

In the following section, the term **"Switch"** means the Switch device, ie. FSD-804PS; term of **"switch"** can be any third switches.

2.1 Front Panel

The Front Panel of the FSD-804PS PoE Web Smart Ethernet Switch consists of 8x Auto-Sensing 10/100Mbps Ethernet RJ-45 Ports. The LED Indicators are also located on the front panel of the FSD-804PS.

Figure 2-1: FSD-804PS Switch front panel

2.1.1 LED indicators

■ **System**

LED	Color	Function
PWR	**Green**	Lights to indicate that the Switch has power.

■ **Per 10/100Mbps port**

LED	Color	Function
PoE in-use	**Green**	Lights to indicate the port is providing 48VDC in-line power. (1-4 ports)
LNK/ACT	**Green**	Lit: indicate the link through that port is successfully established. Blinks to indicate that the Switch is actively sending or receiving data over that port.
100	**Green**	Lights to indicate the port is running in 100Mbps speed.

Notice:

1. Press the RESET button once. The Switch will reboot automatically.
2. Press the RESET button for 5 seconds. The Switch will back to the factory default mode; the entire configuration will be erased.

2.2 Rear Panel

The rear panel of the FSD-804PS indicates an AC inlet power socket, which accepts input power from 100 to 240VAC, 50-60Hz, 1A max. And have a fan hole on the rear panel.

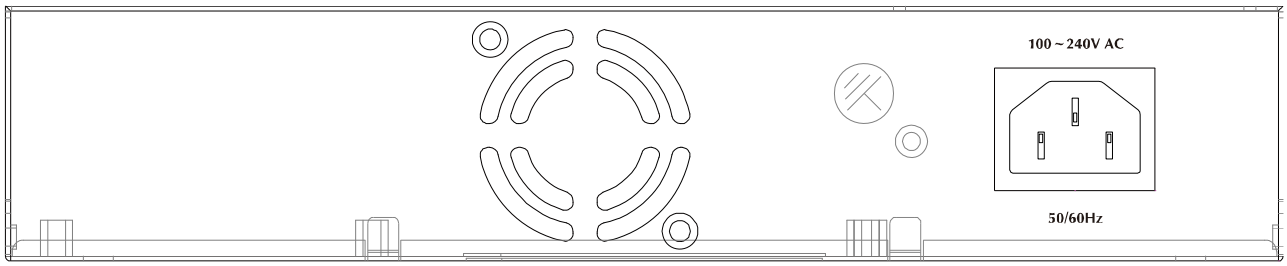


Figure 2-2: FSD-804PS Switch rear panel

Power Notice:

1. The device is a power-required device, it means, it will not work till it is powered. If your networks should active all the time, please consider using UPS (Uninterrupted Power Supply) for your device. It will prevent you from network data loss or network downtime.
2. In some area, installing a surge suppression device may also help to protect your FSD-804PS from being damaged by unregulated surge or current to the FSD-804PS or the power adapter.

2.3 Hardware Installation

2.3.1 Before start up

Before your installation, please refer to the followings for your cabling:

100Base-TX

All 100Base-TX ports come with Auto-Negotiation capability. They automatically support 100Base-TX and 10Base-T networks. Users only need to plug a working network device into one of the 100Base-TX ports, and then turn on the FSD-804PS. The port will automatically runs in 10Mbps, 20Mbps, 100Mbps or 200Mbps after the negotiation with the connected device.

Cabling

Each 10/100Base-TX ports use RJ-45 sockets -- similar to phone jacks -- for connection of unshielded twisted-pair cable (UTP). The IEEE 802.3u Fast Ethernet standard requires Category 5 UTP for 100Mbps 100Base-TX. 10Base-T networks can use Cat.3, 4, or 5 UTP (see table below). Maximum distance is 100meters (328 feet).

Port Type	Cable Type	Connector
10Base-T	Cat 3, 4, 5, 2-pair	RJ-45
100Base-TX	Cat.5 UTP, 2-pair	RJ-45

Any Ethernet devices like hubs/ PCs can connect to the FSD-804PS by using straight-through wires. The eight-10/100Mbps ports are auto-MDI/MDI-X can be used on straight-through or crossover cable.

2.4 Desktop Installation

To install the Switch on desktop, simply follow the next steps:

Step1: Attach the rubber feet to the recessed areas on the bottom of the Switch, as shown in Figure 2-3.

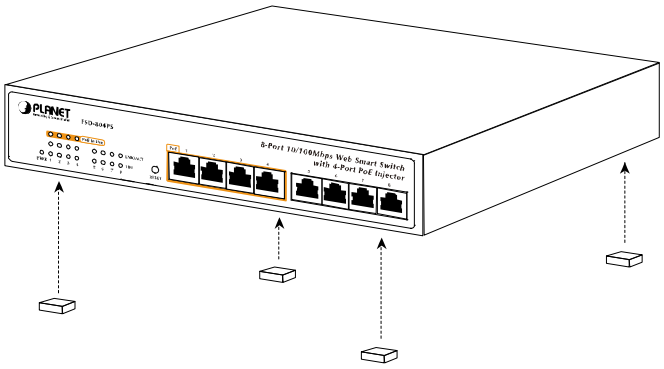


Figure 2-3 Attaching the rubber feet to the Switch

Step2: Place the Switch on desktop near an AC power source.

Step3: Keep enough ventilation space between the Switch and the surrounding objects.

Notice:

When choosing a location, please keep in mind the environmental restrictions discussed in Chapter 1, Section 1.4 Product Specification.

Step4: Connect your Switch to network devices.

A. Connect one end of a standard network cable to the 10/100 RJ-45 ports on the Back of the Switch.

B. Connect the other end of the cable to the network devices such as printer servers, workstations or routers…etc.

Notice:

Connection to the Switch requires UTP Category 5 network cabling with RJ-45 tips. For more information, please see the Cabling Specification in Appendix A.

Step5: Supply power to the Switch.

A. Connect one end of the power cable to the Switch.

B. Connect the power plug of the power cable to a standard wall outlet.

When the Switch receives power, the Power LED should remain solid Green.

2.5 Rack Mounting (Optional Rack Kits)

To install the Switch in a 10-inch or 19-inch standard rack, PLANET provides the optional rack mount kits **RKE-10A** / **RKE-10B** for different need. Follow the instructions described below.

Step1: Place your Switch on a hard flat surface, with the front panel positioned towards your front side.

Step2: Attach a rack-mount bracket to each side of the Switch with supplied screws attached to the package. Figure 2-4 shows how to attach brackets to one side of the Switch.

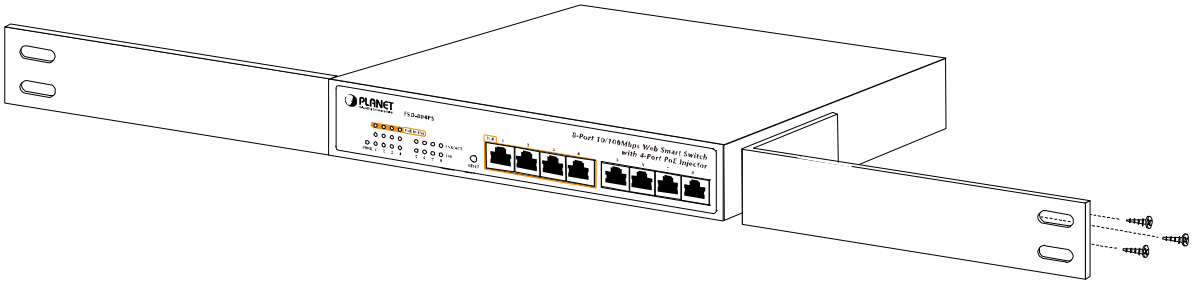


Figure 2-4 Attaching the brackets to the Switch.

Caution:

You must use the screws supplied with the mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

Step3: Secure the brackets tightly.

Step4: Follow the same steps to attach the second bracket to the opposite side.

Step5: After the brackets are attached to the Switch, use suitable screws to securely attach the brackets to the rack, as shown in Figure 2-5.

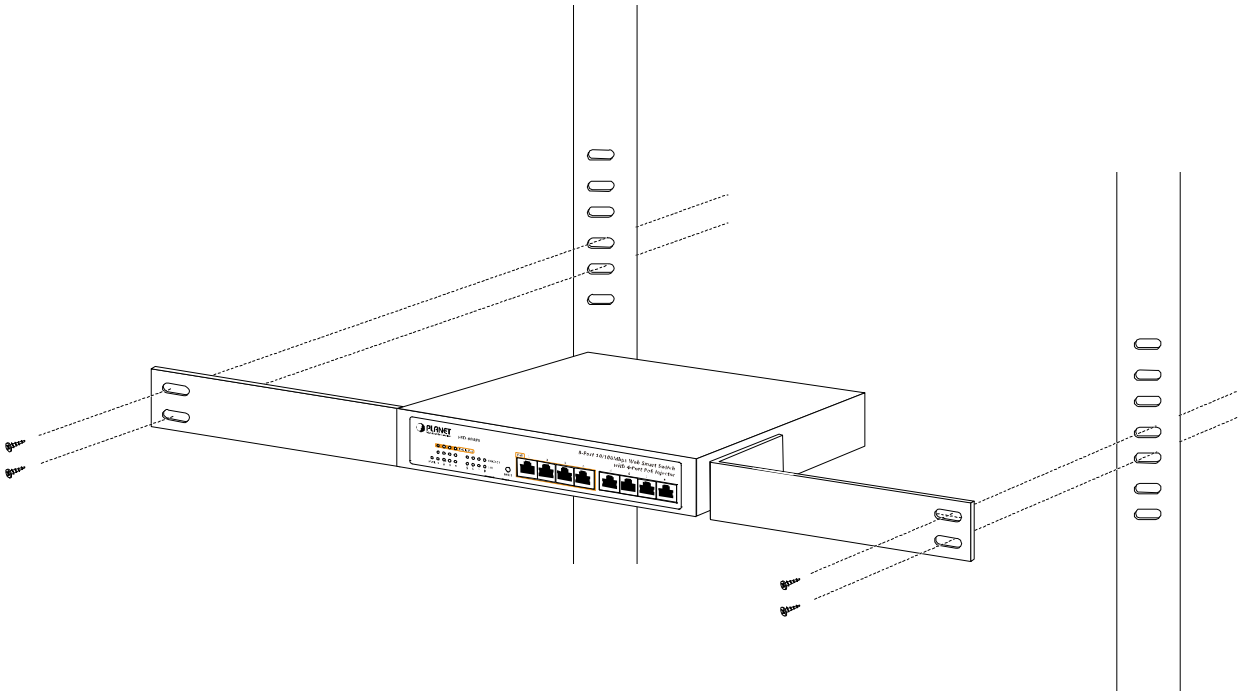


Figure 2-5 Mounting the Switch in a Rack

Step6: Proceeds with the steps 4 and steps 5 of **session 2.4 Desktop Installation** to connect the network cabling and supply power to your Switch.

2.6 Product Application

2.6.1 Connecting end node or Switch

1. Place the FSD-804PS on a smooth surface or fasten the mounting brackets purchased separately with the provided screws in a standard 19" rack.
2. Connect the power cord to the power inlet socket of FSD-804PS and the other end into the local power source outlet. When the Switch receives power, the Power LED should remain solid Green.
3. Connect other switch or PC to one port of the FSD-804PS using Category 3/4/5 UTP/STP cabling.
4. Connect another switch or PC to the other port of FSD-804PS by following the same process as described in Step 3.

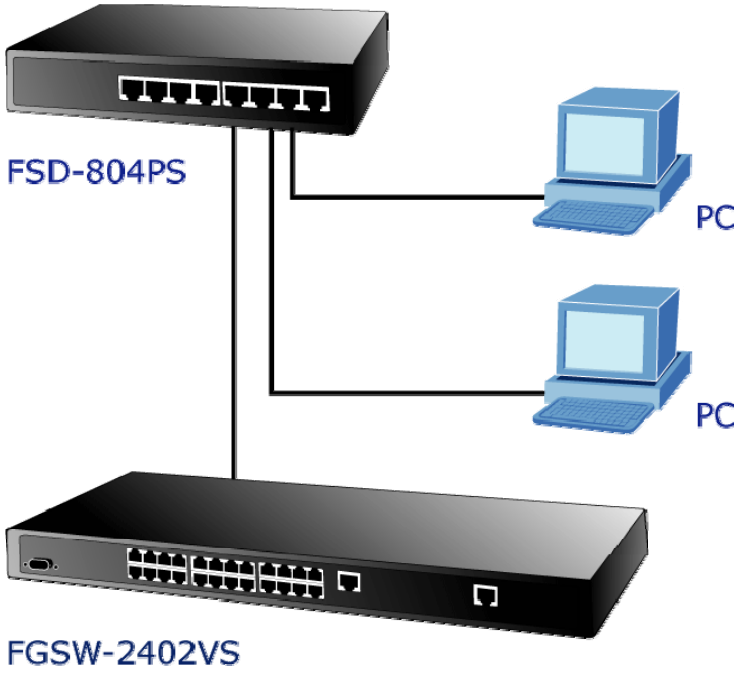


Figure 2-6. End node or Switch connection

Cable distance for Switch

The cable distance between the FSD-804PS and PC should not exceed 100 meter for UTP/STP cable.

