



## **8-PORT POWER OVER ETHERNET MANAGED WORKGROUP SWITCH**

(DN-95301)

### **User's Guide**

8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE  
port embedded 100W PoE power budget

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### **Version 1.0e**

#### **FCC Statement**

This product has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against such interference when operating in a commercial environment. This equipment generates uses and can radiate radio frequency energy, and if not installed and used according to the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his or her own expense will be required to take whatever measures to correct the interference.

#### **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.

# Table of Contents

<b>1.</b>	<b>Introduction .....</b>	<b>5</b>
1.1.	Package Contents.....	5
1.2.	How to Use this Guide .....	5
<b>2.</b>	<b>Installation .....</b>	<b>6</b>
2.1.	Product Description Overview.....	6
2.2.	Switch Front and Rear Panel .....	6
	8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget .....	6
2.3.	LED Function .....	7
2.4.	Reset Button .....	7
2.5.	Installing the Switch .....	7
2.6.	Rack- Mount Placement.....	8
2.7.	Preparing for configuration.....	10
2.7.1.	Connecting a PC or Terminal to the RS-232 Port.....	10
2.7.2.	Terminal Emulation Setup Program .....	10
2.7.3.	Logging on to the switch.....	11
2.8.	Web-based configuration .....	11
2.8.1.	Logging on the switch.....	11
2.9.	Command Line Interface (by Console or Telnet) .....	11
2.9.1.	Mode-based Command Hierarchy.....	11
2.9.2.	User Mode commands .....	13
	help .....	13
	? .....	13
	logout .....	13
	ping .....	13
	show .....	13
	enable .....	13
2.9.3.	Privileged Mode commands .....	14
	cable-diag.....	14
	clear .....	14
	configuration.....	15
	copy .....	15
	exit .....	15
	help .....	15
	logout .....	15
	ping .....	16
	reload .....	16
	save .....	16
	show .....	16
	telnet .....	22
2.9.4.	Global Config mode commands .....	22
	exit .....	22
	vlan .....	22
	bridge .....	23
	lACP-syspri .....	23
	link-aggregation .....	24
	lldp .....	24

log	25
radius-server	25
static-address	25
mgmt-accesslist	26
monitor	26
dot1x	26
network	27
port-all	28
qos	29
set	30
snmp	32
sntp	33
spanning-tree	34
User	36
Interface	36
rmon	36
access list	36
arp	39
dos	39
tacplus	40
green-eth	41
2.9.5. Interface Config mode commands	41
exit	41
dot1x	41
lacp	41
addport	41
delport	41
lldp	41
admin-mode	42
auto-negotiate	42
speed	42
flow-control	43
port-security	43
qos	43
rate-limit	43
storm-control	43
rmon-counter	44
set igmp-router-port	44
spanning tree	44
vlan	45
poe	45
<b>3. Specifications</b>	<b>47</b>
3.1. Cable specifications	47
3.2. Technical Specifications	49
3.2.1. Software Specification	49
3.2.2. Hardware Specification	50
3.2.3. Environments Specification	50
3.2.4. Standard Conformance	50
<b>5. Warranty statement</b>	<b>51</b>

# 1. Introduction

Thank you for choosing Layer 2/2+ series Management Switch. These switches are cost-effective switching solution idea for small business and the network edge. It provides the Quality of Service (QoS) features, like 802.1p, DSCP and Rate Control etc, to ensure the traffic is prioritized properly to deliver real-time applications like voice and video and also have a good control in network bandwidth usage. The 802.1Q feature enables you separate the network traffic easily and quickly. The Network Security features, like ACL, Port Security, Storm Control, 802.1X and Management IP List etc, enables you to prevent unauthorized access to company network and block intentional or inadvertent network traffic. The Spanning Tree Protocol (STP) provides you a loop-free network. The IGMP snooping enables you to have efficient network usage in IP multicast environment. The one-to-one or many-to-one Port Mirroring feature of the switch enables you to monitor the traffic on the network. With these features, you can build or expand your network quickly and easily.

## 1.1. Package Contents

These L2 Management Switches package contains the following:

- > One L2 Management Switch
- > One RS-232 cable
- > One power cord/adaptor
- > One set of brackets.
- > One CD for user manual and utilities.

If any of the listed items is missing or damaged, please contact the place of purchase.

## 1.2. How to Use this Guide

This user guide is structured as follows:

**Chapter 2**, Installation explains the functions of the switch and how to physically install it.

**Chapter 3**, Configuration explains how to set up and modify the configuration of the switch.

**Chapter 4**, Specifications contains information about the cables, and the technical specifications of the switch.  
Appendices include the Warranty Statement. Read them as necessary.

## 2. Installation

This chapter describes the function of the management switch components and shows how to install it on the desktop or shelf. Basic knowledge of networking is assumed. Read this chapter completely before continuing.

### 2.1. Product Description Overview

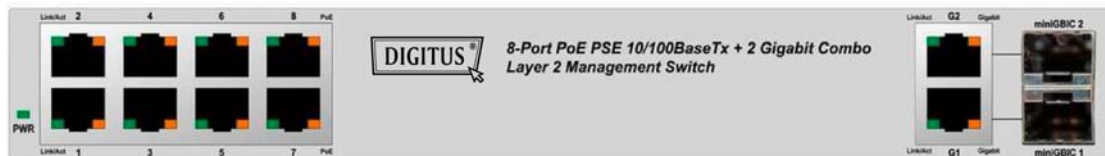
This product is a L2 management switch which supports 802.1Q VLAN, QoS, 802.1d / 1w / 1s Spanning Tree Protocol, 802.1x, Port Security, Port Mirroring, IGMP Snooping, STNP, Storm Control, Rate Control, SNMP etc. features.

### 2.2. Switch Front and Rear Panel

**8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget**

The front panel of this switch has 8 10/100 Mbps copper ports at the left with 2 shared Gigabit SFP slots at the right. The product name indicates at the top on the right. Figure 2.2.6a shows a front panel of the switch. The rear panel has a power and console connector, and Figure 2.2.6b shows a rear panel of the switch. Table 2.2.6c shows the port function of the switch.

**Figure 2.2.6a Front Panel**



**Figure 2.2.6b Rear Panel**



**Table 2.2.6c Port Function**

Port	Function
Power	This is where you connect the DC power adapter.

## 2.3. LED Function

This section explains the definition of the Switch's LEDs on the front panel.

### 8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget:

**PWR (Green)** LED lights up, it shows the system is powered up.

**Link/Act (Green)** LED lights up, it indicates a successful connection of that port is established. Otherwise, it indicates the link is off or no-link detected of that port. When the LED blinks, it indicates the port is activating and transmitting data;

**PoE (Amber)** LED lights up only when the corresponding port supply power.

## 2.4. Reset Button

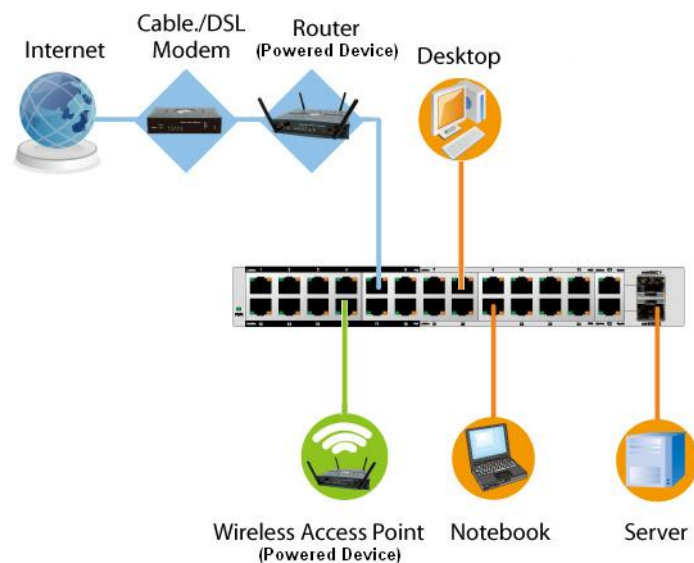
There is a Reset button on the front panel, which has two functionalities:

- a) To restore switch configuration to factory defaults  
Press the **Reset** button for more than 10 seconds, switch configuration will be restored to factory defaults and then reboots.
- b) To reboot switch  
Press the **Reset** button for less than 10 seconds, switch will reboot. Please note, you will lose unsaved change when doing this.

## 2.5. Installing the Switch

This section describes how to install and make connection to your Managed Switch. The following diagram shows the a typical network configuration, Figure shows the network configuration for L2/L2+ Management Switch with PoE function.

**Figure 2.5.2** Network Configuration for L2 Management Switch with PoE



Read and perform the following procedures to install the switch,  
Pre-Installation Considerations

Gigabit Considerations:

If you will use the switch for Gigabit applications, keep in mind that the maximum UTP cabling length of Category 5e cable is 328 feet (100 meters).

Positioning the switch:

When choosing a location for the switch, observe the following guidelines:  
Keep enough ventilation space between the switch and the surrounding objects.

Keep cabling away from sources of electrical noise, power lines, and fluorescent lighting fixtures.

Do not stack free-standing switch more than four units high.

Desktop or Shelf Mounting

To install the switch on a desktop or shelf, simply complete the following steps:

**Step 1** Place the switch on a desktop or shelf near an AC power source.

**Step 2** Keep enough ventilation space between the switch and the surrounding objects.

**Note:** When choosing a location, keep in mind the environmental restrictions discussed in Chapter 4, Specifications.

**Step 3** Connect the switch to network devices.

A. Connect one end of a standard network cable to the RJ-45 ports on the front of the switch.

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

Note: It is recommended to use the UTP Category 5e network cabling with RJ-45 tips for the network connection. For more information, please see the Cable Specifications in Chapter 4, Specifications.

**Step 4** Supply power to the switch.

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

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

## **2.6. Rack- Mount Placement**

Before mounting the Switch, please read the following instructions carefully,

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such



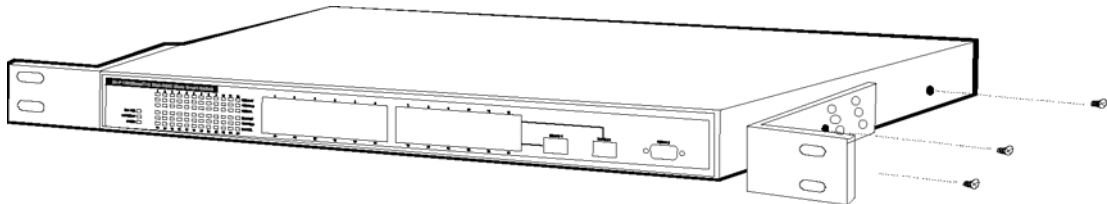
that a hazardous condition is not achieved due to uneven mechanical loading.

- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

To mount the Switch in any standard-sized, 19-inch wide, 1U high rack, please follow these instructions:

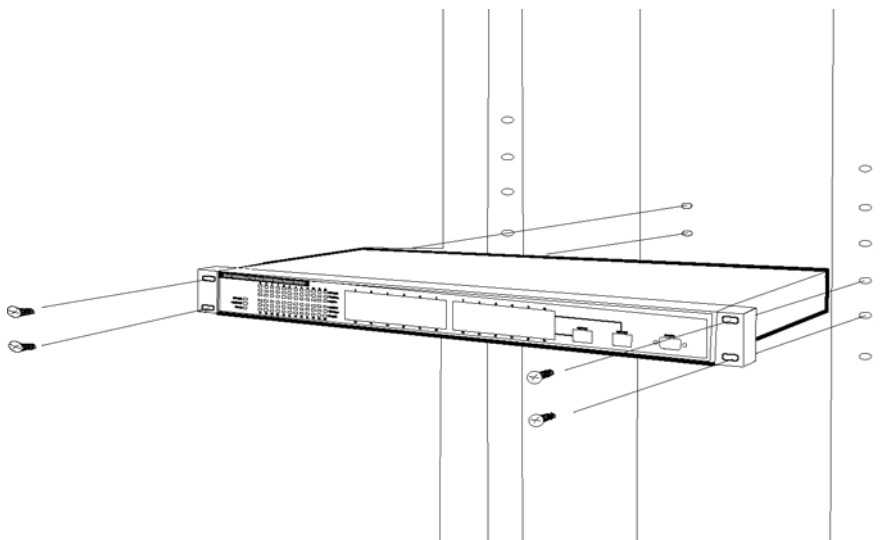
Place the Switch on a hard flat surface with the front panel facing you. Attach a rack-mount bracket to one side of the Switch with the supplied screws. Then attach the other bracket to the other side. (Figure 2.6.1)

**Figure 2.6.1**



Make sure the brackets are properly attached to the Switch. Use the appropriate screws (not included) to securely attach the brackets to your rack. (Figure 2.6.2)

**Figure 2.6.2**



# Configuration

The configuration programs are supplied with these Layer 2 Management Switches. Unlike the unmanaged switch (dumb switch), the switch performs "management" functions that make the switch operate more effectively. This Chapter will describe the use of the switch Management Configuration program.

## 2.7. Preparing for configuration

Layer 2 Management Switch offers a console CLI interface for switch configuration and management. Users can use this interface to perform the activities such as configuring DHCP, ARP, assigning IP address and upgrading firmware etc.

There are four methods to manage your switch:

### ***Local Console Management***

You can manage the switch locally by connecting the switch to a PC or workstation with terminal emulation software using the serial port.

### ***Remote Console Management***

You can manage the switch by having a remote host establish a Telnet connection to the switch via an Ethernet or modem link.

### ***SNMP Management***

You can manage the switch across a LAN using an SNMP Network Management Station with a graphical user interface. Note that to use this management method, your network must use the IP protocol and your switch must be configured on the Network with a proper IP address. You may use any of the following method to manage the switch.

### ***Web-Browser***

You can manage the switch through a web connection by connecting to the switch's IP address using your web browser.

This User Guide provides instructions on how to configure the switch using the console interface. Read the following sections to start up!

### **2.7.1. Connecting a PC or Terminal to the RS-232 Port**

When you are ready to configure the Management Function of the switch, make sure you have connected the supplied RS-232 serial cable to the RS-232 port at the front panel of your switch and your PC.

### **2.7.2. Terminal Emulation Setup Program**

Run a terminal emulation program with the following setting.

**Emulation:** VT-100 compatible

**Baud per second:** 38400

**Data bits:** 8

**Parity:** None

**Stop bits:** 1

**Flow Control:** None

### 2.7.3. Logging on to the switch

Enter the factory default user name “**admin**” with no password when logging on to the switch. The password is set to be empty. If you can enter “?” on the command line screen, it will display all items so that you can configure by your requirements.

## 2.8. Web-based configuration

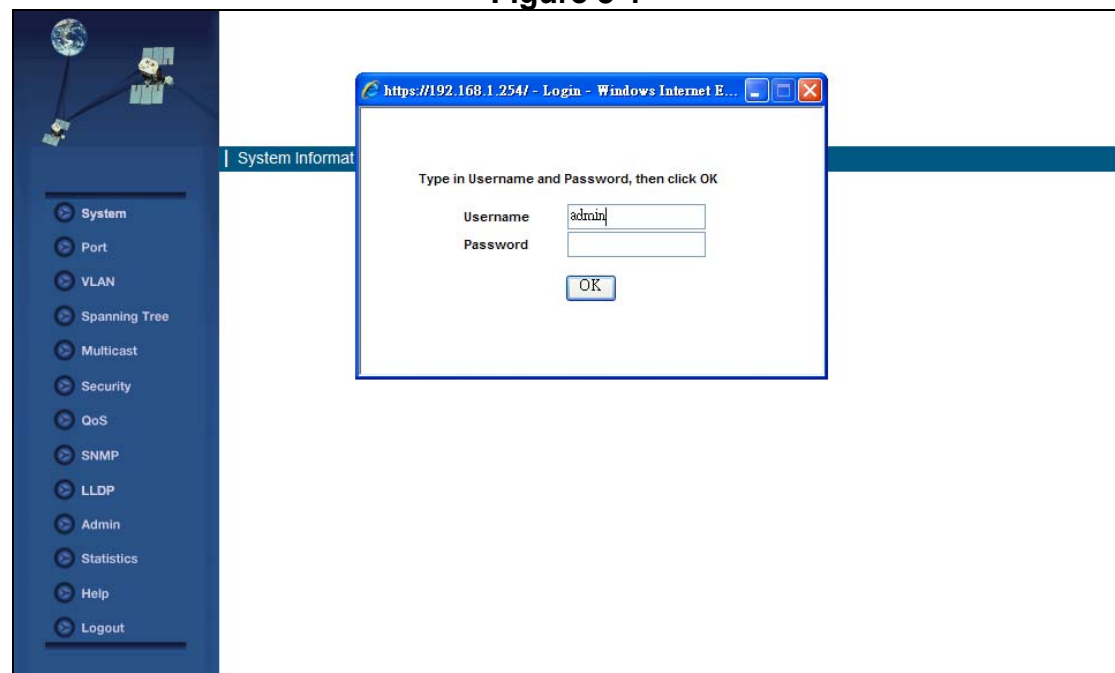
The Switch provides a Web-based interface for configuring and managing the Switch. This interface allows you to access the switch using the Web browser of your choice. This chapter describes how to use the switch’s Web browser interface to con-figure and manage the switch.

### 2.8.1. Logging on the switch

To log on to the Switch:

1. In your web browser, specify the IP address of the switch. Default IP address is **192.168.1.254**.
2. Enter the factory default “admin” to login on the Switch with no password. Refer to the figure 3-1.

**Figure 3-1**



## 2.9. Command Line Interface (by Console or Telnet)

### 2.9.1. Mode-based Command Hierarchy

The Command Line Interface (CLI) groups all the commands in appropriate modes by the nature of the commands. Examples of the CLI command modes are described below. Each of the command modes supports specific switch’s

commands.

The CLI Command Modes table captures the command modes, the prompts visible in that mode and the exit method from that mode.

**Table 1 CLI Command Modes**

Command Mode	Access Method	Prompt	Exit or Access Previous Mode
User Mode	This is the first level of access. Perform basic tasks and list system information.	COMMAND>	Enter Logout command
Privileged Mode	From the User Mode, enter the enable command.	Switch#	To exit to the User Mode, enter exit or Logout.
Global Config Mode	From the Privileged Mode, enter the configuration command.	Switch (Config)#	To exit to the Privileged Mode, enter the exit command.
Interface Config Mode	From the Global Config mode, enter the interface <port#> command.	Switch (Interface <port#>)#	To exit to the Global Config mode, enter exit.

The CLI is divided into various modes. The commands in one mode are not available until the operator switches to that particular mode. The commands available to the operator at any point in time depend upon the mode. Entering a question mark (?) at the CLI prompt, and displays a list of the available commands and descriptions of the commands.

The CLI provides the following modes:

### **User Mode**

When the operator logs into the CLI, the User Mode is the initial mode. The User Mode contains a limited set of commands. The command prompt shown at this level is:

**Command Prompt: COMMAND>**

### **Privileged Mode**

To have access to the full suite of commands, the operator must enter the Privileged Mode. The Privileged Mode requires password authentication. From Privileged Mode, the operator can issue any Exec command to enter the Global Configuration mode. The command prompt shown at this level is:

**Command Prompt: Switch#**

### **Global Config Mode**

This mode permits the operator to make modifications to the running configuration. General setup commands are grouped in this mode. From the Global Configuration mode, the operator can enter the Interface Configuration mode. The command prompt at this level is:

**Command Prompt: Switch(Config)#**

From the Global Config mode, the operator may enter the following

configuration modes:

### **Interface Config Mode**

Many features are enabled for a particular interface. The Interface commands enable or modify the operation of an interface. In this mode, a physical port is set up for a specific logical connection operation. The command prompt at this level is:

**Command Prompt: Switch(Interface <port#>)#**

## **2.9.2. User Mode commands**

### **help**

This command displays help information

**Format** help

**Mode** User Mode

**?**

This command displays help information

**Format** help

**Mode** User Mode

### **logout**

This command is used to exit from the telnet

**Format** logout

**Mode** User Mode

### **ping**

This command sends echo messages.

**Format** ping <A.B.C.D>

**Mode** User Mode

### **show**

1) show port

This command displays port status.

**Format** show port {<port#> | all}

**Mode** User Mode

2) show network

This command displays switch IP configuration

**Format** show network

**Mode** User Mode

3) show system

This command displays system information.

**Format** show system

**Mode** User Mode

4) show port statistics

This command displays port statistics.

