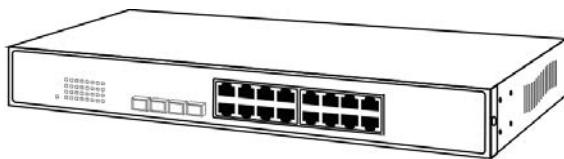




User's Manual

ES-5160G+ V3



**16 Port Gigabit Ethernet
Web Smart Switch**

Web Smart Switch

I . Features Overview

- Supports real-time status (link, speed, duplex) of each port
- Supports port setting for enable or disable operation (the 1st port can't be disabled)
- Supports Bandwidth Control on transmission and reception
- Supports Broadcast Storm Protection
- Supports Port-bases VLAN
- Supports two priority queues for CoS
- Supports weighted round robin scheduling for queues.
- Supports Port-bases / 802.1p / DiffServ. priority three types of CoS

II . Configure

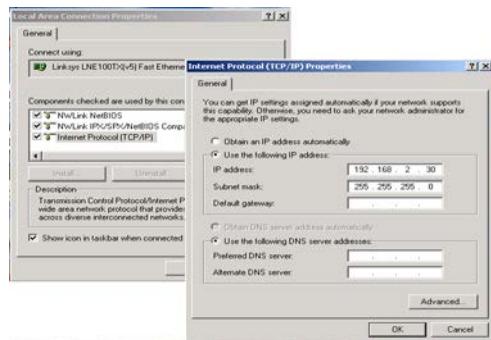
Please follow the steps to configure this Web Smart switch.

Step 1:

Use a twisted pair cable to connect this switch to your PC.

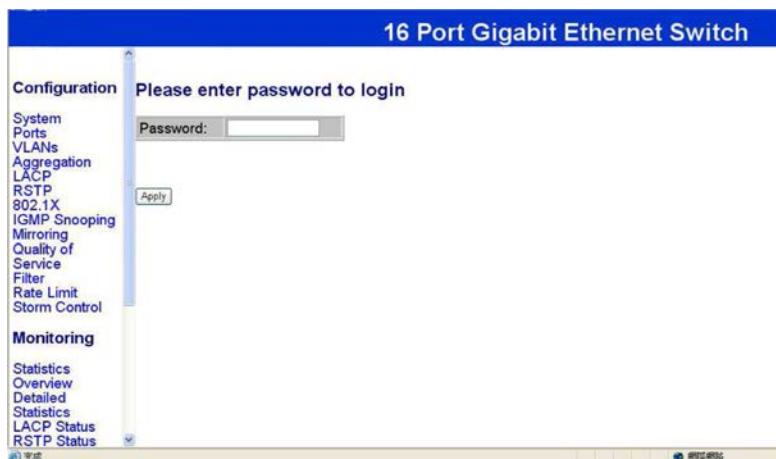
Step 2:

Set your PC's IP to 192.168.2.xx.



Step 3:

Open the web browser (like IE...), and go to 192.168.2.1 site, and then you will see the login screen.



Key in the password to pass the authentication and the password is “admin”.

User name: admin

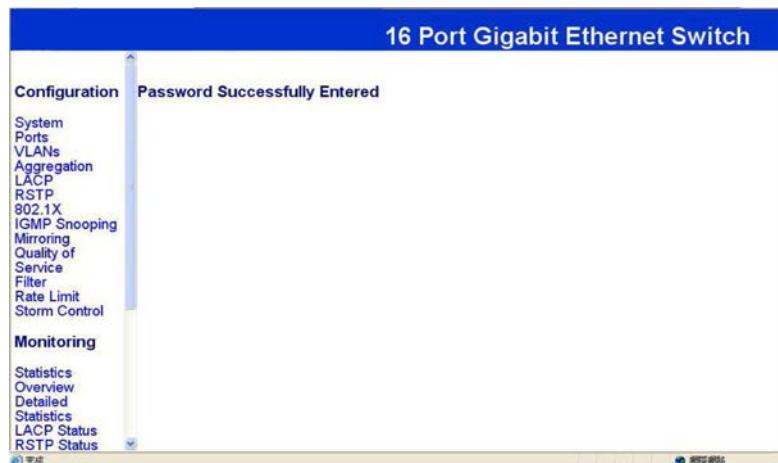
Password: 1234

After the authentication procedure, the home page shows up.