Notice:

Make sure the wiring is correct

It can be used Category 3/4/5 cable in 10 Mbps operation. To reliably operate your network at 100Mbps, you must use an Unshielded Twisted-Pair (UTP) Category 5 cable, or better Data Grade cabling. While a Category 3 or 4 cables may initially seem to work, it will soon cause data loss.

2.6.2 As a department / workgroup PoE Switch

Providing up to 4 PoE, in-line power interface, the Switch can easily build a power central-controlled IP phone system, IP Camera system, AP group for the enterprise. For instance, 4 camera / AP can be easily installed around the corner in the company for surveillance demands or build a wireless roaming environment in the office. Without the power-socket limitation, the switch makes the installation of cameras or WLAN AP more easily and efficiently.

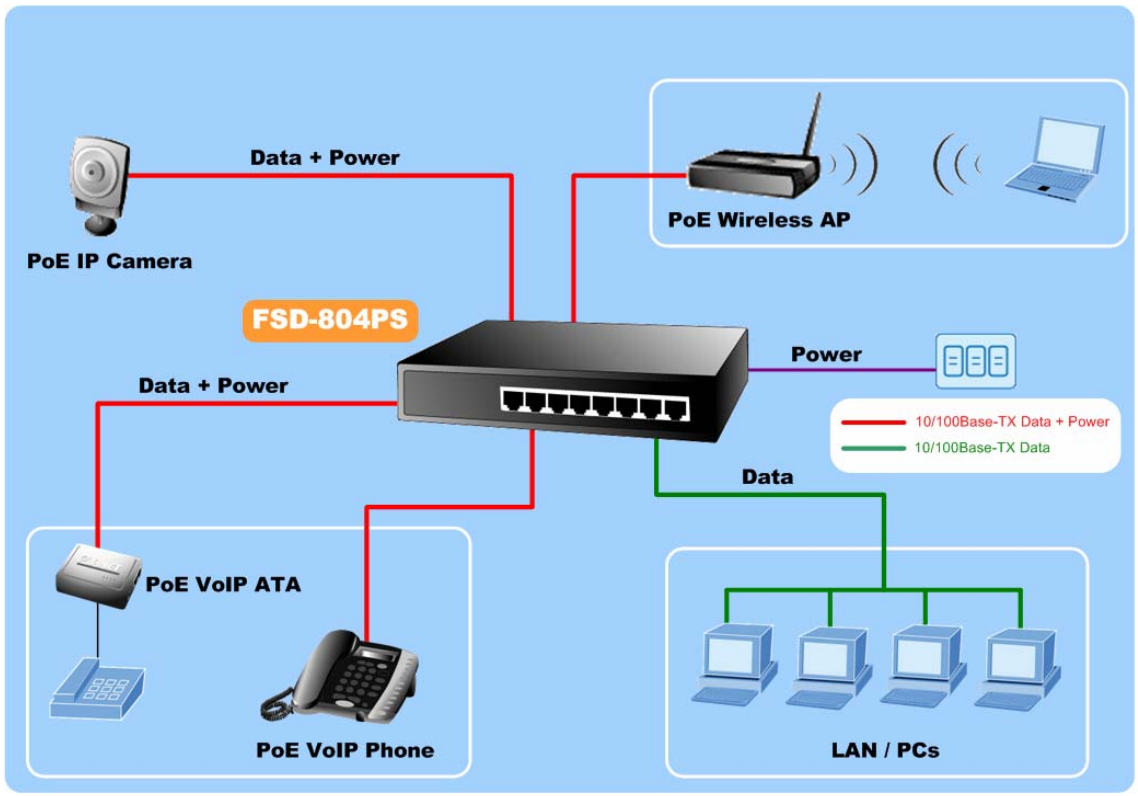


Figure 2-7. PoE Switch connection

3. WEB MANAGEMENT

To modify your PC's IP domain to the same with FSD-804PS then use the default IP address (***192.168.0.100***) to remote configure FSD-804PS through the **Web** interface.

3.1 Login in to the Switch

To access the Web-browser interface you must first enter the user name and password, the default user name and password is **"admin".** You will see the following screen comes out on the Web browser program.

Figure 3-1 The FSD-804PS login screen

After the User name and Password is entered, you will see the web main menu screen.

Figure 3-2 The web main menu screen of FSD-804PS

3-2 Port Status

This section provides current status of each port from FSD-804PS, the screen in Figure 3-3 appears and Table 3-1 describes the port status object of Switch.

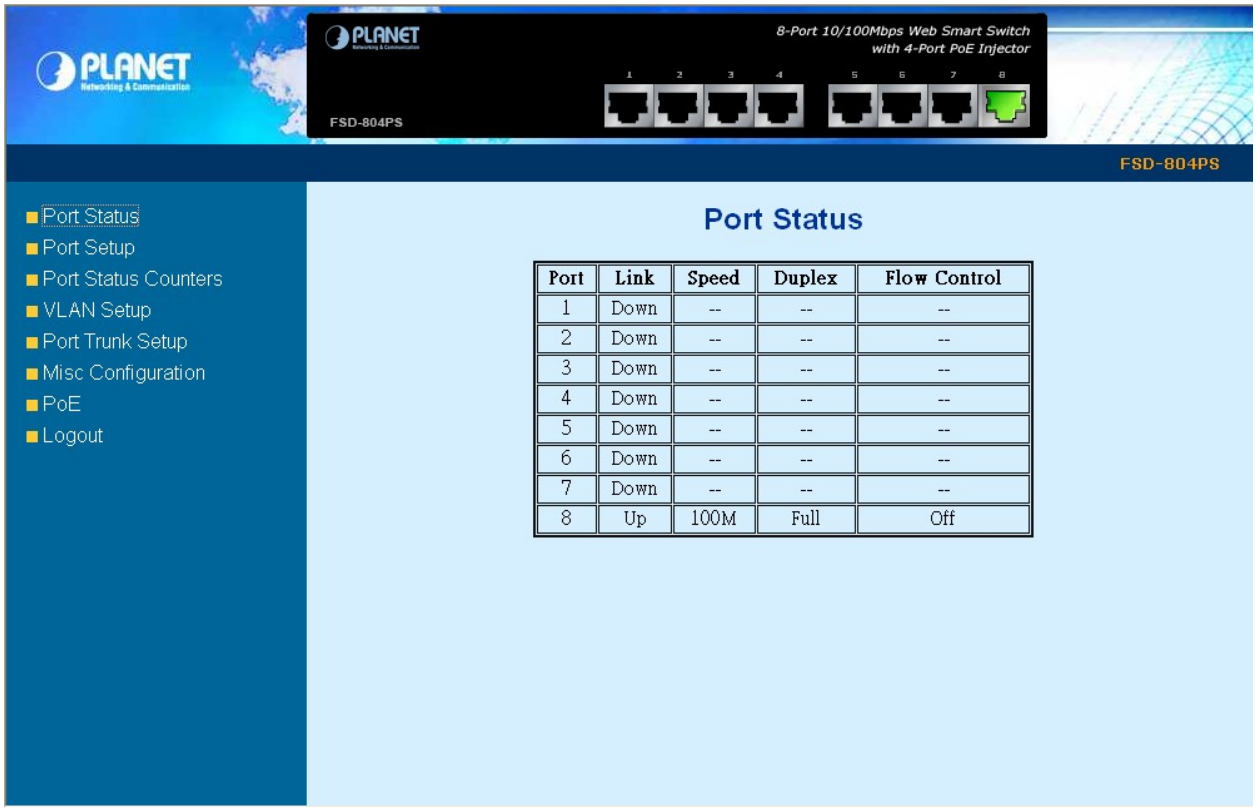


Figure 3-3 Port Status Web Page screen

Object	Description
Port	Indicate port 1 to port 8.
Link	The state of the link, indicating a valid link partner device. **"Up"** means a device is successful connected to the port. **"Down"** means no device is connected.
Speed	Display the **10Mbps or 100Mbps** speed state of each port on FSD-804PS.
Duplex	Display half or full duplex mode of each port on FSD-804PS.
Flow Control	Display the flow control **Disable** or **Enable** state of each port on FSD-804PS.

Table 3-1 Descriptions of the Port Status screen Objects

3-3 Port Setup

This section introduces detail settings of per port of FSD-804PS, the screen in Figure 3-4 appears and table 3-2 descriptions the Port Setup objects of Switch.