**Format** show port statistics {<port#> | all}

**Mode** User Mode

### **enable**

Enter to the Privileged Mode

**Format** enable

**Mode** User Mode

### 2.9.3.Privileged Mode commands

#### **cable-diag**

This command is used to proceed cable diagnostic

**Format** cable-diag port <port ID>

**Mode** Privileged Mode

e.g. Switch#cable-diag port 1

#### **clear**

1) clear arl

This command is used to clear ARL table entries

**Format** clear arl

**Mode** Privileged Mode

2) clear arl dynamic

This command is used to Clear dynamic arl table entries

**Format** clear arl dynamic

**Mode** Privileged Mode

3) clear arl static

This command is used to clear static arl table entries

**Format** clear arl static mac <mac-addr>

**Mode** Privileged Mode

4) clear config

This command is used to restore switch factory default configuration

**Format** clear config

**Mode** Privileged Mode

5) clear counters

This command is used to clear RMON statistics for entire switch

**Format** clear counters

**Mode** Privileged Mode

6) clear igmpsnooping

This command is used to restore igmpsnooping configuration to factory default

**Format** clear igmpsnooping

**Mode** Privileged Mode

7) clear static-mcast

This command is used to clear static multicast groups

**Format** clear static-mcast

**Mode** Privileged Mode

8) clear pass

This command is used to restore administrator's password to factory default

**Format** clear pass

**Mode** Privileged Mode

9) clear lacp

This command is used to restore LAG and LACP configuration to factory

default

**Format** clear lacp

**Mode** Privileged Mode

10) clear logs

This command is used to clear memory/flash logs

**Format** clear logs

**Mode** Privileged Mode

11) clear vlan

This command is used to delete all VLAN groups

**Format** clear vlan

**Mode** Privileged Mode

### configuration

Enter into Global Configuration mode

**Format** configuration

**Mode** Privileged Mode

### copy

This command is used to upload file from switch to host, or download file to switch from host

1) copy nvram\_config

This command is used to backup switch configuration

**Format** copy nvram\_config tftp <A.B.C.D> file <filename>

**Mode** Privileged Mode

e.g. Switch#copy nvram\_config tftp 192.168.1.100 file switch\_configuration

2) copy system\_image

This command is used to backup switch runtime image

**Format** copy system\_image tftp <A.B.C.D> <filename>

**Mode** Privileged Mode

e.g. Switch#copy system\_image tftp 192.168.1.100 image\_file

3) copy tftp

This command is used to upload configuration or runtime image

**Format** copy tftp <A.B.C.D> file <filename> {nvram\_config | system\_image}

**Mode** Privileged Mode

e.g. Switch#copy tftp 192.168.1.100 file switch\_configuration nvram\_config  
Switch#copy tftp 192.168.1.100 file runtime\_code system\_image

### exit

This command is used to exit current shell

**Format** exit

**Mode** Privileged Mode

### help

This command displays help information

**Format** help

**Mode** Privileged Mode

### logout

This command is used to exit current shell

**Format** logout

**Mode** Privileged Mode

### **ping**

This command is used to proceed ping destination host

**Format** ping <A.B.C.D>

**Mode** Privileged Mode

### **reload**

This command is used to reboot system

**Format** reload

**Mode** Privileged Mode

### **save**

This command is used to save configuration

**Format** save

**Mode** Privileged Mode

### **show**

This command is used to show configured data

#### 1) show qos

This command display class of service information

##### 1.1) show qos cos

This command display the cos mapping

**Format** show qos cos

**Mode** Privileged Mode

##### 1.2) show qos queue-settings

This command display the queue-settings mapping

**Format** show qos queue-settings

**Mode** Privileged Mode

##### 1.3) show qos advanced

This command display qos advanced mode information

###### 1.3.1) show qos advanced mode

This command display mode of qos

**Format** show qos advanced mode

**Mode** Privileged Mode

###### 1.3.2) show qos advanced dscp

This command display qos dscp mapping

**Format** show qos advanced dscp

**Mode** Privileged Mode

###### 1.3.3) show qos advanced ip-precedence

This command display qos ip precedence mapping

**Format** show qos advanced ip-precedence

**Mode** Privileged Mode

##### 1.4) show qos port-based

This command is used to display class of service information

###### 1.4.1) show qos port-based port

This command display class of service information

**Format** show qos port-based port <port-ID>

**Mode** Privileged Mode

###### 1.4.2) show qos port-based all

This command display all switch interfaces' cos settings



**Format** show qos port-based all

**Mode** Privileged Mode

2) show dot1x

This command display dot1x information

2.1) show dot1x config

This command display dot1x and port configuration

**Format** show dot1x config

**Mode** Privileged Mode

2.2) show dot1x radius

This command display radius configuration

**Format** show dot1x radius

**Mode** Privileged Mode

2.3) show dot1x statistics

This command display dot1x statistics

**Format** show dot1x statistics

**Mode** Privileged Mode

3) show igmp snooping

This command display IGMP snooping information

3.1) show igmp snooping dynamic\_router\_port

This command display dynamic router ports information

**Format** show *igmp* snooping dynamic\_router\_port

**Mode** Privileged Mode

3.2) show IGMP snooping groups

This command is used to display *igmp* groups information

**Format** show IGMP snooping groups

**Mode** Privileged Mode

4) show interface

This command is used to display summary statistics

4.1) show interface history

This command is used to display port RX and TX

**Format** show interface history <port-ID>

**Mode** Privileged Mode

4.2) show interface statistics

This command is used to display port summary statistics

**Format** show interface statistics <port-ID>

**Mode** Privileged Mode

5) show lag

This command is used to display link aggregation groups information

5.1) show lag lag-index

This command is used to specify an switch lag

**Format** show lag lag-index <port-ID>

**Mode** Privileged Mode

5.2) show lag all

This command is used to display all switch lag

**Format** show lag all <port-ID>

**Mode** Privileged Mode

6) show lldp

This command is use to display lldp statistics

6.1) show lldp statistic

This command is used to display lldp statistic

**Format** show lldp statistic

- Mode** Privileged Mode
- 6.2) show lldp local  
This command is used to display local information  
**Format** show lldp local  
**Mode** Privileged Mode
- 6.3) show lldp msap  
This command is used to display msap information  
**Format** show lldp msap  
**Mode** Privileged Mode
- 6.4) show lldp msap-entry  
This command is used to display msap details information  
**Format** show lldp msap-entry <1..26>  
**Mode** Privileged Mode
- 7) show logging  
This command is used to display trap records
- 7.1) show logging memory-log  
This command display memory log  
**Format** show logging memory-log  
**Mode** Privileged Mode
- 7.2) show logging flash-log  
This command display flash logs  
**Format** show logging flash-log  
**Mode** Privileged Mode
- 8) show monitor  
This command is used to display port mirroring settings  
**Format** show monitor  
**Mode** Privileged Mode
- 9) show network  
This command is used to configuration for inband connectivity  
**Format** show network  
**Mode** Privileged Mode
- 10) show port  
This command is used to display port mode and settings, display port status
- 10.1) show port port-index  
This command is used to specify an switch interface  
**Format** show port port-index <port-ID>  
**Mode** Privileged Mode
- 10.2) show port all  
This command is used to display all switch interface  
**Format** show port all  
**Mode** Privileged Mode
- 11) show port-security  
This command is used to display port security settings
- 11.1) show port-security port  
This command is used to specify an switch interface  
**Format** show port-security port <port-ID>  
**Mode** Privileged Mode
- 11.2) show port-security all  
This command is used to display all interfaces' status  
**Format** show port-security all  
**Mode** Privileged Mode

12) show rate-limit

This command is used to ingress and egress rate limit information

12.1) show rate-limit port

This command is used to specify an switch interface

**Format** show rate-limit port <port-ID>

**Mode** Privileged Mode

e.g. Switch#Show rate-limit port 1

Switch#Show rate-limit port g1

12.2) show rate-limit all

This command is used to display all interfaces' status

**Format** show Rate-Limit all

**Mode** Privileged Mode

13) show running-config

This command is used to display switch running config

**Format** show running-config

**Mode** Privileged Mode

14) show snmp

This command is used to display all snmp config

14.1) show snmp groups

This command display all snmp groups

**Format** show snmp groups

**Mode** Privileged Mode

14.2) show snmp users

This command display all snmp users

**Format** show snmp users

**Mode** Privileged Mode

3) show snmp communities

This command display all snmp communities

**Format** show snmp communities

**Mode** Privileged Mode

15) show snmp

This command is used to display switch snmp information

**Format** show snmp

**Mode** Privileged Mode

16) show spanning-tree

This command displays Spanning Tree information

16.1) show spanning-tree interface

This command displays RSTP ports information

16.1.1) show spanning-tree interface port

This command specify an switch interface

**Format** show spanning-tree interface port<port-ID>

**Mode** Privileged Mode

16.1.2) show spanning-tree interface all

This command display all switch interface

**Format** show spanning-tree interface all

**Mode** Privileged Mode

16.2) show spanning-tree mst

This command display MST information

16.2.1) show spanning-tree mst detailed

This command display a MST instance information

**Format** show spanning-tree mst detailed <0..4094>

- Mode** Privileged Mode
- 16.2.2) show spanning-tree mst instance  
This command display ports information on a MST instance  
**Format** show spanning-tree mst instance <0..4094>  
**Mode** Privileged Mode
- 16.2.3) show spanning-tree mst summary  
This command display all MST instance information  
**Format** show spanning-tree mst summary  
**Mode** Privileged Mode
- 16.2.4) show spanning-tree status  
This command is used to display spanning-tree status  
**Format** show Spanning-tree status  
**Mode** Privileged Mode
- 17) show storm-control  
This command is used to display storm-control information  
**Format** show storm-control  
**Mode** Privileged Mode
- 18) show sysinfo  
This command is used to display system information including system up time  
**Format** show sysinfo  
**Mode** Privileged Mode
- 19) show switch  
This command is used to display switch information
- 19.1) show switch admin-time  
This command display the age time of web and console  
**Format** show switch admin-time  
**Mode** Privileged Mode
- 19.2) show switch age-time  
This command display the age time of L2 table  
**Format** show switch age-time  
**Mode** Privileged Mode
- 19.3) show switch mac-table  
This command is used to display address resolution protocol cache  
**Format** show switch mac-table  
**Mode** Privileged Mode
- 19.4) show switch mcast-table  
This command display multicast address table  
**Format** show switch mcast-table  
**Mode** Privileged Mode
- 20) show trapflags  
This command is used to display the value of trap flags that apply to the switch  
**Format** show trapflags  
**Mode** Privileged Mode
- 21) show vlan  
This command is used to display vlan configuration
- 21.1) show vlan member  
This command display vlan configuration  
**Format** show vlan member <1..4094>  
**Mode** Privileged Mode

- 21.2) show vlan number  
 This command display how many vlan has been created  
**Format** show vlan number  
**Mode** Privileged Mode
- 22) show rmon
- 22.1) show rmon event
- 22.2) show rmon event Index  
 This command displays rmon Event.  
**Format** show rmon event index <1..65535>  
**Mode** Privileged Mode
- 22.3) show rmon event  
**Format** Show rmon event<CR>  
**Mode** Privileged Mode
- 22.4) show rmon event log  
 This command displays rmon event log.  
**Format** Show rmon Event log event index <1..65535>  
**Mode** Privileged Mode
- 22.5) show rmon alarm
- 22.5.1) show rmon alarm index  
 This command displays rmon Alarm.  
**Format** show rmon alarm index <1..65535>  
**Mode** Privileged Mode
- 22.5.2) show rmon alarm  
**Format** show rmon alarm<CR>  
**Mode** Privileged Mode
- 22.5.3) show rmon event log  
 This command displays rmon event log.  
**Format** show rmon event log event index <1..65535>  
**Mode** Privileged Mode
- 22.6) show rmon history  
 This command displays rmon history.  
**Format** show rmon history index <1..65535>  
**Mode** Privileged Mode
- 22.7) show rmon statistics  
 This command displays port rmon statistics.  
**Format** Show rmon statistics  
**Mode** Privileged Mode
- 23) show poe  
 This command is used to display poe mode and settings, display poe port status
- 23.1) show poe port-index  
 This command is used to specify an switch poe interface  
**Format** show poe port-index <port-ID>  
**Mode** Privileged Mode
- 23.2) show poe all  
 This command is used to display all switch poe interface  
**Format** show poe all  
**Mode** Privileged Mode
- 24) show tacplus  
 This command is used to display TACACS+ information, includes authentication type and server parameters.

**Format** show tacplus  
**Mode** Privileged Mode

### telnet

This command telnet the other host.