Step 4:

On the following home page, select the configuration by clicking the icon. It includes,

- Configuration
- Monitoring
- Maintenance
- Logout



Configuration: System Configuration

16 Port Gigabit Ethernet Switch

System Configuration

MAC Address	00-03-cd-08-00-00
S/W Version	Luton16 2.29
H/W Version	1.0
Temperature	0 °C
Active IP Address	192.168.2.1
Active Subnet Mask	255.255.255.0
Active Gateway	0.0.0.0
DHCP Server	0.0.0.0
Lease Time Left	0 secs

Monitoring

DHCP Enabled	<input type="checkbox"/>
Fallback IP Address	192.168.2.1
Fallback Subnet Mask	255.255.255.0

Statistics Overview Detailed Statistics LACP Status RSTP Status

16 Port Gigabit Ethernet Switch

System Configuration

Mask	255.255.255.0
Fallback Gateway	0.0.0.0
TFTP Server Enabled	<input type="checkbox"/>
Management VLAN	1
Name	
Password	
Inactivity Timeout (secs)	0
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	0.0.0.0
SNMP Read Community	public
SNMP Write Community	private
SNMP Trap Community	public

Monitoring

Statistics Overview Detailed Statistics LACP Status RSTP Status

Apply Refresh

It shows MAC address, system firmware version and so on of the switch.

You can change the user name, the password and IP address, and click “Apply” to confirm the new change. After that, you can reset the switch to take the new user name, the password and IP address effectively.

Configuration: Port Configuration

16 Port Gigabit Ethernet Switch				
Configuration		Port Configuration		
System		Enable Jumbo Frames <input type="checkbox"/>		
Ports		Port	Link	Mode
802.1X		1	Down	Auto Speed <input type="button" value="▼"/>
IGMP Snooping		2	Down	Auto Speed <input type="button" value="▼"/>
Mirroring		3	Down	Auto Speed <input type="button" value="▼"/>
Quality of Service		4	Down	Auto Speed <input type="button" value="▼"/>
Filter		5	Down	Auto Speed <input type="button" value="▼"/>
Rate Limit		6	100FDX	Auto Speed <input type="button" value="▼"/>
Storm Control		7	Down	Auto Speed <input type="button" value="▼"/>
Monitoring		8	Down	Auto Speed <input type="button" value="▼"/>
Statistics	Overview	9	Down	Auto Speed <input type="button" value="▼"/>
Detailed Statistics		10	Down	Auto Speed <input type="button" value="▼"/>
LACP Status		11	Down	Auto Speed <input type="button" value="▼"/>

You can enable or disable Jumbo Frames by clicking the checking box.

Select the “Port no.” which you want to configure the mode below,

- Auto speed
- enable/disable the port
- 10M/100M/1000M
- full/half-duplex
- enable/disable flow control

Configuration: VLAN Configuration

The screenshot shows the 'VLAN Configuration List' section of the configuration interface. A 2x8 grid table is displayed, representing 16 VLAN groups (01 to 16). The columns are labeled 1 through 8. The rows are labeled 1 through 2. The table shows the following port assignments:

	1	2	3	4	5	6	7	8
1	●	●	●	●	●	●	●	●
9	●	11	12	13	17	22	23	45

Below the table are several buttons: 'Modify', 'Delete', 'Refresh', and 'Port Config'. The 'Port Config' button is highlighted with a red box. The 'VLAN ID' input field is also highlighted with a red box. The 'Add' button is located above the VLAN ID input field.

There are 16 VLAN groups, 01 to 16, can be used.

Select and add a group into “VLAN ID” and then click the port number which you want to put into the selected VLAN group.

Configuration: Aggregation/Trunk Configuration

16 Port Gigabit Ethernet Switch

Configuration Aggregation/Trunking Configuration

Group\Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Normal	<input checked="" type="radio"/>															
Group 1	<input type="radio"/>															
Group 2	<input type="radio"/>															
Group 3	<input type="radio"/>															
Group 4	<input type="radio"/>															
Group 5	<input type="radio"/>															
Group 6	<input type="radio"/>															
Group 7	<input type="radio"/>															
Group 8	<input type="radio"/>															

Statistics Overview Detailed Statistics LACP Status RSTP Status

Apply Refresh

http://192.168.2.1/Aggr?method=Refresh

Set up port trunk groups and then click the port number you want to include into the same group.

There are eight groups to choose and the maximum of ports for one group is 16.