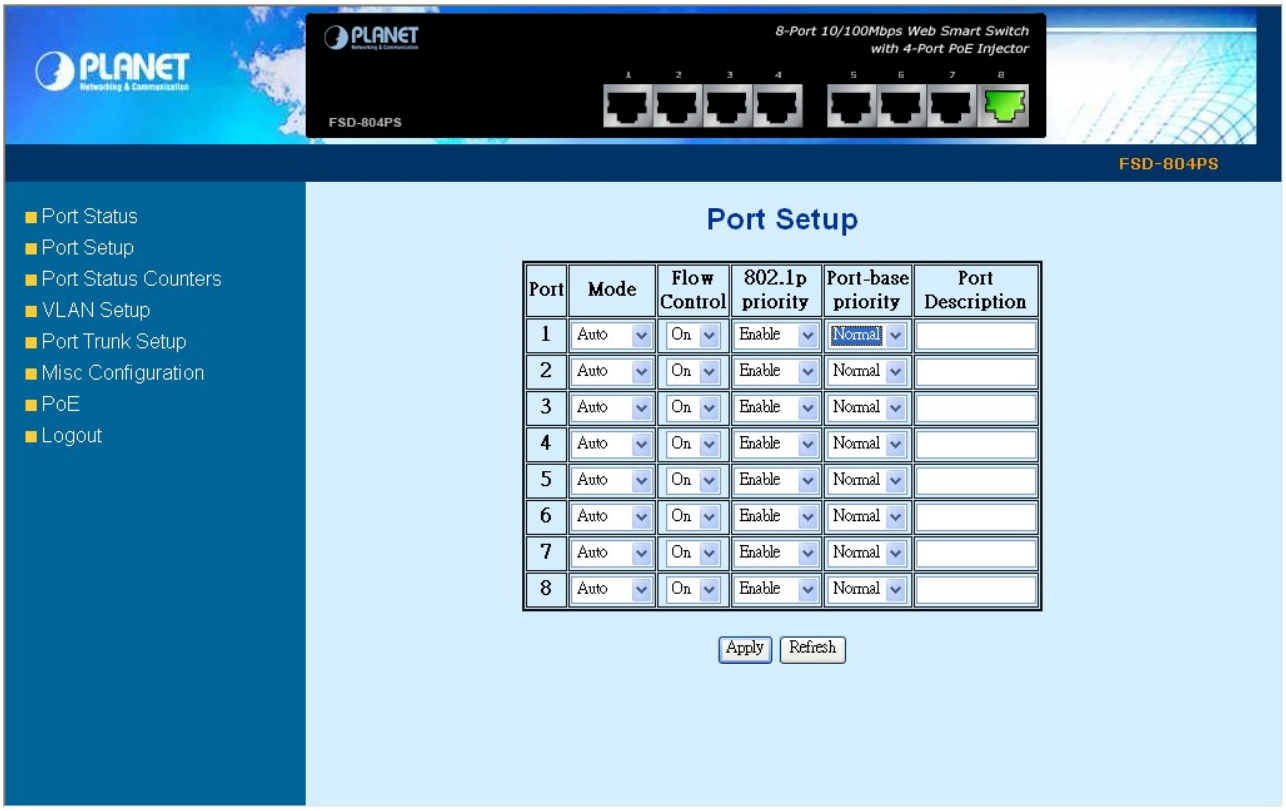


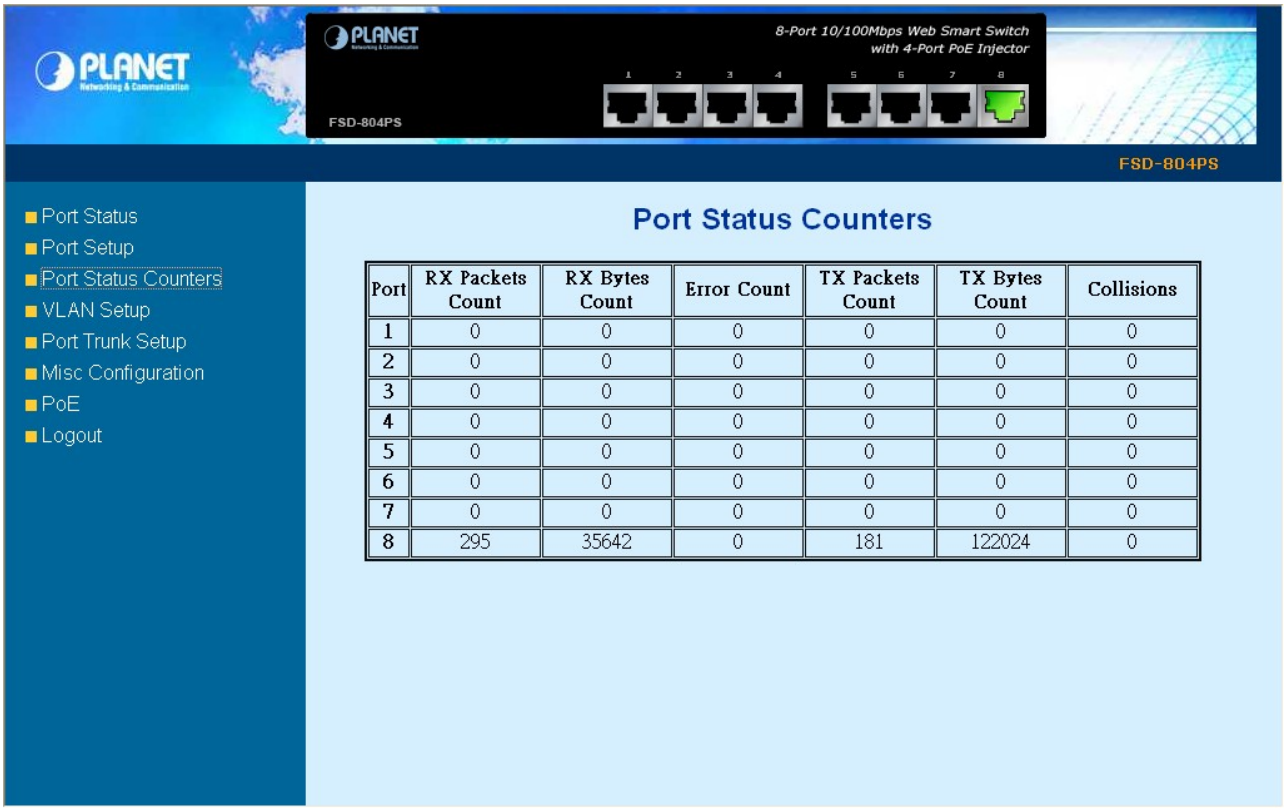
Figure 3-4 Port Setup Web Page screen

Object	Description
Port T	Indicate port 1 to port 8.
Mode	Allow set per port run at "Disable", **"Auto", "100Full", "100Half", "10Full"** and **"10Half"** mode.
Flow Control	Allow disable **(off)** or enable **(on)** flow control of each port.
802.1p Priority	Allow disable or enable per port 802.1p Priority function.
Port-based Priority	Allow assign normal or high queue on each port.
Port Description	Allow set value for port Description, The value only can key in—"0-9, A-Z, a-z, @, - _ and * ".

Table 3-2 Descriptions of the Port Setup screen Objects

3-4 Port Status Counters

For those selected port, this function could provide you with an individual statistical counter, it is a useful page for administrator to monitor each port's usage condition. Also, it is helpful to troubleshooting network problems. The screen in Figure 3-5 appears and table 3-3 descriptions the Port Status Counters objects of Switch.



Port	RX Packets Count	RX Bytes Count	Error Count	TX Packets Count	TX Bytes Count	Collisions
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	295	35642	0	181	122024	0

Figure 3-5 Port Status Counters Web Page screen

The page includes the following fields:

• **Port**	Indicate port 1 to port 8.
• **RX Packets Count**	Number of packets received on the port. Include the Unicast packets.
• **RX Bytes Count**	Number of octets of data (including those in bad packets) received on the port. This object can be used as a reasonable estimate of Ethernet utilization.
• **Error Count**	The numbers of error packets received from the port.
• **TX Packets Count**	Number of packets transmitted on the port. Include the Unicast packets.
• **TX Bytes Count**	Number of octets of data (including those in bad packets) transmitted on the port. This object can be used as a reasonable estimate of Ethernet utilization.
• **Collisions**	The numbers of collision occurred in the port.

Table 3-3 Descriptions of the Port Status Counters screen Objects

3-5 VLAN Setup

A Virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain. It allows you to isolate network traffic so only members of the VLAN receive traffic from the same VLAN members. Basically, creating a VLAN from a switch is logically equivalent of reconnecting a group of network devices to another Layer 2 switch. However, all the network devices are still plug into the same switch physically.

The Gigabit Ethernet Switch supports 802.1Q (tagged-based) and Port-Base VLAN setting in web management page. In the default configuration, VLAN support is **"IEEE 802.1Q"**.

Port-based VLAN

Port-based VLAN limit traffic that flows into and out of switch ports. Thus, all devices connected to a port are members of the VLAN(s) the port belongs to, whether there is a single computer directly connected to a switch, or an entire department.

On port-based VLAN.NIC do not need to be able to identify 802.1Q tags in packet headers. NIC send and receive normal Ethernet packets. If the packet's destination lies on the same segment, communications take place using normal Ethernet protocols. Even though this is always the case, when the destination for a packet lies on another switch port, VLAN considerations come into play to decide if the packet is dropped by the Switch or delivered.

IEEE 802.1Q VLANs

IEEE 802.1Q (tagged) VLAN are implemented on the Switch. 802.1Q VLAN require tagging, which enables them to span the entire network (assuming all switches on the network are IEEE 802.1Q-compliant).

VLAN allow a network to be segmented in order to reduce the size of broadcast domains. All packets entering a VLAN will only be forwarded to the stations (over IEEE 802.1Q enabled switches) that are members of that VLAN, and this includes broadcast, multicast and unicast packets from unknown sources.

VLAN can also provide a level of security to your network. IEEE 802.1Q VLAN will only deliver packets between stations that are members of the VLAN. Any port can be configured as either tagging or untagging. The untagging feature of IEEE 802.1Q VLAN allows VLAN to work with legacy switches that don't recognize VLAN tags in packet headers. The tagging feature allows VLAN to span multiple 802.1Q-compliant switches through a single physical connection and allows Spanning Tree to be enabled on all ports and work normally.

Any port can be configured as either tagging or untagging. The untagging feature of IEEE 802.1Q VLAN allows VLAN to work with legacy switches that don't recognize VLAN tags in packet headers. The tagging feature allows VLAN to span multiple 802.1Q-compliant switches through a single physical connection and allows Spanning Tree to be enabled on all ports and work normally.

The VLAN mode had three modes:

- **No VLAN**
- **Port-Based VLAN**
- **802.1Q VLAN**

This function group individual ports into a small **"Virtual"** network of their own to be independent of the other ports. The screen in Figure 3-6 appears.

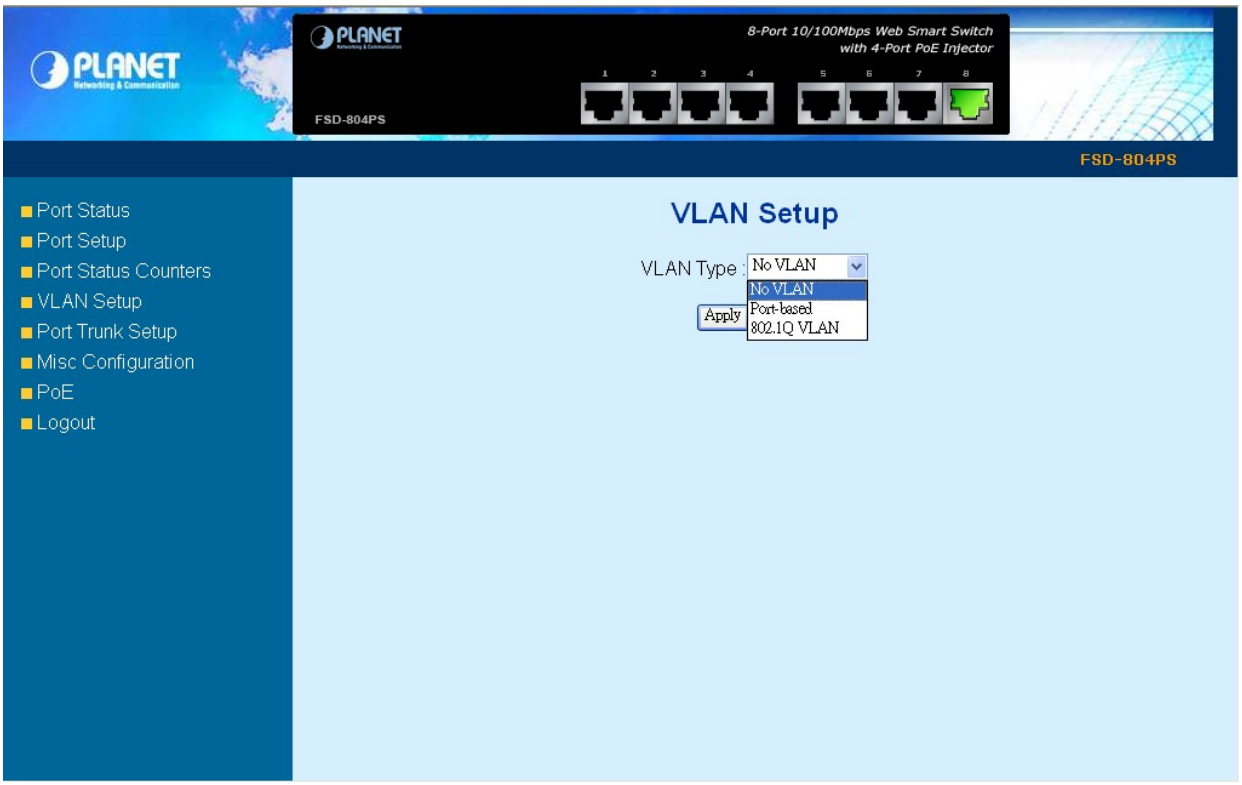


Figure 3-6 VLAN Setup Web Page screen

3.5.1 Port-based VLAN setting:

Select **"Port-based"** to enable the port-based VLAN function then continue configure eight port-based VLAN groups as your request. After setup completed, please press **"Apply"** to take affect. The screen in Figure 3-7 appears.