**Format** telnet <A.B.C.D>

**Mode** Privileged Mode

## 2.9.4.Global Config mode commands

### exit

This command is used to exit current shell

**Format** exit

**Mode** Global Config

### vlan

This command is used to configure vlan

#### 1) vlan add

This command is used to create a new vlan

##### 1.1) vlan add number

This command enter a vlan ID

**Format** vlan add number <vlan-ID>

**Mode** Global Config

##### 1.2) vlan add range

This command enter a range of vlan ID

**Format** vlan add range from < vlan-ID > to <vlan-ID>

**Mode** Global Config

#### 2) vlan delete

This command remove a existed vlan

**Format** vlan delete <vlan-ID>

**Mode** Global Config

#### 3) vlan ingress

This command performs ingress vlan source port membership check

##### 3.1) vlan ingress forward

The command is used to forward frame but don't learn SA into ARL table

**Format** vlan ingress forward

**Mode** Global Config

##### 3.2) vlan ingress drop

This command is used to drop frames violation vid

**Format** vlan ingress drop

**Mode** Global Config

##### 3.3) vlan ingress bypass

This command is used to forward frame and learn SA into ARL table

**Format** vlan ingress bypass

**Mode** Global Config

#### 4) vlan port

This command is used to configure 802.1Q port parameters for vlans

##### 4.1) vlan port all

This command is used to configure all ports

1.1) vlan port all port-configure

This command is used to configure ports in a specific vlan

**Format** vlan port all port configure <vlan-ID>

**Mode** Global Config

1.2) vlan port all protected

This command is used to configure protected ports

**Format** vlan port all protected {enable|disable}

**Mode** Global Config

1.3) vlan port all pvid

This command is used to configure port pvid

**Format** vlan port all pvid <vlan-ID>

**Mode** Global Config

4.2) vlan port ports

This command is used to configure multiple ports

4.2.1) vlan port ports port-configure

This command is used to configure ports in a specific vlan

**Format** vlan port ports port-configure <vlan-ID>

**Mode** Global Config

4.2.2) vlan port ports protected

This command is used to configure protected ports

**Format** vlan port ports protected {enable|disable}

**Mode** Global Config

4.2.3) vlan port ports pvid

This command is used to configure port vid

**Format** vlan port ports pvid < vlan-ID>

**Mode** Global Config

5) vlan lag

This command is used to configure lag to a special vlan

5.1) vlan lag vlan < vlan-id> exclude

This command is used to remove lag from a vlan

**Format** vlan lag vlan < vlan-ID> exclude lags <lag-ID>

**Mode** Global Config

5.2) vlan lag vlan <vlan-ID> untagged

This command is used to set to untagged lag.

**Format** vlan lag vlan <vlan-ID> untagged lags <lag-ID>

**Mode** Global Config

5.3) vlan lag vlan <vlan-ID> tagged

This command is used to set to tagged lag.

**Format** vlan lag vlan <vlan-ID> tagged lags <lag-ID>

**Mode** Global Config

## bridge

This command is used to configure switch aging time

**Format** bridge aging-time <0-1048575>

**Mode** Global Config

## lacp-syspri

This command is used to configure lacp system priority

**Format** lacp-syspri system-priority <0-65535>

**Mode** Global Config

## link-aggregation

This command is used to configure link aggregation

### 1) link-aggregation addport

This command is used to configure LAG groups

**Format** Link Aggregation addport lag <LAG-ID>

**Mode** Global Config

### 2) link aggregation delport

This command remove ports from LAG

#### 2.1) Link Aggregation delport all

This command remove all ports from a LAG

**Format** link-aggregation-delport all lag <LAG-ID>

**Mode** Global Config

#### 2.2) link aggregation delport lag

This command remove specify LAG group

**Format** link aggregation delport lag <LAG-ID>

**Mode** Global Config

## lldp

### 1) lldp enable

This command is used to enable lldp functions

**Format** lldp enable

**Mode** Global Config

### 2) lldp disable

This command is used to disable lldp functions

**Format** lldp disable

**Mode** Global Config

### 3) lldp adv-interval

This command is used to specify advertised interval in seconds

**Format** lldp adv-interval <5-32768>

**Mode** Global Config

### 4) lldp fast-startcnt

This command is used to specify fast-start count

**Format** lldp fast-startcnt <1-10>

**Mode** Global Config

### 5) lldp hold

This command is used to specify hold value

**Format** lldp hold <2-10>

**Mode** Global Config

### 6) lldp notify-interval

This command is used to specify notification interval in seconds

**Format** lldp notify-interval <5-3600>

**Mode** Global Config

### 7) lldp reinit-delay

This command is used to specify re-initialization delay in seconds

**Format** lldp reinit-delay <1-10>

**Mode** Global Config

### 8) lldp tx-delay

Transmit Delay in seconds

**Format** lldp tx-delay <1-8192>

**Mode** Global Config



### 9) lldp mgmt-addrtxport

A range of ports can be set.

**Format** lldp mgmt-addrtxport ports <port list>

**Mode** Global Config

e.g. switch(config)# lldp mgmt-addrtxport ports 1  
switch(config)# lldp mgmt-addrtxport ports 1-4

## log

This command is used to configure log server

### 1) log log-server

This command is used to configure log server

#### 1.1) log log-server name <WORD>add

This command is used to specify log server name, enter a name, up to 12 characters, add a log server IP address

**Format** log log-server name <WORD> add ipaddr word

**Mode** Global Config

#### 1.2) log log-server name <word> delete

This command is used to delete a log server

**Format** log log-server name <WORD> delete

**Mode** Global Config

### 2) log logging-target

This command is used to configure log notification level

#### 2.1) log logging-target memory

This command is used to specify memory log notify-level

**Format** log logging-target memory {enable|disable}

**Mode** Global Config

#### 2.2) log logging-target flash

This command is used to specify flash log notify-level

**Format** log logging-target flash {enable|disable}

**Mode** Privileged Mode

#### 2.3) log logging-target console

This command is used to specify console log notify-level

**Format** log logging-target console {enable|disable}

**Mode** Global Config

#### 2.4) log logging-target server

This command is used to specify console log notify-level

**Format** log logging-target server name <WORD> {enable|disable}

**Mode** Global Config

## radius-server

This command is used to configure radius server

**Format** radius-server ip <IP addr>

**Mode** Global Config

## static-address

This command is used to specify static address

### 1) static-address add

This command is used to add static mac address

**Format** static-address add <mac addr> vid <vlan-ID> port <port-ID>

**Mode** Global Config

### 2) static-address delete

This command is used to delete static mac address

**Format** static-address delete <mac addr> vid <vlan-ID>

**Mode** Global Config

### mgmt-accesslist

1) mgmt-accesslist ipaddr

This command specifies a management access IP for the DUT, up to 8 IP address can be set.

**Format** mgmt-accesslist ipaddr <IP addr>

**Mode** Global Config

2) mgmt-accesslist enable

This command enables management access list. Only the IP address specified in the management list is allowed to access DUT.

**Format** mgmt-accesslist enable

**Mode** Global Config

3) mgmt-accesslist disable

This command disables management access list.

**Format** mgmt-accesslist disable

**Mode** Global Config

### monitor

1) monitor enable

This command enables port mirroring.

**Format** monitor enable

**Mode** Global Config

2) monitor disable

This command disables port mirroring.

**Format** monitor disable

**Mode** Global Config

3) monitor des

Configure destination port.

3.1) monitor des <port-ID> probetype bidirection

This command configures port monitor probetype as bi-direction traffic.

**Format** monitor des <port-ID> probetype bidirection src <port list>

**Mode** Global Config

e.g. Switch(config)# monitor des 1 probetype bidirection src 2-8

3.2) monitor des <port-ID> probetype ingress

This command configures port monitor probetype as ingress traffic.

**Format** monitor des <port-ID> probetype ingress src <port list>

**Mode** Global Config

e.g. Switch(config)# monitor des 1 probetype ingress src 2-8

3.3) monitor des <port-ID> probetype egress

This command configures port monitor probetype as egress traffic.

**Format** monitor des <port-ID> probetype egress src <port list>

**Mode** Global Config

e.g. Switch(config)# monitor des 1 probetype egress src 2-8

### dot1x

1) dot1x enable

This command enables global 802.1x function.

- Format** dot1x enable  
**Mode** Global Config
- 2) dot1x disable  
 This command disables global 802.1x function.  
**Format** dot1x disable  
**Mode** Global Config
- 3) dot1x port-control  
 Configure port auto-authentication mode.
- 3.1) dot1x port-control enable  
 This command set auto-authorized on a list of ports.  
**Format** dot1x port-control enable port <port list>  
**Mode** Global Config
- 3.2) dot1x port-control disable  
 This command set force authorized on a list of ports.  
**Format** dot1x port-control disable port <port list>  
**Mode** Global Config  
 e.g. Switch(config)# dot1x port-control disable port 1-4

## network

- 1) network mgmt-vlan  
 This command changes management vlan.  
**Format** network mgmt-vlan <vlan-ID>  
**Mode** Global Config
- 2) network parms  
 This command configures static IP address of the switch.  
**Format** network parms <IP addr> <subnet mask> <gateway>  
**Mode** Global Config
- 3) network protocol  
 This command configure switch dhcp client.  
**Format** network protocol {dhcp|none}  
**Mode** Global Config
- 4) network dhcp-relay  
 Configure switch dhcp relay functions.
- 4.1) network dhcp-relay mode  
 This command configures dhcp relay mode.  
**Format** network dhcp-relay mode {enable|disable}  
**Mode** Global Config
- 4.2) network dhcp-relay server  
 This command configures dhcp-relay server ip-address.  
**Format** network dhcp-relay server <A.B.C.D>  
**Mode** Global Config
- 4.3) network dhcp-relay vlan  
 Configure dhcp-relay option-82 vlan information.
- 3.1) network dhcp-relay vlan <vlan-ID> add  
 This command enters a vlan which will be enable DHCP-relay option82.  
**Format** network dhcp-relay vlan <vlan-ID> add  
**Mode** Global Config
- 3.2) network dhcp-relay vlan <vlan-ID> remove  
 This command enters a vlan which will be disable dhcp-relay option82.  
**Format** network dhcp-relay vlan <vlan-ID> remove  
**Mode** Global Config

## 5) network sysinfo

Configure switch system information.

### 5.1) Network sysinfo sysname

This command configures system name.

**Format** network sysinfo sysname <WORD>

**Mode** Global Config

### 5.2) network sysinfo syslocate

This command configures system location.

**Format** network sysinfo syslocate <WORD>

**Mode** Global Config

### 5.3) network sysinfo syscontact

This command configures system contact information.

**Format** network sysinfo syscontact <WORD>

**Mode** Global Config

## 6) network admin-timeout

This command configures web/console admin time out interval.

'0' means disable.

**Format** network admin-timeout <0-65535>

**Mode** Global Config

## port-all

### 1) port-all admin-mode

This command configures ports admin mode.

**Format** port-all admin-mode {enable | disable}

**Mode** Global Config

### 2) port-all auto-negotiate

This command configures ports auto-negotiation mode.

**Format** port-all auto-negotiate {enable|disable}

**Mode** Global Config

### 3) port-all flow-control

This command configures ports flow control.