Configuration: LACP Port configuration

16 Port Gigabit Ethernet Switch			
Configuration	LACP Port Configuration		
	Port	Protocol	Enabled
System	1	<input type="checkbox"/>	auto
Ports	2	<input type="checkbox"/>	auto
VLANs	3	<input type="checkbox"/>	auto
Aggregation	4	<input type="checkbox"/>	auto
LACP	5	<input type="checkbox"/>	auto
RSTP	6	<input type="checkbox"/>	auto
802.1X	7	<input type="checkbox"/>	auto
IGMP Snooping	8	<input type="checkbox"/>	auto
Mirroring	9	<input type="checkbox"/>	auto
Quality of Service	10	<input type="checkbox"/>	auto
Filter	11	<input type="checkbox"/>	auto
Rate Limit	12	<input type="checkbox"/>	auto
Storm Control	13	<input type="checkbox"/>	auto
Monitoring	14	<input type="checkbox"/>	auto
Statistics			
Overview			
Detailed			
Statistics			
LACP Status			
RSTP Status			

Select the port number which you want to enable/disable the protocol.

Configuration: RSTP Configuration

The screenshot shows the configuration interface for a 16 Port Gigabit Ethernet Switch. The left sidebar menu includes: Configuration (System, Ports, VLANs, Aggregation, LACP, RSTP, 802.1X, IGMP Snooping, Mirroring, Quality of Service, Filter, Rate Limit, Storm Control), Monitoring (Statistics, Overview, Detailed Statistics, LACP Status, RSTP Status), and a bottom section with 完成 (Finish) and 取消 (Cancel) buttons.

RSTP System Configuration

System Priority	32768
Hello Time	2
Max Age	20
Forward Delay	15
Force version	Normal

RSTP Port Configuration

Port	Protocol Enabled	Edge	Path Cost
Aggregations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto

Select the port number which you want to enable/disable the protocol.

Configuration: 802.1x Configuration

The screenshot shows a web-based configuration interface for a 16 Port Gigabit Ethernet Switch. The main title is "16 Port Gigabit Ethernet Switch". On the left, there is a navigation menu with the following items:

- Configuration** (selected)
- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Filter
- Rate Limit
- Storm Control
- Monitoring**
- Statistics
- Overview
- Detailed
- Statistics
- LACP Status
- RSTP Status

The "Configuration" section is currently active, showing the "802.1X Configuration" sub-page. The configuration parameters are:

- Mode:**
- RADIUS IP:** 0.0.0
- RADIUS UDP Port:** 1812
- RADIUS Secret:** (empty text field)

Below these settings is a table titled "802.1X Configuration" with 10 rows, representing the configuration for ports 1 through 10. The table has columns for Port, Admin State, Port State, and several actions (Re-authenticate, Force Reinitialize, Statistics). All ports are currently set to "Force Authorized" and "802.1X Disabled".

Port	Admin State	Port State	Re-authenticate	Force Reinitialize	Statistics
1	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
2	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
3	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
4	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
5	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
6	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
7	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
8	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
9	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>
10	Force Authorized	802.1X Disabled	<input type="button" value="Re-authenticate"/>	<input type="button" value="Force Reinitialize"/>	<input type="button" value="Statistics"/>

Select the “Port no.” which you want to configure the mode below,

- Auto
- Force Authorized
- Force Unauthorized

Configuration: IGMP Configuration

16 Port Gigabit Ethernet Switch

IGMP Configuration		
Configuration	IGMP Enabled	
System	<input type="checkbox"/>	
Ports	<input type="checkbox"/>	
VLANs	<input type="checkbox"/>	
Aggregation	<input type="checkbox"/>	
LACP	<input type="checkbox"/>	
RSTP	<input type="checkbox"/>	
802.1X	<input type="checkbox"/>	
IGMP Snooping	<input type="checkbox"/>	
Mirroring	<input type="checkbox"/>	
Quality of Service	<input type="checkbox"/>	
Filter	<input type="checkbox"/>	
Rate Limit	<input type="checkbox"/>	
Storm Control	<input type="checkbox"/>	
Monitoring	Router Ports	
Statistics	1 <input type="checkbox"/>	
Overview	2 <input type="checkbox"/>	
Detailed	3 <input type="checkbox"/>	
Statistics	4 <input type="checkbox"/>	
LACP Status	5 <input type="checkbox"/>	
RSTP Status	6 <input type="checkbox"/>	
	7 <input type="checkbox"/>	
	8 <input type="checkbox"/>	
	9 <input type="checkbox"/>	
	10 <input type="checkbox"/>	
	11 <input type="checkbox"/>	
	12 <input type="checkbox"/>	
	13 <input type="checkbox"/>	
	14 <input type="checkbox"/>	
	15 <input type="checkbox"/>	
	16 <input type="checkbox"/>	
Unregistered IPMC		
	Flooding enabled	<input checked="" type="checkbox"/>
VLAN ID	IGMP Snooping Enabled	IGMP Querying Enabled
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

You can enable or disable IGMP by clicking the checking box.