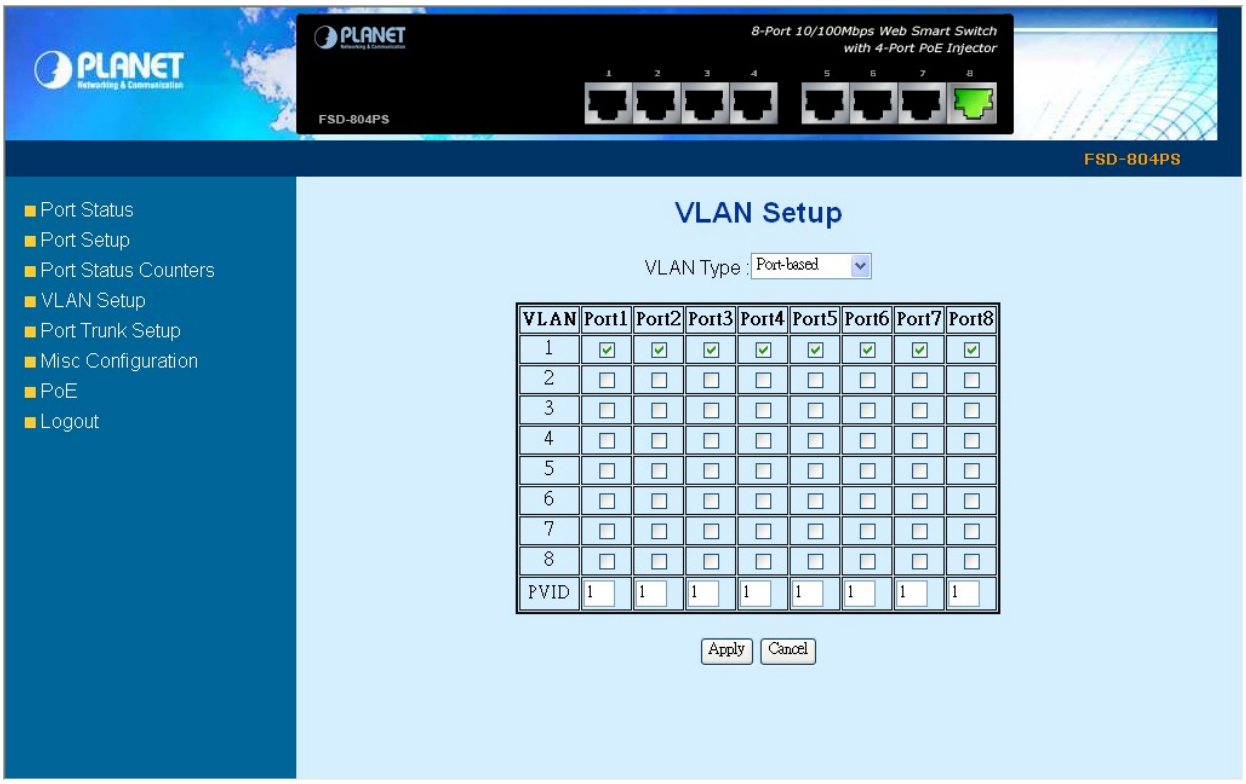


Figure 3-7 port-based VLAN Setting Web Page screen

3.5.2 Port-based VLAN setting example:

VLAN scenario

1. Port 8 is the file server port for all the workstations

2. Port 1 to port 7 is different devices that do not need to see each other

Setup steps

1. Port Setting

    1.1 Assign VLAN 1 as the default VLAN group for all ports

    1.2 Assign VLAN 2 for the second VLAN group with port 1 and port 8

    1.3 Repeat the same steps for port 2 to port 7. i.e. 2 & 8, 3 & 8, ….., 7 & 8

2. PVID setup

    2.1 Assign "1" (i.e. ID of VLAN 1) to port 8 as its PVID (Port VLAN ID).

    2.2 Assign "2" to port 1 as its PVID

    2.3 Repeat above steps for port 2 to port 7 with its PVID, i.e. 3 (port 2), 4 (port 3), to 8 (port 7)

After the above steps port 1 to port 7 is being separated physically due to it belongs to different VLAN groups (different VLAN). However, they all can access port 8 due to port 8 is using PVID 1 to communicate with port 1 to port 7.

3.5.3 802.1Q VLAN setting:

Select **"802.1Q VLAN"** and press **"Apply"** button, to enable the IEEE 802.1Q VLAN function then continue configure eight 802.1Q VLAN groups as your request. After setup completed, please press **"Apply"** to take affect. The screen in Figure 3-8 appears and table 3-4 descriptions the 802.1Q VLAN Setup object of Switch.

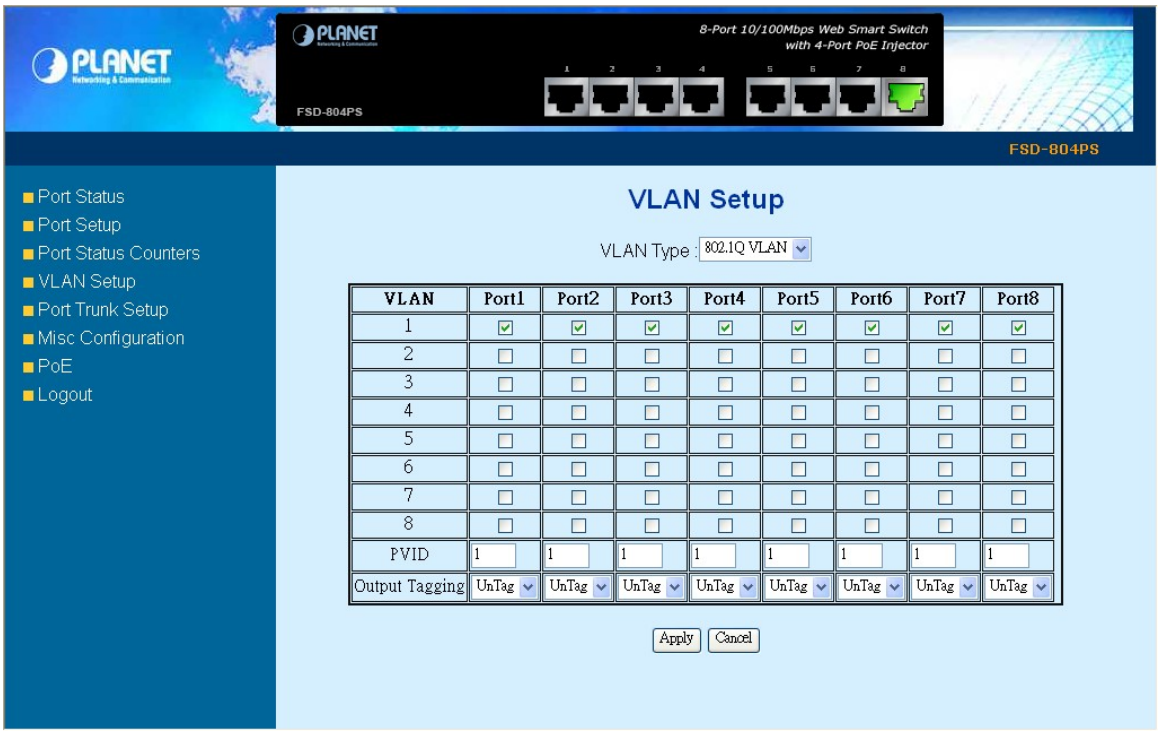


Figure 3-8 802.1Q VLAN Setting Web Page screen

The page includes the following fields:

Object	Description
VLAN	The VLAN number. Select the number of the VLAN you want to configure here.
Port	Select the physical interface for which you want to display or configure data.
Check Box (Member)	Select the member of the VLAN here. If this field is checked, it indicates the port belongs to the current VLAN.
PVID	Allow assign PVID for selected port. The range for the PVID is **1-4094** The PVID will be inserted into all **untagged** frames entering the ingress port. The PVID must as same as the VLAN ID that the port belong to VLAN group, or the untagged traffic will be dropped.
Output Tagging	Allow 802.1Q Untagged or Tagged VLAN for selected port. When adding a VLAN to selected port, it tells the switch whether to keep or remove the tag from a frame on egress. • **Untag:** outgoing frames without VLAN-Tagged. • **Tagged:** outgoing frames with VLAN-Tagged.

Table 3-4 Descriptions of the 802.1Q VLAN screen Objects

3.5.4 802.1Q VLAN setting example:

VLAN scenario

1. Port 5 to port 8 is the same groups.
2. Port 1 to port 2 is the same groups that do not need to see others Port.
3. Port 3 to port 4 is the same groups that do not need to see others Port.

Setup steps

1. Port Setting
   - 1.1 Assign VLAN 1 as the default VLAN group with port 5 to port 8.
   - 1.2 Assign VLAN 2 for the second VLAN group with port 1 and port 2.
   - 1.3 Assign VLAN 3 for the third VLAN group with port 3 and port 4.
2. PVID setup
   - 2.1 Assign "1" (i.e. ID of VLAN 1) to port 5 to port 8 as its PVID (Port VLAN ID).
   - 2.2 Assign "2" to port 1 and port 2 as its PVID
   - 2.3 Assign "3" to port 3 and port 4 as its PVID

After the above steps port 1, port 3 and port 5 is being separated physically due to it belongs to different VLAN groups (different VLAN). This configuration can be found in Figure 3-9.

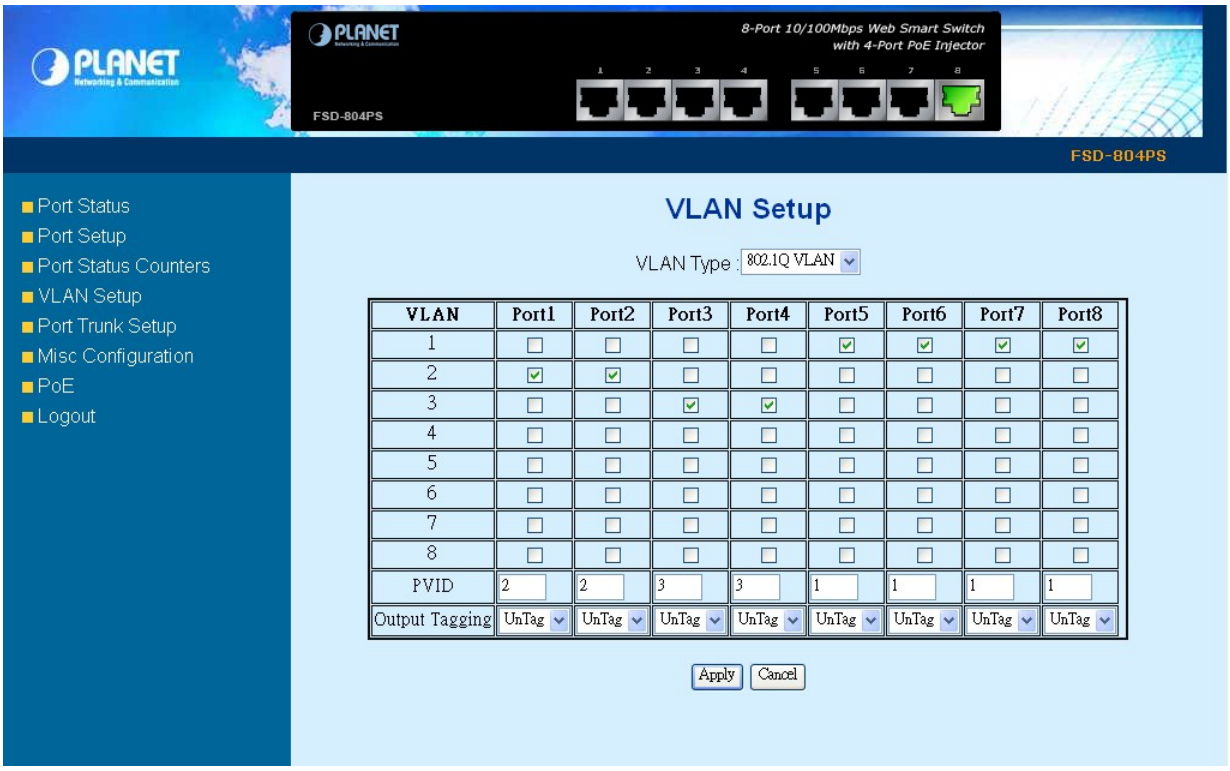


Figure 3-9 802.1Q VLAN Setting example Web Page screen

3-6 Port Trunk Setup

This section allows you to disable or enable trunk function of two ports together to speed up data transmission. The screen in Figure 3-10 appears.