**Format** port-all flow-control {enable|disable}

**Mode** Global Config

### 4) port-all portsec-lockmode

Configure port security.

#### 4.1) port-all portsec-lockmode none

This command disable port security.

**Format** port-all portsec-lockmode none

**Mode** Global Config

#### 4.2) port-all portsec-lockmode static

**Note:** This commands only support on **24-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch & 48-Port 100BaseTX + 4 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch models**

This command enable static lock mode.

**Format** port-all portsec-lockmode static

**Mode** Global Config

#### 4.3) port-all portsec-lockmode dynamic

This command enable limited dynamic lock mode.

**Format** port-all portsec-lockmode dynamic max-entries <0-24>

**Mode** Global Config

### 5) port-all rate-limit

Configure rate limit value on all ports.

5.1) port-all rate-limit egress

This command specifies egress rate limit.

**Format** port-all Rate-Limit egress <value>

**Mode** Global Config

5.2) port-all rate-limit ingress

This command specifies ingress rate limit.

**Format** port-all rate-limit ingress <value>

**Mode** Global Config

6) port-all rmon-counter

This command configures rmon counter capability on ports.

**Format** port-all rmon-counter {enable|disable}

**Mode** Global Config

7) port-all speed

This command configures ports speed.

**Format** port-all speed {10hd|10fd|100hd|100fd}

**Mode** Global Config

8) port-all storm-control

Configure all ports' storm control settings.

8.1) port-all storm-control disable

This command disables storm control.

**Format** port-all Storm-Control disable

**Mode** Global Config

8.2) port-all storm-control broadcast

This command configures storm control for broadcast only.

**Format** port-all storm-control broadcast <value>

**Mode** Global Config

8.3) port-all storm-control broadcast-multicast

This command configures storm control for broadcast and multicast.

**Format** port-all Storm-Control broadcast-multicast <value>

**Mode** Global Config

8.4) port-all storm-control broadcast-unknown

This command configures storm control for broadcast and unknown unicast.

**Format** port-all storm-control broadcast-unknown <value>

**Mode** Global Config

8.5) port-all storm-control all-cast

This command configures storm control for broadcast, multicast and unknown unicast.

**Format** port-all Storm-Control all-cast <value>

**Mode** Global Config

## qos

1) qos qos-advanced

Configure qos advanced mode.

1.1) qos qos-advanced DSCP

This command enables DSCP mode.

**Format** qos qos-advanced DSCP

**Mode** Global Config

1.2) qos qos-advanced ip\_precedence

This command enables IP Precedence mode.

- Format** qos qos-advanced ip\_precedence  
**Mode** Global Config
- 1.3) qos qos-advanced none  
 This command disables qos advanced mode.  
**Format** qos qos-advanced none  
**Mode** Global Config
- 2) qos cos  
 This command configures 802.1p priority queue mapping.  
**Format** Qos cos priority <0-7> queue <1-4>  
**Mode** Global Config
- 3) qos dscp  
 This command specifies dscp value to queue mapping.  
**Format** qos dscp <0-63> queue <1-4>  
**Mode** Global Config
- 4) qos port-based  
 This command configures port-based priority mapping.  
**Format** qos port-based port <WORD>status {enable | disable}  
**Mode** Global Config
- 5) qos scheduling  
 Configure qos scheduling mode.
- 5.1) qos scheduling strict  
 This command sets to strict priority.  
**Format** qos scheduling strict  
**Mode** Global Config
- 5.2) qos scheduling wrr  
 This command sets to Weight Round-Robin.  
**Format** qos scheduling wrr  
**Mode** Global Config
- 6) qos ip-precedence  
 This command configures IP precedence queue mapping.  
**Format** qos ip-precedence <0-7> queue <1-4>  
**Mode** Global Config
- 7) qos wrr  
 This command configures queue weight for weight round robin.  
**Format** qos wrr weight <1-15> queue <1-4>  
**Mode** Global Config
- 8) qos dscp-remark  
*Note: This command only supports on the following switches,*  
**2. 24-Port 100BaseTX + 2 Gigabit combo Layer 2+ Management Switch**  
**4. 24-Port 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch**  
**5. 48-Port 1000BaseT with 4 shared Gigabit SFP Layer 2+ Management Switch**  
 This command is used to change DSCP value if the outgoing packet is an IP packet. Select an ACL Entry Name as the criterion and then enter New DSCP Value as the action. Once the criterion is hit, the DSCP value will be changed.  
**Format** qos dscp-remark acl\_entry\_name <name> new\_dscp\_value <0-63>  
**Mode** Global Config
- set**
- 1) set IGMP  
 Configure IGMP snooping.

- 1.1) set igmp enable  
This command enables igmp snooping.  
**Format** set igmp enable  
**Mode** Global Config
- 1.2) set igmp disable  
This command disables IGMP snooping.  
**Format** set igmp disable  
**Mode** Global Config
- 1.3) set igmp last-memberquery  
This command specifies last member query interval.  
**Format** set igmp last-memberquery <1-200>  
**Mode** Global Config
- 1.4) set igmp last-membercount  
This command specifies last member count.  
**Format** set igmp last-membercount <1-20>  
**Mode** Global Config
- 1.5) set igmp query-interval  
This command specifies igmp query interval<secs>.  
**Format** set igmp query-interval <10-600>  
**Mode** Global Config
- 1.6) set igmp query-resinterval  
This command specifies igmp query response interval<secs>.  
**Format** set igmp query-resinterval <0-200>  
**Mode** Global Config
- 1.7) set igmp robustness  
This command specifies robustness variable.  
**Format** set igmp robustness <1-20>  
**Mode** Global Config
- 1.8) set igmp router-port  
This command specifies igmp router port.  
**Format** set igmp router-port ports <port list>  
**Mode** Global Config  
e.g. Switch(config)# set igmp router-port ports 1-10
- 2) set igmp-querier  
This command configures igmp querier.  
**Format** set igmp-querier {enable | disable}  
**Mode** Global Config
- 3) set igmp-proxy  
This command configures igmp proxy.  
**Format** set igmp-proxy {enable | disable}  
**Mode** Global Config
- 4) set static-mcast  
Configure static multicast.
  - 4.1) set static-mcast name <WORD> add  
This command create a multicast group.  
**Format** set static-mcast name <WORD> add vid <vlan-ID> mac <mac-addr>member port <port list>  
**Mode** Global Config
  - 4.2) set static-mcast name <WORD>delete  
This command delete a static multicast group.  
**Format** set static-mcast name <WORD>delete

## Mode Global Config

### snmp

#### 1) snmp notify

This command configures snmp notification.

**Format** snmp notify {enable|disable}

**Mode** Global Config

#### 2) snmp group

##### 2.1) snmp group add

This command create a snmp group.

**Format** snmp group add <WORD>version <1-2>

**Mode** Global Config

##### 2.2) snmp group delete

This command delete a snmp group.

**Format** snmp group delete <WORD>

**Mode** Global Config

#### 3) snmp user

##### 3.1) snmp user add

This command creates a snmp user.

**Format** snmp user add <user name> group <group name> version <1-3>

**Mode** Global Config

##### 3.2) snmp user delete

This command deletes a snmp user.

**Format** snmp user delete <WORD>

**Mode** Global Config

#### 4) snmp community

##### 4.1) snmp community add

This command creates a community.

**Format** snmp community add <community name> group <group name> mgmt-ip <ip-addr>

**Mode** Global Config

##### 4.2) snmp community delete

This command deletes a community.

**Format** snmp community delete <community name>.

**Mode** Global Config

#### 5) snmp trapstation

##### 5.1) snmp trapstation add

Create a snmp trap station.

5.1.1) snmp trapstation add <ip-addr> community <community name> type bootup

Send trap when system reboot

**Format** snmp trapstation add <ip-addr> community <community name> type bootup trap-version {1|2}

**Mode** Global Config

5.1.2) snmp trapstation add <ip-addr> community <community name> type linkchange

Send trap when port link change.

**Format** snmp trapstation add <ip-addr> community <community name> type linkchange trap-version {1|2}

**Mode** Global Config



5.1.3) snmp trapstation add <ip-addr> community <community name>  
type both

Send trap when system reboot or port link change.

**Format** snmp trapstation add <ip-addr> community <community name> type both trap-version {1-2}

**Mode** Global Config

5.1.4) snmp trapstation add <ip-addr> community <community name>  
type none

Send no trap.

**Format** snmp trapstation add <ip-addr> community <community name> type none trap-version {1-2}

**Mode** Global Config

5.2) snmp trapstation delete

This command delete a trap station.

**Format** snmp trapstation delete <WORD>

**Mode** Global Config

## sntp

1) sntp daylight

This command enables or disables the daylight saving configuration.

**Format** sntp daylight {enable|disable}

**Mode** Global Config

2) sntp localtime

Configure the local time.

2.1) sntp localtime enable

This command enables local time.

**Format** sntp localtime enable

**Mode** Global Config

2.2) sntp localtime localtime\_date

This command sets local time.

**Format** sntp localtime localtime\_date <year> <month> <date> <hour>  
<minute> <second>

**Mode** Global Config

3) sntp server

3.1) sntp server enable

This command enables sntp server.

**Format** sntp server enable

**Mode** Global Config

3.2) sntp server ipaddr

This command sets sntp server IP address.

**Format** sntp server ipaddr <IP-addr>

**Mode** Global Config

3.3) sntp server polling

This command sets sntp server polling time interval.

**Format** sntp serve polling <0-9>

**Mode** Global Config

4) sntp timezone

This command sets sntp timezone.

**Format** sntp timezone <1-75>

**Mode** Global Config

## spanning-tree

- 1) spanning-tree forceversion

This command configures Spanning Tree protocol version.

  - 1.1) spanning-tree forceversion 8021s

This command selects spanning tree type as 8021.s(multiple Spanning Tree).

**Format** spanning-tree forceversion 8021s

**Mode** Global Config
  - 1.2) spanning-tree forceversion 8021w

This command selects spanning tree type as 802.1w(rapid Spanning Tree).

**Format** spanning-tree forceversion 8021w

**Mode** Global Config
  - 1.3) spanning-tree forceversion none

This command selects none spanning tree type.

**Format** spanning-tree forceversion none

**Mode** Global Config
- 2) spanning-tree configuration

This command configures MSTP region name and revision.

  - 2.1) spanning-tree configuration name

This command configures MSTP region name (Max.32 chars).

**Format** spanning-tree configuration name <WORD>

**Mode** Global Config
  - 2.2) spanning-tree configuration revision

This command configures revision level.

**Format** spanning-trees configuration revision <0-65535>

**Mode** Global Config
- 3) spanning-tree forward-time

This configures the bridge forward delay parameter.

**Format** spanning-tree forward-time <4-30>

**Mode** Global Config
- 4) spanning-tree max-age

This command configures the bridge max age parameter.

**Format** spanning-tree max-age <6-40>

**Mode** Global Config
- 5) spanning-tree max-hops

This command configure the number of hops in a region.

**Format** spanning-tree max-hops <1-40>

**Mode** Global Config
- 6) spanning-tree port
  - 6.1) spanning-tree port all

This command specifies RSTP capability for all ports.