Select the “Port no.” which you want to configure the mode.

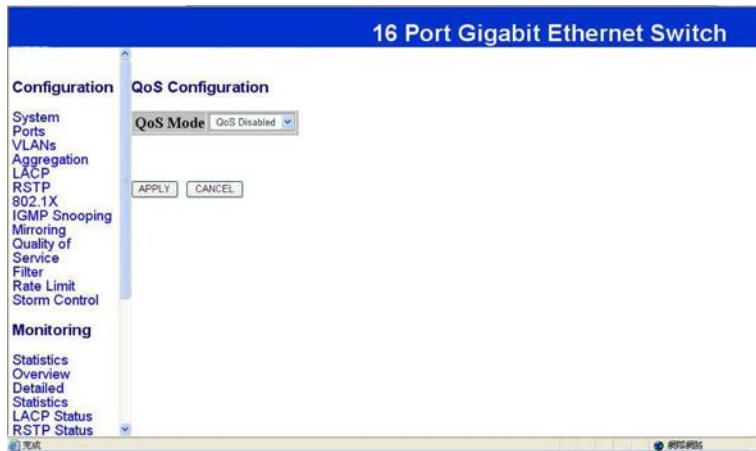
Configuration: Port Mirror configuration

16 Port Gigabit Ethernet Switch		
Configuration	Mirroring Configuration	
	Port	Mirror Source
System	1	<input type="checkbox"/>
Ports	2	<input type="checkbox"/>
VLANs	3	<input type="checkbox"/>
Aggregation	4	<input type="checkbox"/>
LACP	5	<input type="checkbox"/>
RSTP	6	<input type="checkbox"/>
802.1X	7	<input type="checkbox"/>
IGMP Snooping	8	<input type="checkbox"/>
Mirroring	9	<input type="checkbox"/>
Quality of Service	10	<input type="checkbox"/>
Filter	11	<input type="checkbox"/>
Rate Limit	12	<input type="checkbox"/>
Storm Control	13	<input type="checkbox"/>
Monitoring	14	<input type="checkbox"/>
Statistics		
Overview		
Detailed		
Statistics		
LACP Status		
RSTP Status		

Port Mirroring is used to mirror traffic from Source port to Destination port for analysis.

Select the Destination port from port 1 to port 16, and then select the Source port by clicking the checking box of the port.

Configuration: QoS Configuration



You can enable or disable QoS by clicking the checking box. If you enable QoS, you can select the class of service for each port.

Configuration: Filter Configuration

16 Port Gigabit Ethernet Switch

Configuration Filter Configuration

Port	Source IP Filter		DHCP Server Allowed
	Mode	IP Address	
1	Disabled		<input checked="" type="checkbox"/>
2	Disabled		<input checked="" type="checkbox"/>
3	Disabled		<input checked="" type="checkbox"/>
4	Disabled		<input checked="" type="checkbox"/>
5	Disabled		<input checked="" type="checkbox"/>
6	Disabled		<input checked="" type="checkbox"/>
7	Disabled		<input checked="" type="checkbox"/>
8	Disabled		<input checked="" type="checkbox"/>
9	Disabled		<input checked="" type="checkbox"/>
10	Disabled		<input checked="" type="checkbox"/>
11	Disabled		<input checked="" type="checkbox"/>
12	Disabled		<input checked="" type="checkbox"/>

Statistics Overview Detailed Statistics LACP Status RSTP Status

Select the “Port no.” which you want to configure the mode to enable/disable filtering IP address.

Configuration: Rate Limit Configuration



The screenshot shows a configuration interface for a 16 Port Gigabit Ethernet Switch. The main title is "16 Port Gigabit Ethernet Switch". On the left, there is a navigation menu with the following items:

- Configuration
- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Filter
- Rate Limit
- Storm Control
- Monitoring
- Statistics
- Overview
- Detailed Statistics
- LACP Status
- RSTP Status

The "Rate Limit" item is selected in the navigation menu. The main content area is titled "Rate Limit Configuration" and contains a table with 15 rows, each representing a port from 1 to 15. The table has three columns: "Port", "Policer", and "Shaper". All ports are currently set to "No Limit" in both the Policer and Shaper columns.