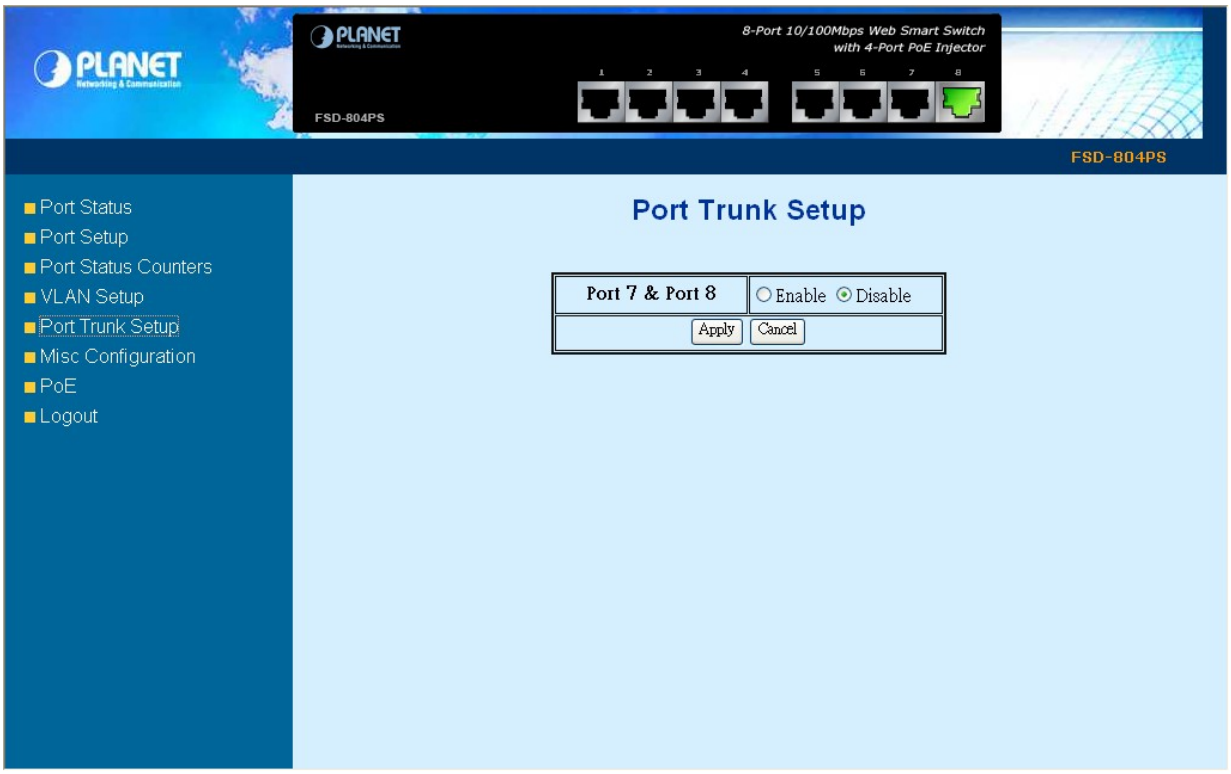


Figure 3-10 Port Trunk Setup Web Page screen

After turn on the port trunk feature, port 7 and port 8 should connect to another switch, such as another FSD-804PS, that also supports port trunk feature to double the bandwidth in between. Otherwise, if the connected switch do not support port trunk, it will cause network loop and hangs the whole network.

3-7 Misc Configuration

This section provides Misc Configuration of FSD-804PS, the screen in Figure 3-11 appears and table 3-5 descriptions the Misc Configuration objects of FSD-804PS.

Figure 3-11 FSD-804PS Misc Configuration Web Page screen

Object	Description
System Info	Allow user to configure the system configuration, please refer to chapter 3.7.1
Password / Access Setting	Allow user to change the password and maximum up to 4 characters, please refer to chapter 3.7.2
Restore System Default	Allow user to reset the FSD-804PS to factory default mode, please refer to chapter 3.7.3
Reboot System	Allow user to reboot the FSD-804PS, please refer to chapter 3.7.4
Firmware Upgrade	Allow user to proceed the firmware upgrade process of FSD-804PS, please refer to chapter 3.7.5

Table 3-5 Descriptions of the Misc Configuration screen Objects

3.7.1 System Information

This section provides System Configuration of FSD-804PS; the screen in Figure 3-12 appears and table 3-6 descriptions the System Configuration objects of FSD-804PS.

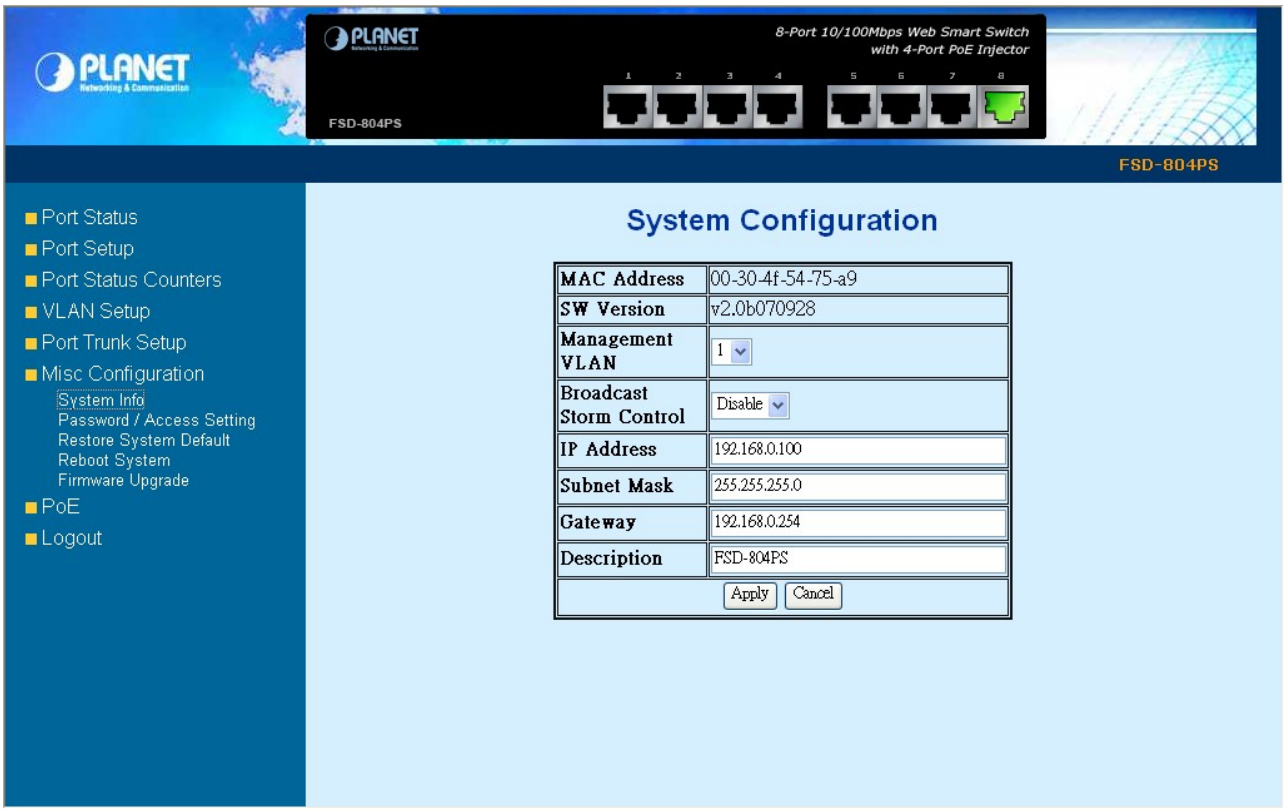


Figure 3-12 FSD-804PS System Configuration Web Page screen

Object	Description
Mac address	Display Mac address of FSD-804PS.
SW Version	Display firmware version of FSD-804PS.
Management VLAN	Allow user to select management VLAN and available options is **1 to 8**.The screen in Figure 3-13 appears.
Broadcast Storm Control	Allow user disable or enable broadcast storm control function, the available range is disable, 10%, 20%, 40%. The screen in Figure 3-14 appears.
IP Address	Allow user to assign new IP address of FSD-804PS, after setup completed. Please press **"Apply"** button and Switch will reboot automatically to take effect.
Subnet Mask	Allow user to assign new Subnet Mask of FSD-804PS, after setup completed. Please press **"Apply"** button and Switch will reboot automatically to take effect.
Gateway	Allow user to assign new Gateway of FSD-804PS, after setup completed. Please press **"Apply"** button and Switch will reboot automatically to take effect.
Description	Allow set value for Description, The value only can key in—"0-9, A-Z, a-z, @, - _ and * ".