**Format** spanning-tree port all {enable |disable}

**Mode** Global Config
  - 6.2) spanning-tree port cost

This command configures RSTP port path cost.

**Format** spanning-tree port cost <0-200000000>

**Mode** Global Config
  - 6.3) spanning-tree port priority

This command configures RSTP port priority.

**Format** spanning-tree port priority <0-24>

- Mode** Global Config
- 6.4) spanning-tree port edge  
This command configures STP edge .  
**Format** spanning-tree port edge {enable|disable}  
**Mode** Global Config
- 6.5) spanning-tree port force-p2plink  
This command configures force point to point link mode on ports.  
**Format** spanning-tree port force-p2plink {auto|enable|disable}  
**Mode** Global Config
- 6.6) spanning-tree port migration-check  
This command Re-checks the appropriate BPDU format to send on ports.  
**Format** spanning-tree port migration-check {enable|disable}  
**Mode** Global Config
- 7) spanning-tree priority  
This command configures RSTP bridge priority value.  
**Format** spanning-tree priority <0-61440>  
**Mode** Global Config
- 8) spanning-tree mst  
Configure a multiple spanning tree instance.
- 8.1) spanning-tree mst instance  
This command creates or removes a MST instance
- 8.1.1) spanning-tree mst instance add  
This command creates a MST instance.  
**Format** spanning-tree mst instance add vlan <vlan list> mstpid <MST ID>  
**Mode** Global Config
- e.g. Switch(Config)# Spanning-Tree mst instance add vlan 2-5 mstpid 2  
Switch(Config)# Spanning-Tree mst instance add vlan 6 mstpid 3
- 8.1.2) spanning-tree mst instance delete  
This command removes the last MST instance.  
**Format** spanning-tree mst instance delete  
**Mode** Global Config
- 8.2) spanning-tree mst vlan  
This command adds or deletes vlan from a MSTP instance.
- 8.2.1) spanning-tree mst vlan <MST ID> <vlan list> add  
This command creates a MST instance.  
**Format** spanning-tree mst vlan <MST ID> <vlan list> add  
**Mode** Global Config
- e.g. Switch(Config)# Spanning-Tree mst vlan 3 3-5 add
- 8.2.2) Spanning-Tree mst vlan <MST ID> <vlan list> delete  
This command deletes a vlan from a MST instance.  
**Format** Spanning-Tree mst vlan <MST ID> <vlan list> delete  
**Mode** Global Config
- 8.3) spanning-tree mst bridgepri  
This command configures bridge priority for a MST instance.  
**Format** spanning-tree mst bridgepri <MST ID> <priority>  
**Mode** Global Config
- 8.4) spanning-tree mst cost  
This command configures port path cost in a MST instance.  
**Format** spanning-tree mst cost <MST ID> <path cost> ports <port list>

**Mode** Global Config

#### 8.5) spanning-tree mst priority

This command configures port priority in a MST instance

**Format** spanning-tree mst priority <MST ID> <priority> ports <port list>

**Mode** Global Config

### User

This command changes user password.

**Format** user password

**Mode** Global Config

### Interface

This command enters into configure interface mode.

**Format** Interface <port-ID>

**Mode** Global Config

### rmon

This command is used to configure RMON.

#### 1) rmon event

This command creates rmon event entry.

**Format** rmon event index < 1..65535 > desc <WORD> event <1..4>  
community <WORD>owner<WORD>

**Mode** Global Config

e.g. Switch(Config)# rmon event index 1 desc 123 event 4 community 123  
owner test

#### 2) rmon alarm

This command creates rmon alarm entry.

**Format** rmon alarm index < 1..65535 >interval<0..3600>interface<port  
number>counter<1..17>sample{absolute|delta}start{rasing|falling|all}rthresh  
old<0..65535>fthreshold<0..65535> reindex <0..65535> feindex<0..65535>  
owner< WORD>

**Mode** Global Config

e.g. Switch(Config)# RMON alarm index 1 interval 10 interface counter 1  
sample delta start all rthreshold 100 fthreshold 10 reindex 1 feindex 0  
owner test

#### 3) rmon del

##### 3.1) rmon del event

This command deletes rmon event entry.

**Format** rmon del event index< 1..65535 >

**Mode** Global Config

##### 3.2) rmon del alarm

This command deletes rmon alarm entry.

**Format** rmon del alarm index< 1..65535 >

**Mode** Global Config

### access list

*Note:* This commands only support on L2+ Management Switches.

#### 1) access-list name <WORD> add

This command creates a new access-list.

**Format** access-list name <WORD> add priority <1-65535>

**Mode** Global Config

- 2) access-list name <WORD> action
  - 2.1) access-list name <WORD> action deny  
This command denies an ACL entry.  
**Format** access-list name <WORD> action deny  
**Mode** Global Config
  - 2.2) access-list name <WORD> action permit  
This command permits an ACL entry and queue 1-4 will assign priority queue when rule activated.  
**Format** access-list name <WORD> action permit {<cr>|queue <1-4>}  
**Mode** Global Config
- 3) access-list name <WORD> clear  
This command clears ACL entry contents.
  - 3.1) access-list name <WORD> clears SRC IP  
This command clears the source IP/subnet mask filter.  
**Format** access-list name <WORD> clear SRC IP  
**Mode** Global Config
  - 3.2) access-list name <WORD> clears DST IP  
This command clears the destination IP/subnet mask filter.  
**Format** access-list name <WORD> clear DST IP  
**Mode** Global Config
  - 3.3) access-list name <WORD> clear L4port
    - 3.3.1) access-list name <WORD> clear L4port SRC port  
This command clears TCP/UDP source port filter.  
**Format** access-list name <WORD> clear l4port SRC port  
**Mode** Global Config
    - 3.3.2) access-list name <WORD> clear l4port DST port  
This command clears TCP/UDP destination port filter.  
**Format** access-list name <WORD> clear l4port DST port  
**Mode** Global Config
  - 3.4) access-list name <WORD> clear packet-type  
This command clears packet type filter.  
**Format** access-list name <WORD> clear packet-type  
**Mode** Global Config
  - 3.5) access-list name <WORD> clear mac SA  
This command clears a source mac address.  
**Format** Access-list name <WORD> clear mac SA  
**Mode** Global Config
  - 3.6) access-list name <WORD> clear MAC DA  
This command clears a destination mac address.  
**Format** Access-list name <WORD> clear mac DA.  
**Mode** Global Config
  - 3.7) access-list name <WORD> clear VID  
This command clears the 802.1Q VLAN tag of packet.  
**Format** Access-list name <WORD> clear VID  
**Mode** Global Config
  - 3.8) access-list name <WORD> clear ether-type  
This command clears ether type filter.  
**Format** access-list name <WORD> clear ether-type  
**Mode** Global Config
- 4) access-list name <WORD> deletes.  
This command removes the ACL entry.

- Format** access-list name <WORD> deletes  
**Mode** Global Config
- 5) access-list name <WORD> {enable|disable}  
 This command enables/disables the ACL entry.  
**Format** access-list name <WORD> {enable|disable}  
**Mode** Global Config
- 6) access-list name <WORD> set
- 6.1) access-list name <WORD> set priority  
 This command specifies ACL entry priority.  
**Format** access-list name <WORD> set priority <0-65535>  
**Mode** Global Config
- 6.2) access-list name <WORD> set IP-mode
- 6.2.1) access-list name <WORD> set IP-mode SRC IP.  
 This command specifies a source IP address.  
**Format** access-list name <WORD> set IP-mode SRC IP  
 <IP-addr> <mask-addr>  
**Mode** Global Config
- 6.2.2) access-list name <WORD> set IP-mode DST IP  
 This command specifies a destination IP address.  
**Format** access-list name <WORD> set IP-mode DSP IP  
 <IP-addr> <mask-addr>  
**Mode** Global Config
- 6.3) access-list name <WORD> set L4port  
 This command specifies the TCP/UDP port range.
- 6.3.1) access-list name <WORD> set I4port SRC-port  
 This command specifies the source TCP/UDP port range.  
**Format** Access-list name <WORD> set L4 port SRE-port from  
 <1-65535> to <1-65535>  
**Mode** Global Config
- 6.3.2) access-list name <WORD> set I4port DST-port  
 This command specifies the destination TCP/UDP port range.  
**Format** access-list name <WORD> set I4port DST-port from  
 <1-65535> to <1-65535>  
**Mode** Global Config
- 6.4) access-list name <WORD> set IP-mode packet-type  
 This command specifies the packet type.  
**Format** access-list name <WORD> set IP-mode packet-type  
 {ICMP|IGMP|IP|TCP|UDP|GRE}  
**Mode** Global Config
- 6.5) access-list name <WORD> set mac-mode  
 Specify ACL entry priority.
- 6.5.1) access-list name <WORD> set mac-mode mac SA  
 This command specifies a source mac address.  
**Format** access-list name <WORD> set mac-mode mac SA  
 <mac-addr> <mask-addr>  
**Mode** Global Config
- 6.5.2) access-list name <WORD> set mac-mode mac DA  
 This command specifies a destination mac address.  
**Format** access-list name <WORD> set mac-mode mac DA  
 <mac-addr> <mask-addr>  
**Mode** Global Config

6.6) access-list name <WORD> set mac-mode ether-type

This command specifies the ether type of the packet.

**Format** access-list name <WORD> set mac-mode ether-type  
{ipv4|ARP|xns}

**Mode** Global Config

7) access-list name <name> set portlist

*Note: This command only supports on the following switches,*

**2. 24-Port 100BaseTX + 2 Gigabit combo Layer 2+ Management Switch**

**3. 48-Port 100BaseTX + 4 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch**

**4. 24-Port 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch**

**5. 48-Port 1000BaseT with 4 shared Gigabit SFP Layer 2+ Management Switch**

This command is used to specify an acl entry to be work on a list of ports.

**Format** access-list name <name> set portlist <LINE | port\_id>

**Mode** Global Config

## arp

*Note: This commands only support on 24-Port 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch / 48-Port 1000BaseT with 4 shared Gigabit SFP Layer 2+ Management Switch models.*

1) arp dynamic

1.1) arp dynamic enables and disables.

This command enables and disables dynamic arp functions.

**Format** arp dynamic {enable|disable}

**Mode** Global Config

1.2) arp dynamic aging-time

This command set arp dynamic aging-time between 0s and 999s."0" means disable.

**Format** arp dynamic aging-time <0~999>

**Mode** Global Config

1.3) arp dynamic ports

This command set dynamic arp ports to trust and un-trust.

**Format** arp dynamic ports {trust|untrust} <port-list>

**Mode** Global Config

e.g. Swtich<Config># arp dynamic ports trust 1-4

Swtich<Config># arp dynamic ports untrust 4

1.4) arp dynamic vlan

This command set add/remove dynamic arp on specified vlan.

**Format** arp dynamic vlan {add|remove} from < vlan -id> to < vlan -id>

**Mode** Global Config

e.g. Swtich<Config># arp dynamic vlan add from 1 to 1

Swtich<Config># arp dynamic vlan remove from 1 to 1

2) arp static command

This command set arp static address table for mac address with IP Address.