Port	Policer	Shaper
1	No Limit	No Limit
2	No Limit	No Limit
3	No Limit	No Limit
4	No Limit	No Limit
5	No Limit	No Limit
6	No Limit	No Limit
7	No Limit	No Limit
8	No Limit	No Limit
9	No Limit	No Limit
10	No Limit	No Limit
11	No Limit	No Limit
12	No Limit	No Limit
13	No Limit	No Limit
14	No Limit	No Limit
15	No Limit	No Limit

Select the "Port no." which you want to configure the mode of the speed.

Configuration: Storm Control configuration

16 Port Gigabit Ethernet Switch

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Filter
- Rate Limit
- Storm Control

Monitoring

- Statistics
- Overview
- Detailed
- Statistics
- LACP Status
- RSTP Status

Storm Control Configuration

Storm Control

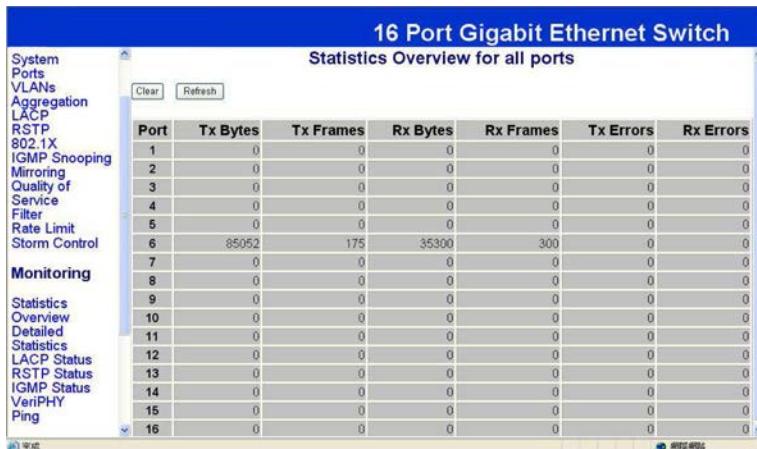
Number of frames per second

ICMP Rate	No Limit
Learn Frames Rate	No Limit
Broadcast Rate	No Limit
Multicast Rate	No Limit
Flooded unicast Rate	No Limit

Apply Refresh

You can set up storm control by configuring the modes.

Monitoring: Statistics Overview for All Ports



The screenshot shows a network management interface for a 16 Port Gigabit Ethernet Switch. The main title is "16 Port Gigabit Ethernet Switch" and the sub-section is "Statistics Overview for all ports". On the left, a navigation menu includes "System", "Ports", "VLANs", "Aggregation", "LACP", "RSTP", "802.1X", "IGMP Snooping", "Mirroring", "Quality of Service", "Filter", "Rate Limit", "Storm Control", and "Monitoring". Under "Monitoring", there are links for "Statistics Overview", "Detailed Statistics", "LACP Status", "RSTP Status", "IGMP Status", "VenPHY", and "Ping". The main area displays a table with the following data:

Port	Tx Bytes	Tx Frames	Rx Bytes	Rx Frames	Tx Errors	Rx Errors
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	85052	175	35300	300	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0

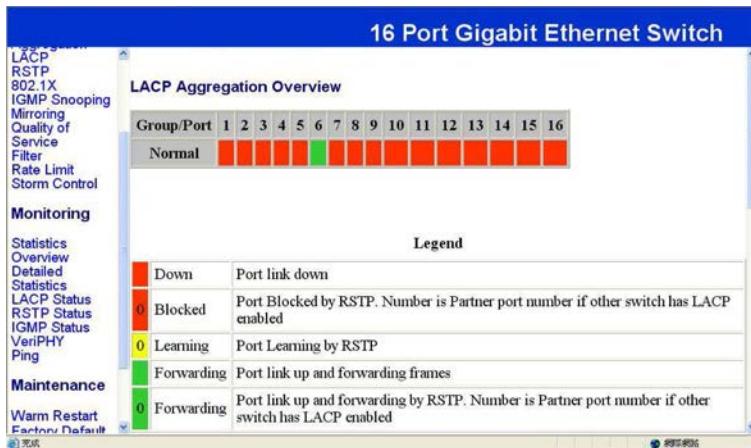
You can read statistics for all ports.