Table 3-6 Descriptions of the Misc Configuration screen Objects

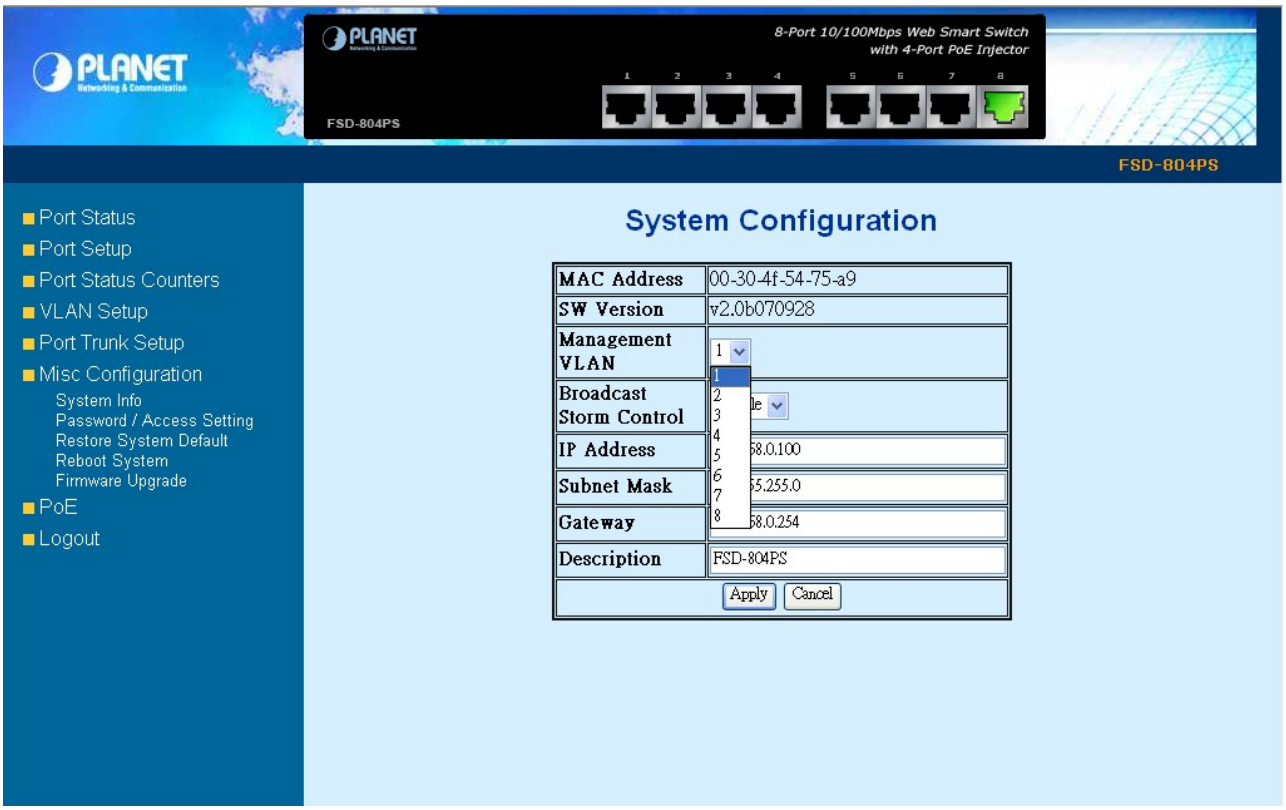


Figure 3-13 Management VLAN options Web Page screen

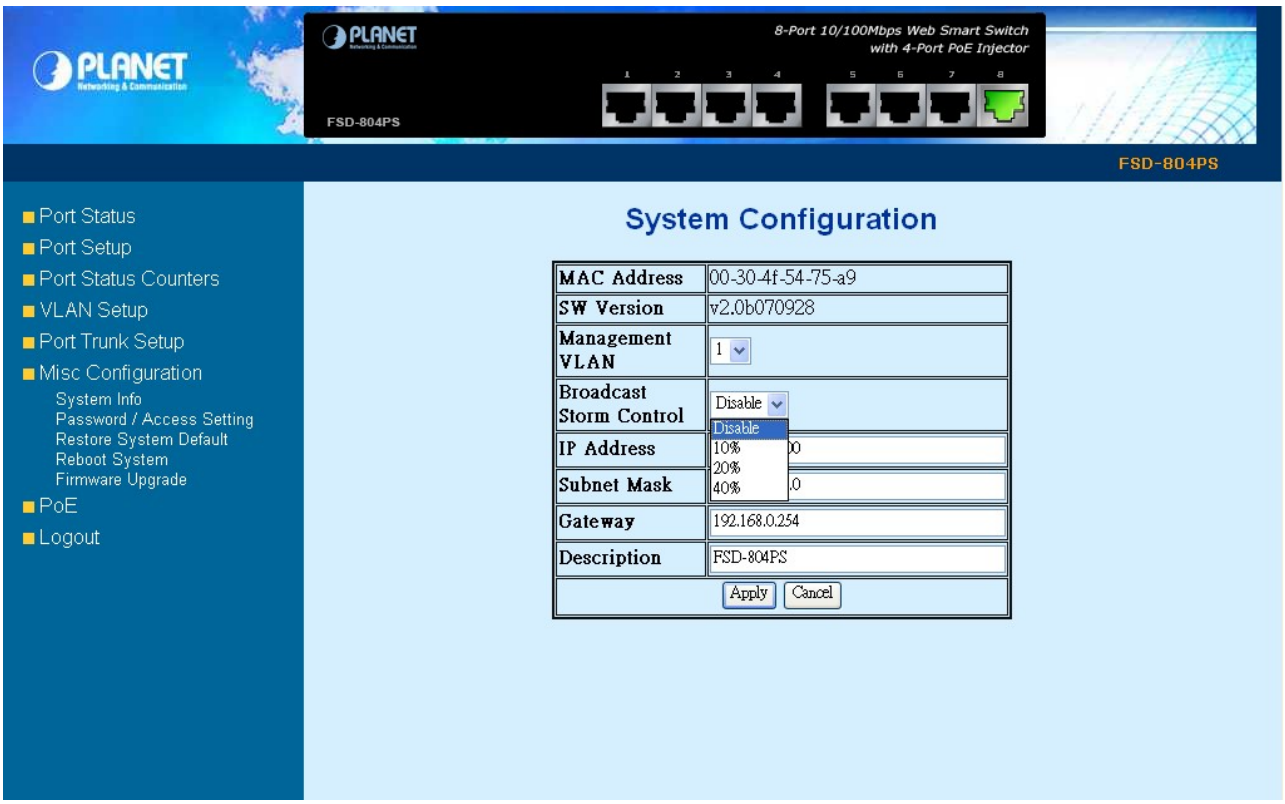


Figure 3-14 Broadcast Storm Control options Web Page screen

3.7.2 Password / Access Setting

This section provides password change Configuration of FSD-804PS, please input the old password in "**Password"** space and input the new password in **"New Password"** space then input the new password in **"Confirm"**. After setup completed, please press **"Apply"** button to take effect and the Switch will logout automatically. Please login web interface with new password, the screen in Figure 3-15 & 3-16 appears.

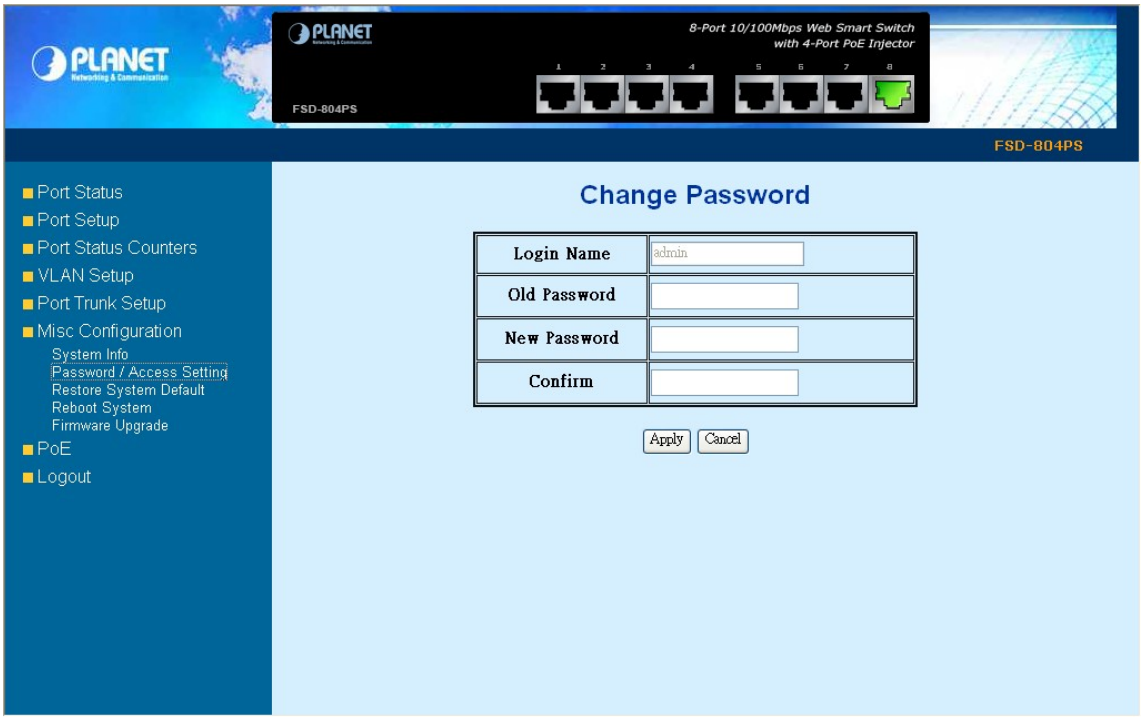


Figure 3-15 Change Password Web Page screen

Figure 3-16 login Web Page screen

3.7.3 Restore System Default

This section provides reset FSD-804PS to factory default mode, after choose this function and the following screen appears in Figure 3-17. Please press **"OK"** button to take effect and the switch will reboot automatically and ask you to re-login web interface with default username and password **"admin"**, the screen in Figure 3-17 & 3-18 & 3-19 appears.

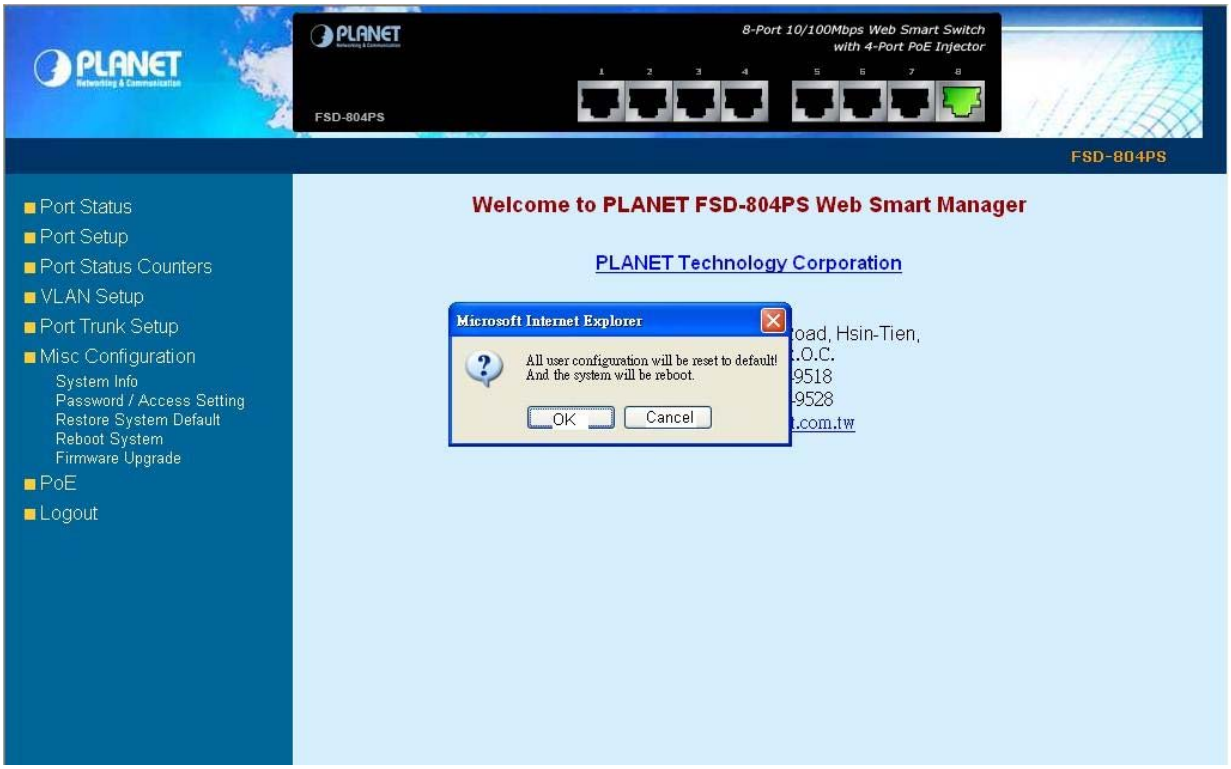


Figure 3-17 reset to factory default Web Page screen

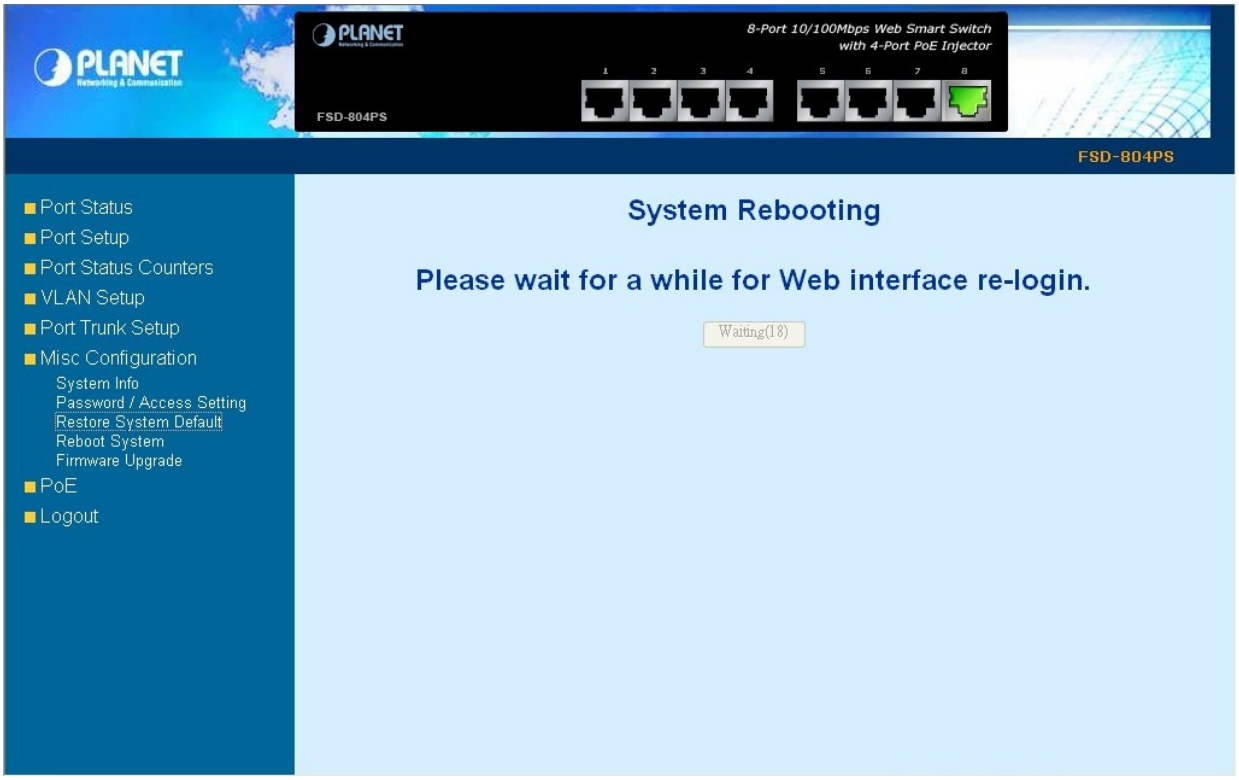


Figure 3-18 rebooting Web Page screen

Figure 3-19 login Web Page screen

3.7.4 Reboot System

This section provides reboot FSD-804PS, after choose this function and the following screen appears in Figure 3-20. Please press **"OK"** button to take effect and the Switch will reboot and ask you to re-login web interface with correct username **"admin"** and password, the screen in Figure 3-21 & 3-22 appears.