**Format** arp static {add|delete} vid <1~4094> ip <A.B.C.D> mac  
<mac-address>

**Mode** Global Config

## dos

*Note: This command only supports on the following switches,*

**3. 48-Port 100BaseTX + 4 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management**

## Switch

### 4. 24-Port 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch

### 5. 48-Port 1000BaseT with 4 shared Gigabit SFP Layer 2+ Management Switch

#### 1) dos land

This command enables and disables land-type attacks prevention.

**Format** dos land {enable|disable}

**Mode** Global Config

#### 2) dos blat

This command enables and disables blat-type attack prevention.

**Format** dos blat {enable|disable}

**Mode** Global Config

#### 3) dos syn-fin

This command enables and disables SYN-fin-type attack prevention.

**Format** dos syn-fin {enable|disable}

**Mode** Global Config

#### 4) dos ports

##### 4.1) dos ports smurf

This command enables and disables Smurf-TYPR attack prevention.

**Format** dos ports smurf {enable|disable}

**Mode** Global Config

##### 4.2) dos ports ping-flooding

This command enables and disables ping-flooding-type attack prevention.

**Format** dos ports ping-flooding {enable|disable}

**Mode** Global Config

##### 4.3) dos ports synack-flooding

This command enables and disables SYNACK -flooding -type attack prevention. Set rate is 64 kbps or 128kbps for port lists (1, 3-5, 7-9.11)

**Format** dos ports synack -flooding {enable|disable} rate {64|128} <port-list>

**Mode** Global Config

e.g. Switch<Config>#dos ports synack -flooding enablerate 64 1-4

Switch<Config>#dos ports synack -flooding enablerate 64 5

## tacplus

#### 1) tacplus authen\_type

This command is used to set authentication type. There are three types for selecting: local, tacplus, localandtacplus.

**Format** tacplus authen\_type {local | tacplus | localandtacplus}

**Mode** Global Config

#### 2) tacplus add

This command is used to add a new TACACS+ server and set server IP address, priority, key string, authentication port and timeout for reply.

**Format** tacplus add server <IP\_addr> priority <0-65535> key <key string> port <auth port id> timeout <1-30>

**Mode** Global Config

#### 3) tacplus del

This command is used to delete a TACACS+ server.

**Format** tacplus del server <IP\_addr>

**Mode** Global Config



## green-eth

*Note: This command only supports on the following switches,  
4. 24-Port 1000BaseT with 2 shared Gigabit SFP Layer 2+ Management Switch  
5. 48-Port 1000BaseT with 4 shared Gigabit SFP Layer 2+ Management Switch.*

This command is used to enable/disable green Ethernet function. Enable green Ethernet mode will reduce system power consumption when the link is not present.

**Format** green-eth { enable | disable }

**Mode** Global Config

## 2.9.5.Interface Config mode commands

### exit

Exit current shell

**Format** exit

**Mode** Interface Config

### dot1x

Set 802.1x port control.

Set auto-authorized on ports

**Format** 802.1x port-control {enable|disable}

**Mode** Interface Config

### lacp

1) admin command

Configure admin key of port

**Format** lacp admin <0 ..65535>

**Mode** Interface Config

e.g. switch(interface g1)#lacp admin 36768

2) priority command

Configure lacp port priority

**Format** lacp priority <0..65535>

**Mode** Interface Config

### addport

add one port to a LAG group

**Format** addport <LAG-ID>

**Mode** Interface Config

### delpport

Remove a port from a LAG group

**Format** delpport <LAG-ID>

**Mode** Interface Config

### lldp

An lldp agent can transmit information about the capabilities and current status of the system associated with its MSAP identifier. The lldp agent can also receive information about the capabilities and current status of the system associated with a remote MSAP identifier. However, lldp agents are not

provided any means of soliciting information from other lldp agents via this protocol.

1) lldp state set

Only transmit the lldp status

**Format** lldp state {tx | rx | tx\_rx | disable}

**Mode** Interface Config

2) configure notifications

Enable/disable notification form the agent

**Format** lldp notification {enable|disable}

**Mode** Interface Config

3) Configure med notifications

Configure whether or not MED notifications from the agent are enabled.

Enable/disable med notification form the agent

**Format** lldp med-notification {enable | disable}

**Mode** Interface Config

e.g. Switch(Interface 1)#lldp med-notification enable

4) Configures which TLVs are enabled for transmission.

4.1) basic set

**Format** lldp tlvs-tx {enable | disable} option basic {port-desc | sys-name | sys-desc | sys-cap | sys-cap }

**Mode** Interface Config

4.2) 8021 set

Status of local-802.1 settings

**Format** lldp tlvs-tx {enable | disable} option 8021 {pvid | vlanname | protocol-id}

**Mode** Interface Config

eg.switch(interface 1)lldp tlvs enable option 8021 pvid

4.3) 8023 set

**Format** lldp tlvs-tx {enable | disable} option 8023 {mac-phy | power| link-aggregation| frame-size}

**Mode** Interface Config

4.4) MED-set

Status of MED Settings

**Format** lldp tlvs-tx {enable | disable} option med-set {capabilities | net-policy | location-id | mdi}

**Mode** Interface Config

### admin-mode

Configure administrative mode on a port

**Format** Switch(Interface 1)# admin-mode {enable | disable}

**Mode** Interface Config

### auto-negotiate

Configure auto-negotiate mode on a port

**Format** auto-negotiate {enable | disable}

**Mode** Interface Config

### speed

Set port speed to 10Mbps half duplex/ 10Mbps full/ 100Mbps half/ 100Mbps full/ 1000Mbps 100FX mode/1000base-x full .

**Format** speed {10hd | 10fd | 100hd | 100fd | 1000fd | 100fx | 1000base-x}

**Mode** Interface Config

### **flow-control**

This command enable/disable flow-control at port.

**Format** flow-control {enable | disable}

**Mode** Interface Config

### **port-security**

1) port-security

This command add or delete a static mac into mac security table.

**Format** port-security {add|delete} <sourcemac >

**Mode** Interface Config

2) port-security lock-mode

This command disable port security or specify static lock mode.

**Format** port-security lock-mode {none | static}

**Mode** Interface Config

3) port-security lock-mode dynamic

This command enable limited dynamic lock mode, and specify maximum learning entries for limited dynamic lock mode. the max-entries value :0~24

**Format** port-security lock-mode dynamic max-entries 24

**Mode** Interface Config

### **qos**

This command specifies port-based qos.

**Format** qos port-based status {enable | disable}

**Mode** Interface Config

### **rate-limit**

1) rate-limit egress

This command limits egress rate, which the unit is Kbps.

**Format** rate-limit egress <rate>

**Mode** Interface Config

2) rate-limit ingress

This command limits ingress rate, which the unit is Kbps.

**Format** rate-limit ingress <rate>

**Mode** Interface Config

### **storm-control**

1) Enable/disable storm control.

**Format** storm-control {enable | disable}

**Mode** Interface Config

2) storm-control broadcast

This command storm control for broadcast only, and limited value :0,64,256,1024,10240,65536.102400,1024000, which the unit is Kbps and 0 means no limit.

**Format** storm-control broadcast <rate>

**Mode** Interface Config

3) storm-control broadcast-multicast

This command storm control limited

value :0,64,256,1024,10240,65536.102400,1024000, which the unit is Kbps

and 0 means no limit.

**Format** storm-control broadcast-multicast <rate>

**Mode** Interface Config

4) storm-control broadcast-unknown

This command storm control limited

value :0,64,256,1024,10240,65536.102400,1024000,which the unit is Kbps  
and 0 means no limit.

**Format** storm-control broadcast-unknown <rate>

**Mode** Interface Config

e.g. Switch(Interface 1)# storm-control broadcast-unknown 64

5) storm-control all-cast

This command storm control limited

value :0,64,256,1024,10240,65536.102400,1024000,which the unit is Kbps  
and 0 means no limit.

**Format** storm-control all-cast <rate>

**Mode** Interface Config

### rmon-counter

This command specifies rmon counter capability on a port

**Format** rmon-counter {enable | disable}

**Mode** Interface Config

### set igmp-router-port

This command specifies igmp router port .

**Format** set igmp-router-port {enable | disable}

**Mode** Interface Config

### spanning tree

1) spanning-tree cost

This command configure RSTP port path cost, path cost  
value:0~200000000.

**Format** spanning-tree cost <pathcost>

**Mode** Interface Config

2) spanning-tree edge

This command configure edge property

**Format** spanning-tree edge {enable|disable}

**Mode** Interface Config

e.g. Switch(Interface 1)# spanning-tree edge enable

3) spanning-tree force-p2plink

This command configure force point to point link mode.

**Format** spanning-tree force-p2plink {auto|enable|disable}

**Mode** Interface Config

4) spanning-tree migration-check

This command re-checks the appropriate BPDU format to send on this port

**Format** spanning-tree migration-check {enable|disable}

**Mode** Interface Config

5) spanning-tree mst

This command configures multiple spanning tree instance.

5.1) spanning-tree mst cost

This command configure the path cost on a MST  
instance :1~200000000.

**Format** spanning-tree mst cost <pathcost>

**Mode** Interface Config

5.2) spanning-tree mst priority

This command configure the port priority on a MST instance:0~4096.

**Format** spanning-tree mst priority <1 4096>

**Mode** Interface Config

6) spanning-tree participation

This command configures RSTP capability on a port.

**Format** spanning-tree participation {enable|disable}

**Mode** Interface Config

7) spanning-tree priority

this command configure RSTP port priority:0~240

**format** spanning-tree priority <0..240>

**mode** Interface Config

## vlan

1) vlan participation

This command join or leave a port to a vlan.

1.1) vlan participation exclude

This command leave a vlan.

**Format** vlan participation exclude < vlan id>

**Mode** Interface Config

1.2) vlan participation

This command join a vlan with untagged/tagged mode.

**Format** vlan participation {untagged |tagged}< vlan id>

**Mode** Interface Config

2) vlan protected

This command configures port protected property.

**Format** vlan protected {enable|disable}

**Mode** Interface Config

3) vlan dropnq

This command configure port drop none 802.1Q frame .

**Format** vlan dropnq {enable|disable}

**Mode** Interface Config

4) vlan pvid

This command configure port PVID.

**Format** vlan pvid <pvid>

**Mode** Interface Config

e.g. Switch(Interface 1)# vlan pvid 1

## Interface commands

This command change another interface

**Format** Interface <port number>

**Mode** Interface Config

e.g. Switch(Interface 1)# interface g1

## poe

1) func

This command configure poe function on a port

**Format** poe func {enable | disable}

**Mode** Interface Config

2) power-pri

This command configures the power priority on switch ports to decide which ports have priority to supply power which power devices are connected.

Legal value are low, normal, middle or high priority. If the same power priority on the ports, the lower port index the higher power priority.