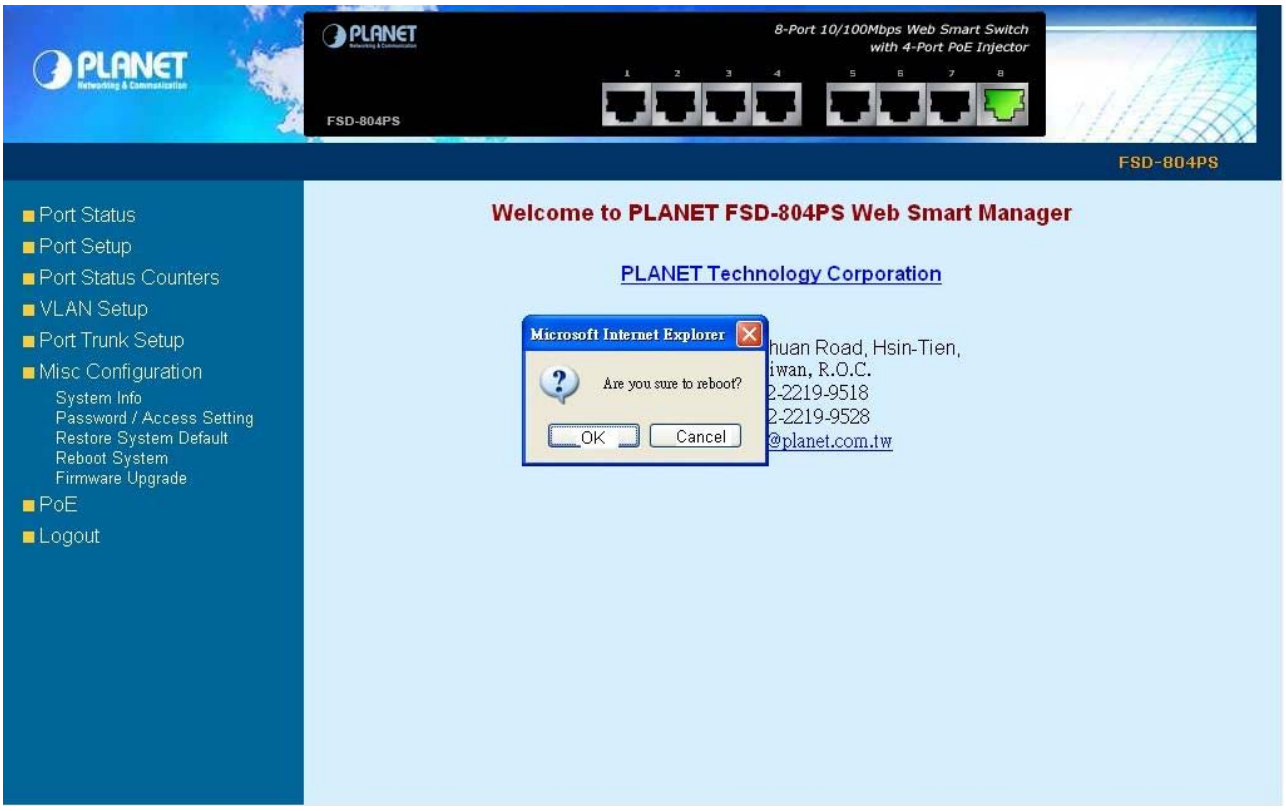


Figure 3-20 reboot system Web Page screen

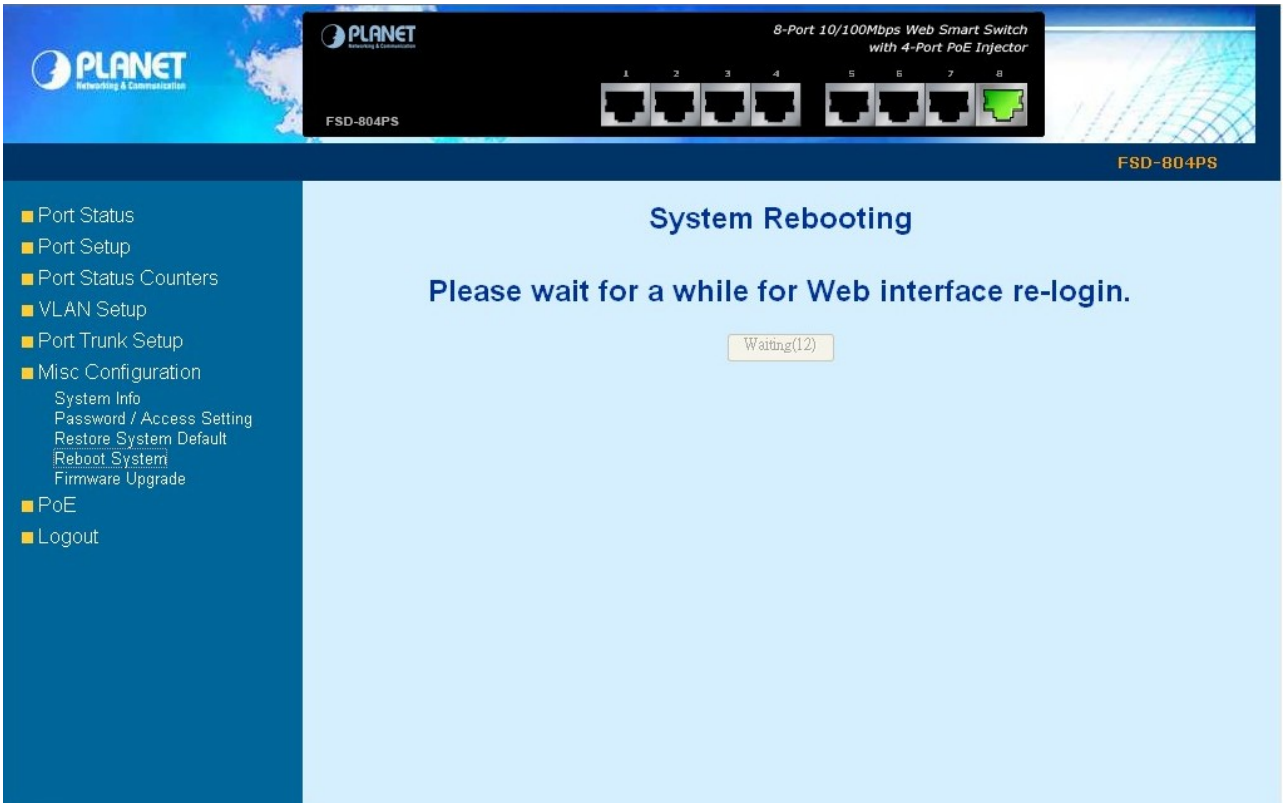


Figure 3-21 rebooting Web Page screen

Figure 3-22 login Web Page screen

3.7.5 Firmware Upgrade

This section provides firmware upgrade of FSD-804PS, after choose this function and the following screen appears in Figure 3-23. Please press **"Update"** button to continue following firmware upgrade process.

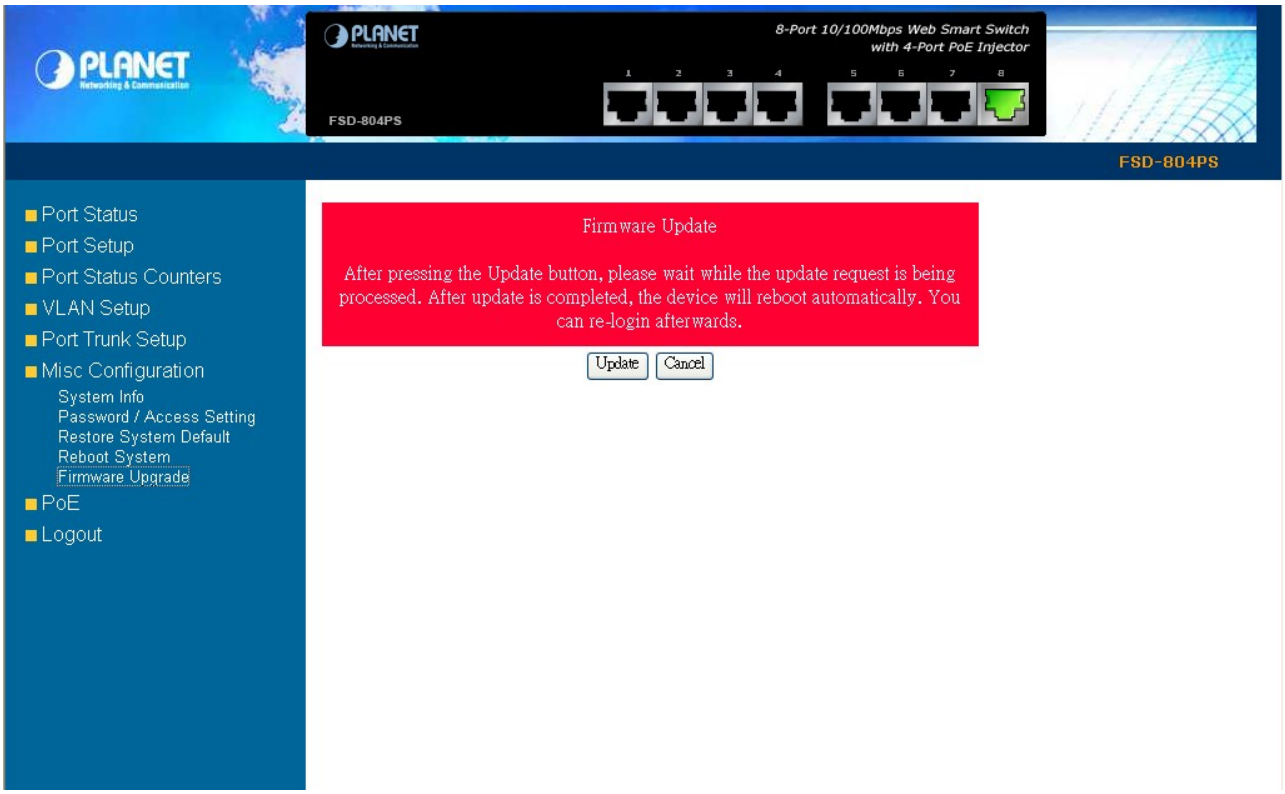


Figure 3-23 firmware upgrade Web Page screen

Please wait for two seconds and the page will show to next firmware upgrade web page, the screen in Figure 3-24 appears.

Please press **"Browser"** to locate the latest firmware of FSD-804PS that deposit in your PC and press **"Upgrade"** to start the firmware upgrade process. The screen in Figure 3-24 appears.

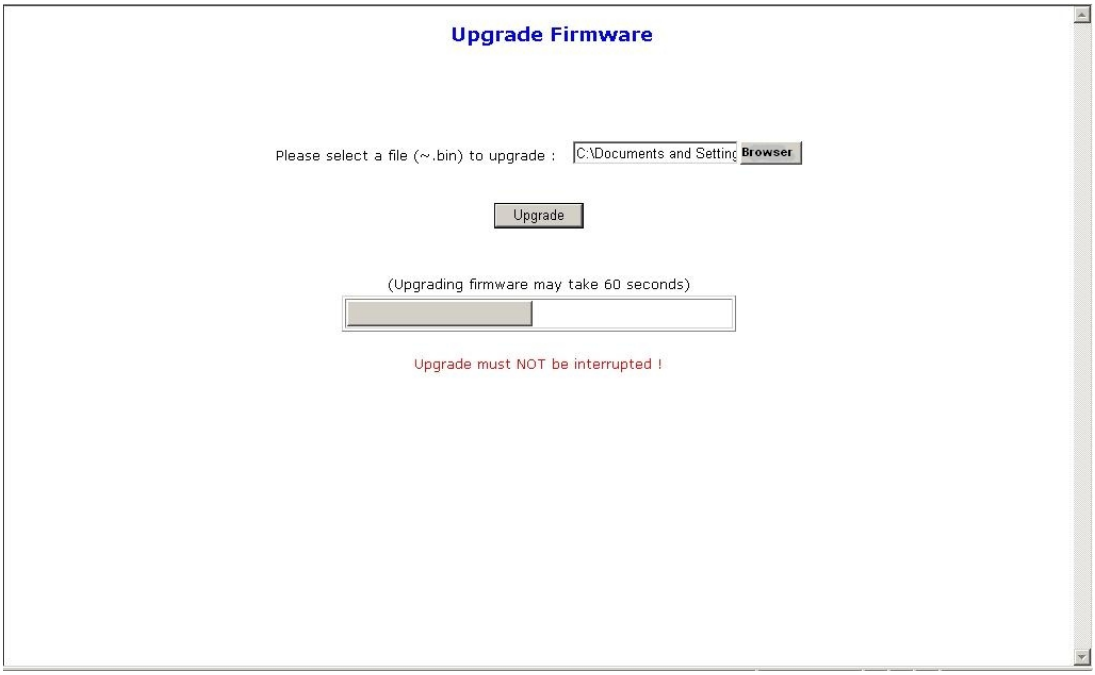


Figure 3-24 firmware upgrade Web Page screen

Please wait for twenty-four seconds and go to next firmware upgrade web page, the screen in Figure 3-25 appears.