Low Set to low priority

Normal Set to normal priority

Middle Set to middle priority

High Set to high priority

**Format** poe power-pri level {low | normal | middle | high}

**Mode** Interface Config

3) detection

This command configures detection type on a port. set to 0,1,2,3,4 or 5

0 No Detection

1 Legacy Capacitive Detection only

2 IEEE 802.3af 4-Point Detection only (Default)

3 IEEE 802.3af 4-Point followed by Legacy

4 IEEE 802.3af 2-Point only

5 IEEE 802.3af 2-Point followed by Legacy

**Format** poe detection type {0 | 1 | 2 | 3 | 4 | 5}

**Mode** Interface Config

4) high-power

This command configures power Energy Mode on a port

on Start High Power (Support 30W power device)

off End High Power Mode (Support 15.4W power device)

**Format** poe high-power status {enable | disable}

**Mode** interface Config

## 3. Specifications

### 3.1. Cable specifications

Straight-Through and Crossed-Over Cable Specifications Table

Ethernet Type	Cable Requirements	Maximum Length
10BASE-T	Category 3 or better, UTP or STP	328 ft (100M)
100BASE-TX	Category 5 or better, UTP or STP	328 ft (100M)
1000BASE-T	Category 5e or better, UTP or STP	328 ft (100M)

**Caution:** Please do not use telephone cables. Telephone cables do not support Ethernet or Gigabit.

Twisted-pair cabling comes in various grades, or categories. Category 5 is required for Fast Ethernet, and is also the most reliable and most commonly used category. You can buy UTP Category 5 (Unshielded Twisted Pair) Ethernet cabling in precrimped lengths, or you can crimp your own. Crimping your own can result in faulty connections if the RJ-45 tips are not attached properly. Precrimped Category 5 cabling is available at most computer retail stores.

The most reliable and commonly used type of Category 5 cabling used is UTP, or "unshielded twisted pair." STP, or "shielded twisted pair" wiring is only necessary for network environments exposed to excessive amounts of electromagnetic interference, or EMI. These environments include areas with high sources of electrical power, air conditioning, generators, and radio signals. STP is also used for wiring outdoors.

There are two types of the wiring: Straight-Through Cables and Crossover Cables. Category 5 UTP/STP cable has eight wires inside the sheath. The wires form four pairs. Straight-Through Cables has same pinouts at both ends while Crossover Cables has a different pin arrangement at each end.

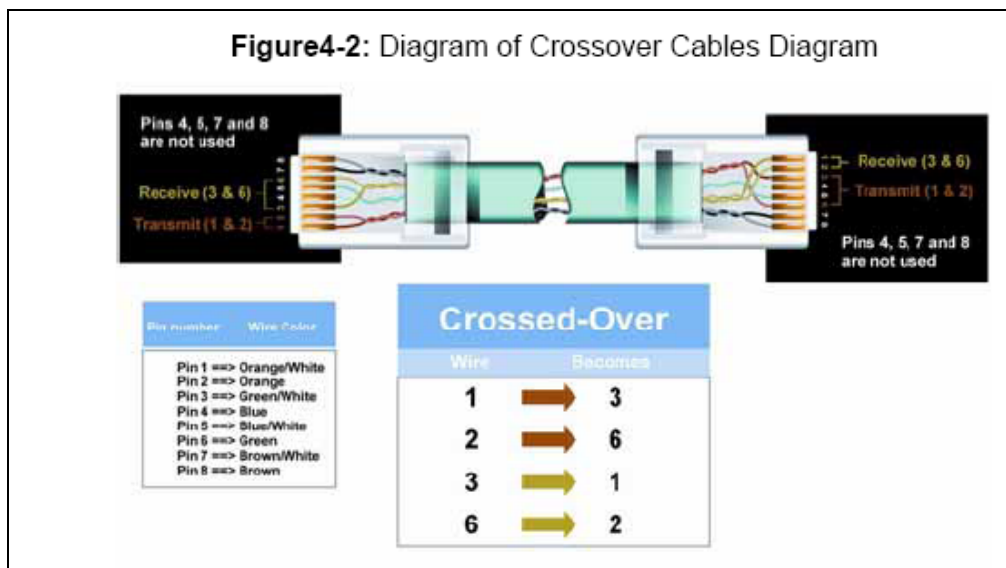
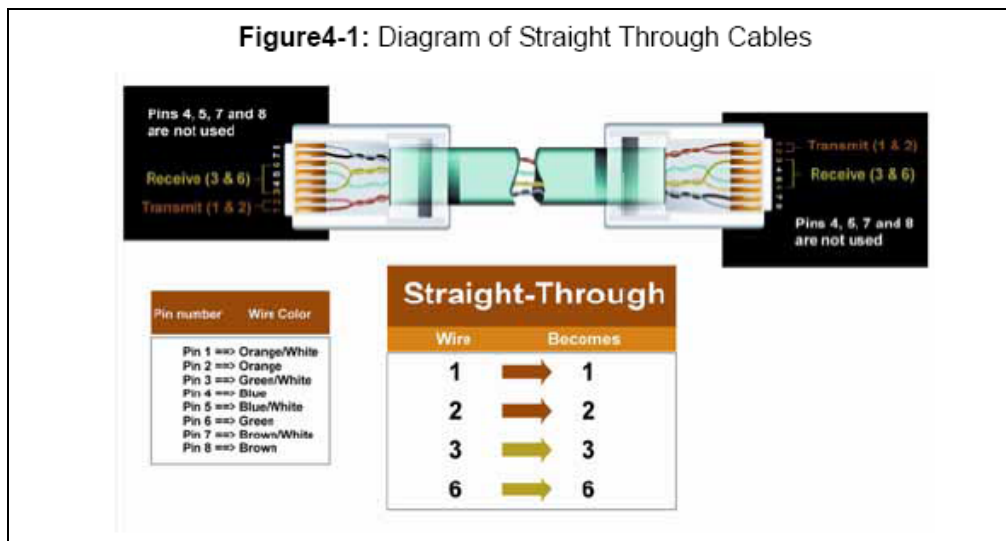
In a straight-through cable, wires 1,2,3,4,5,6,7 and 8 at one end of the cable are still wires 1~8 at the other end. In a crossover cable, the wires of 1,2,3,6 are reversed so that wire 1 become 3 at the other end of the cable, 2 becomes 6, and so forth.

To determine which wire is wire 1, hold the RJ-45 cable tip with the spring clip facing towards the ground and the end pointing away from you. The copper wires exposed upwards to your view. The first wire on the far left is wire 1. You can also refer to the illustrations and charts of the internal wiring on the following page.

There are two types of cables: Straight Through Cables and Crossover Cables. Category 5 UTP/STP cable has eight wires inside the sheath. The wires form four pairs. Straight Through Cables has same pinouts at both ends while

Crossover Cables has a different pin arrangement at each end.

Figure 4-1 shows the diagram of Straight Through Cables. Figure 4-2 shows the diagram of Crossover Cables.





## 3.2. Technical Specifications

### 3.2.1. Software Specification

#### **8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget**

- Four groups (history, statistics, alarms, and events) of embedded remote monitoring (RMON) agents for network monitoring and traffic analysis
- Provides SNMP protocol(v1/v2c/v3) to monitor and control the switch by using SNMP management applications such as HP Open View
- IGMP snooping support to limit flooding of IP multicast traffic and filtering for controlling the set of multicast groups to which hosts on a switch port can belong
- Supports 802.1d/1w/1s Spanning Tree Protocol for loop free installation.
- Supports 802.1Q VLAN for assigning users to VLAN associated with appropriate network resources, traffic patterns, and bandwidth. Up to 256 VLAN entries can be configured

Supports Management VLAN for administration to protect switch to be attacked by client.

- Built-in DHCP client to get IP address from DHCP server automatically
- Supports SNTP to synchronize the precision time with Internet Time server.
- Supports one-to-one or many-to-one Port Mirroring.
- Supports IEEE 802.3ad Link Aggregation, up to 3 aggregation groups.
- Supports for IEEE 802.1p/DSCP CoS scheduling for classification and preferred high-priority voice traffic on a port-port basis
- Per port Ingress and Egress Rate Limiting. Minimum rate is 64 Kbps, granularity is 64 Kbps
- Supports Static Mode and Dynamic Learning Mode for Port Security function. Support up to 24 MAC addresses for each port.
- Supports Protected port feature.
- Supports 802.1X port-based authentication, and build-in RADIUS client to co-operate with the RADIUS servers.
- Supports broadcast, known-multicast, and unknown unicast storm control
- Supports web-based interface for management
- Supports CLI interface for local console or remote Telnet management
- Supports TFTP, HTTP and X-modem protocol for firmware/configuration upgrade or backup.
- Supports TACACS+ login authentication.

### 3.2.2. Hardware Specification

#### 8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget

- Supports 8 ports 100Base-TX (with PoE PSE) and 2 1000BaseT with 2 shared Mini-GBIC.
- User configurable 100FX or 1000Base-SX/LX mini-GBIC fiber module on mini-GBIC ports
- IEEE 802.3ab Auto MDI/MDI-X on all 10/100/1000 twisted-pair ports
- Automatic polarity detection and correction on all RJ-45 ports for automatic adjustment of wiring errors
- Throughput: Up to 5.6 Gbps.
- Provides Flow Control mechanism ensures zero packet loss, IEEE802.3x Flow Control for full-duplex operation and Back Pressure for half-duplex operation
- Supports 8K MAC address and Up to 3Mb packet buffer
- Supports Store & Forward architecture and performs forwarding and filtering
- Provides non-blocking switching performance
- Provides a RS-232 port for system configuration.
- Total Power Budget 100 W with 8 W guard band. It means system can provide total 92 W power to power devices.
- Supports 30 W high power devices.

### 3.2.3. Environments Specification

#### 8-Port 100BaseTX + 2 Gigabit combo Layer 2 Management Switch with 8 PSE port embedded 100W PoE power budget:

<b>Size (H x W x D)</b>	H44 x W263 x D170 mm
<b>Weight(Net/Gross)</b>	1.3kg /2.0kg (45oz/ 70oz)
<b>Power</b>	48VDC 2.5A, 4pin DC-inlet
<b>Operating Temp.</b>	0 °C ~ 40 °C(32 °F ~ 104 °F)
<b>Storage Temp.</b>	-40 °C ~ 70 °C(-40 °F ~ 158 °F)
<b>Operating Humidity</b>	20% to 85%,relative humidity, non-condensing
<b>Storage Humidity</b>	20% to 90%,relative humidity, non-condensing

### 3.2.4. Standard Conformance

<b>EMC Certification</b>	FCC Class A, CE
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## 5. Warranty statement

We provide this limited warranty for it originally purchased the product from us or its authorized reseller or distributor. We guarantee that equipment is free from physical defects in workmanship and material under normal use from the date of original retail purchase of the Hardware. If the product proves defective during this warranty period, call our Customer Service in order to obtain a Return Authorization number. Be sure to have a proof of purchase on hand when calling. Return requests cannot be processed without proof of purchase. When returning a product, mark the Return Authorization Number clearly on the package pack and include you original proof of purchase. All customers outside the R.O.C shall be held responsible for shipping and handling charges.

In no event shall our liability exceed the price paid for the product from direct, incidental or consequential damage resulting from the use of the product, its accompanying software, or its documentation. We make no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaim its quality, performance, merchantability, or fitness for any particular purpose. We reserve the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.