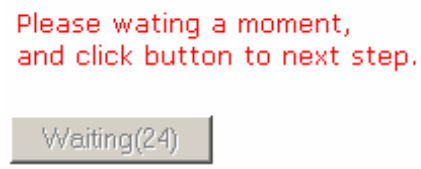


Figure 3-25 firmware upgrade Web Page screen

Then the re-login screen appears in Figure 3-26, please press **"Re login"** button to re-login web interface of FSD-804PS with latest firmware version, the screen in Figure 3-27 appears.

Figure 3-26 The FSD-804PS firmware upgrade Web Page screen

Figure 3-27 login Web Page screen

Notice: Please does not power off the FSD-804PS during firmware upgrade process.

3-8 POE

This section provides POE configuration of FSD-804PS, the POE screen in Figure 3-28 appears and Table 3-7 describes the POE object of FSD-804PS.

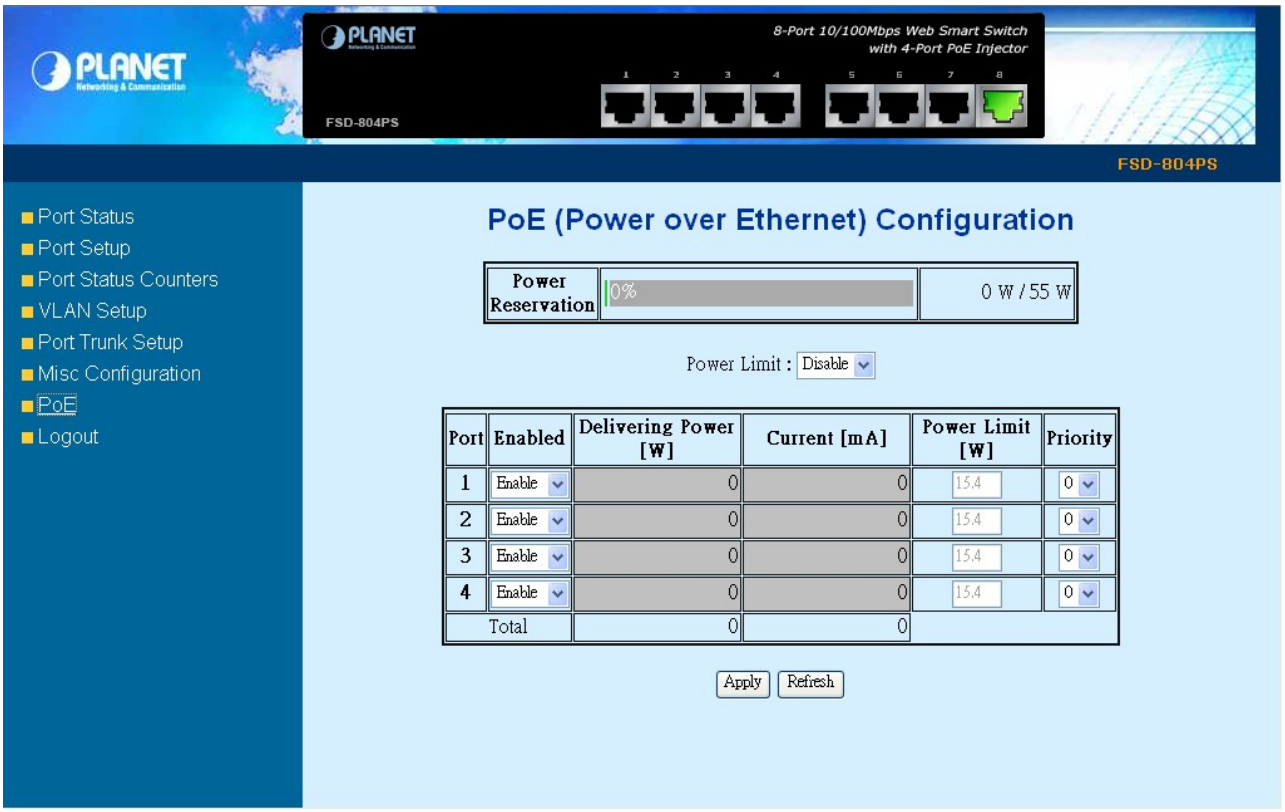


Figure 3-28 POE Web Page screen

Object	Description
Port	Indicate port 1 to port 4.
Enabled	Allow to disable or enable each POE port.
Delivering Power(W)	List each connected device power usage.
Current(mA)	List each connected device current usage.
Power limit(watts)	List each connected device power limit.
Priority	Allow to assign the POE power provision priority on each POE port, the available range is 0-3. The 0 is highest and the 3 is lowest.

Table 3-7 Descriptions of the POE screen Objects

3-9 Logout

This section allows to logout the FSD-804PS, the screen in Figure 3-29 & 3-30 appears.

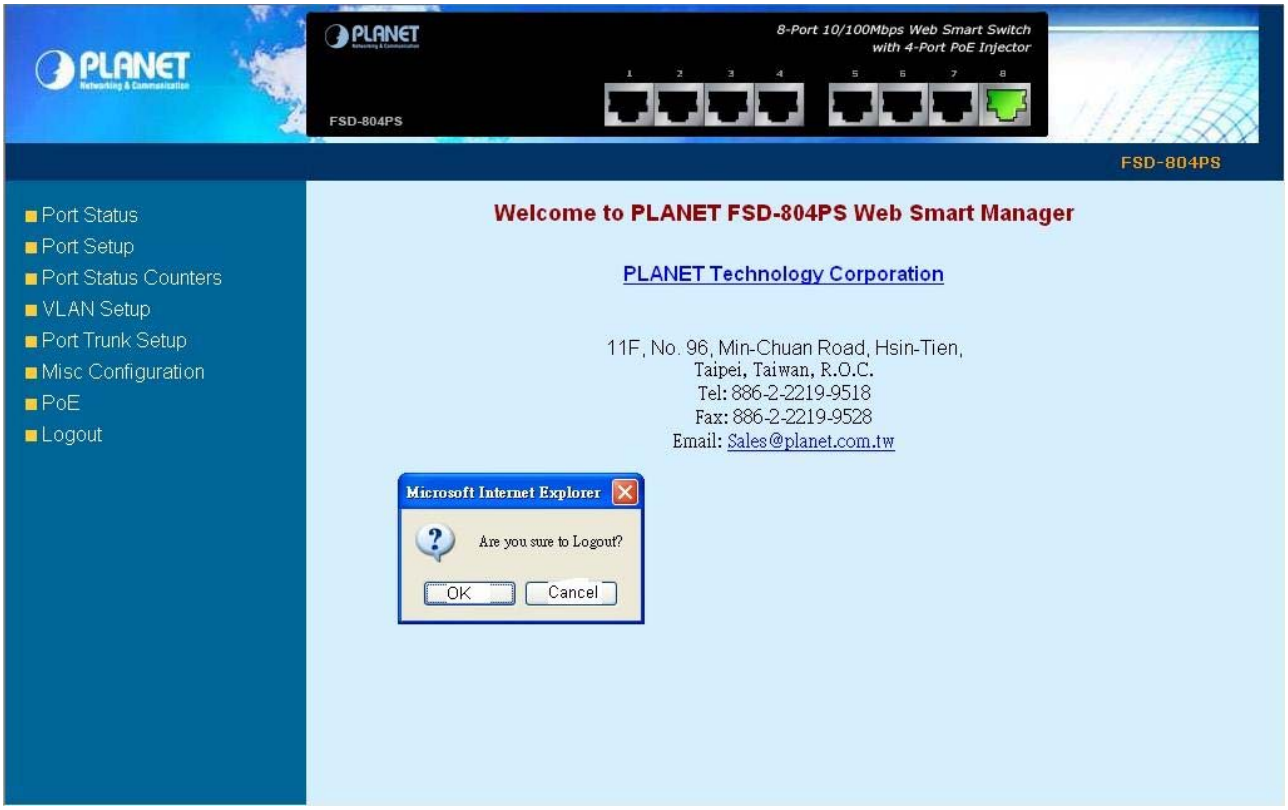


Figure 3-29 Logout Web Page screen

Figure 3-30 login Web Page screen

4. SWITCH OPERATION

4.1 Address Table

The Switch is implemented with an address table. This address table composed of many entries. Each entry is used to store the address information of some node in network, including MAC address, port no, etc. This information comes from the learning process of Ethernet Switch.

4.2 Learning

When one packet comes in from any port. The Switch will record the source address, port no. And the other related information in address table. This information will be used to decide either forwarding or filtering for future packets.

4.3 Forwarding & Filtering

When one packet comes from some port of the Ethernet Switching, it will also check the destination address besides the source address learning. The Ethernet Switching will lookup the address-table for the destination address. If not found, this packet will be forwarded to all the other ports except the port which this packet comes in. And these ports will transmit this packet to the network it connected. If found, and the destination address is located at different port from this packet comes in, the Ethernet Switching will forward this packet to the port where this destination address is located according to the information from address table. But, if the destination address is located at the same port with this packet comes in, then this packet will be filtered. Thereby increasing the network throughput and availability.

4.4 Store-and-Forward

Store-and-Forward is one type of packet-forwarding techniques. A Store-and Forward Ethernet Switching stores the incoming frame in an internal buffer, do the complete error checking before transmission. Therefore, no error packets occurrence, it is the best choice when a network needs efficiency and stability.

The Ethernet Switch scans the destination address from the packet-header, searches the routing table provided for the incoming port and forwards the packet, only if required. The fast forwarding makes the switch attractive for connecting servers directly to the network, thereby increasing throughput and availability. However, the switch is most commonly used to segment existing hubs, which nearly always improves overall performance. An Ethernet Switching can be easily configured in any Ethernet network environment to significantly boost bandwidth using conventional cabling and adapters.

Due to the learning function of the Ethernet switching, the source address and corresponding port number of each incoming and outgoing packet are stored in a routing table. This information is subsequently used to filter packets whose destination address is on the same segment as the source address. This confines network traffic to its respective domain, reducing the overall load on the network.

The Switch performs "Store and forward" therefore, no error packets occur. More reliably, it reduces the re-transmission rate. No packet loss will occur.

4.5 Auto-Negotiation

The STP ports on the FSD-804PS switch have built-in "Auto-negotiation". This technology automatically sets the best possible bandwidth when a connection is established with another network device (usually at Power On or Reset). Detecting the modes does this and speeds at the second of both devices are connected and capable of, both 10Base-T and 100Base-TX devices can connect with the port in either Half- or Full-duplex mode.

5.TROUBLESHOOTING

This chapter contains information to help you solve problems. If the Switch is not functioning properly, make sure the Ethernet Switch was set up according to instructions in this manual.

The Link LED is not lit

Solution:

Check the cable connection and remove duplex mode of the Switch.

Some stations cannot talk to other stations located on the other port

Solution:

Please check the VLAN, port trunking function that may introduce this kind of problem.

Performance is bad

Solution:

Check the full duplex status of the Ethernet Switch. If the Ethernet Switch is set to full duplex and the partner is set to half duplex, then the performance will be poor.

100Base-TX port link LED is lit, but the traffic is irregular

Solution:

Check that the attached device is not set to dedicate full duplex. Some devices use a physical or software switch to change duplex modes. Auto-negotiation may not recognize this type of full-duplex setting.

Why the Switch doesn't connect to the network

Solution:

Check the LNK/ACT LED on the switch Try another port on the Switch Make sure the cable is installed properly Make sure the cable is the right type Turn off the power. After a while, turn on power again.

Why I connect my PoE device to FSD-804PS and it cannot power on?

Solution:

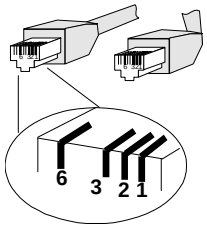
1. Please check the cable type of the connection from FSD-804(port 1 to port 4) to the other end. The cable should be an 8-wire UTP, Category 5 or above, EIA568 cable within 100 meters. A cable with only 4-wire, short loop or over 100 meters, all will affect the power supply.
2. Please check and assure the device that fully complied with IEEE 802.3af standard.

APPENDIX A NETWORKING CONNECTION

A.1 Switch's RJ-45 Pin Assignments

Contact	MDI	MDI-X
1	1 (TX +)	3
2	2 (TX -)	6
3	3 (RX +)	1
6	6 (RX -)	2
4, 5, 7, 8	Not used	Not used

A.2 RJ-45 cable pin assignment



There are 8 wires on a standard UTP/STP cable and each wire is color-coded. The following shows the pin allocation and color of straight cable and crossover cable connection:

Figure A-1: Straight-Through and Crossover Cable

Please make sure your connected cables are with same pin assignment and color as above picture before deploying the cables into your network.

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