Monitoring: Detailed Statistics

16 Port Gigabit Ethernet Switch								
Statistics for Port 1								
System Ports VLANs Aggregation LACP RSTP 802.1X IGMP Snooping Mirroring Quality of Service Filter Rate Limit Storm Control Monitoring Statistics Overview Detailed Statistics LACP Status RSTP Status IGMP Status VERIFY Ping	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
	Port 9	Port 10	Port 11	Port 12	Port 13	Port 14	Port 15	Port 16
Receive Total				Transmit Total				
Rx Packets				0 Tx Packets				0
Rx Octets				0 Tx Octets				0
Rx High Priority Packets				- Tx High Priority Packets				-
Rx Low Priority Packets				- Tx Low Priority Packets				-
Rx Broadcast				- Tx Broadcast				-
Rx Multicast				- Tx Multicast				-
Rx Broad- and Multicast				0 Tx Broad- and Multicast				0
Rx Error Packets				0 Tx Error Packets				0
Receive Size Counters				Transmit Size Counters				
Rx 64 Bytes				- Tx 64 Bytes				-
Rx 65-127 Bytes				- Tx 65-127 Bytes				-
Rx 128-255 Bytes				- Tx 128-255 Bytes				-
Rx 256-511 Bytes				- Tx 256-511 Bytes				-
Rx 512-1023 Bytes				- Tx 512-1023 Bytes				-
Rx 1024+ Bytes				- Tx 1024+ Bytes				-

You can have detailed statistics of all ports which you want to read by clicking the port number.

Monitoring: LACP Status



You can read LACP status for LACP ports.

Monitoring: RSTP Status

The screenshot shows a network management interface for a 16 Port Gigabit Ethernet Switch. The left sidebar contains navigation links for LAGs, RSTP, 802.1X, IGMP Snooping, Mirroring, Quality of Service, Filter, Rate Limit, and Storm Control. Under the Monitoring section, links for Statistics Overview, Detailed Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY, and Ping are available. The Maintenance section includes links for Warm Restart and Factory Default.

RSTP VLAN Bridge Overview

VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
1	32769:00-03-cd-08-00-01	2	20	15	Steady	This switch is Root!

RSTP Port Status

Port/Group	Vlan Id	Path Cost	Edge Port	P2p Port	Protocol	Port State
Port 1						Non-STP
Port 2						Non-STP
Port 3						Non-STP
Port 4						Non-STP
Port 5						Non-STP
Port 6						Non-STP

You can read RSTP status for RSTP ports.

Monitoring: IGMP Status

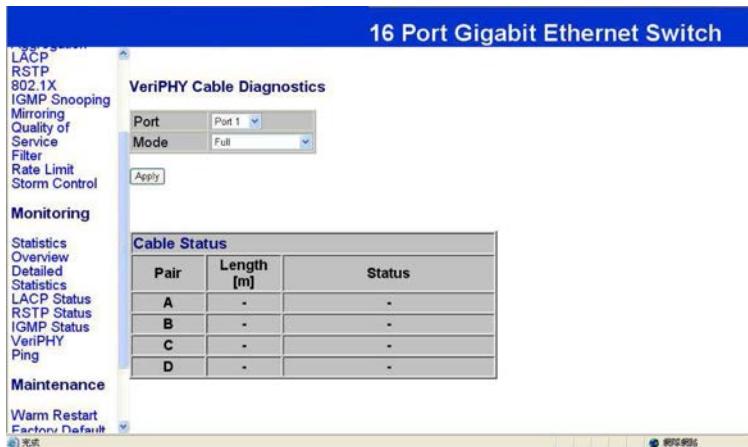
The screenshot shows a network management interface for a 16 Port Gigabit Ethernet Switch. The main title is "16 Port Gigabit Ethernet Switch". On the left, a vertical menu bar includes "LACP", "RSTP", "802.1X", "IGMP Snooping", "Mirroring", "Quality of Service", "Filter", "Rate Limit", and "Storm Control". Below these are sections for "Monitoring" (Statistics, Overview, Detailed, Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY, Ping) and "Maintenance" (Warm Restart, Factory Default). The central content area is titled "IGMP Status" and displays a table with the following data:

VLAN ID	Querier	Queries transmitted	Queries received	v1 Reports	v2 Reports	v3 Reports	v2 Leaves
1	Idle	0	0	0	0	0	0

A "Refresh" button is located below the table.

You can read IGMP status for IGMP ports.

Monitoring: VeriPHY Cable Diagnostics

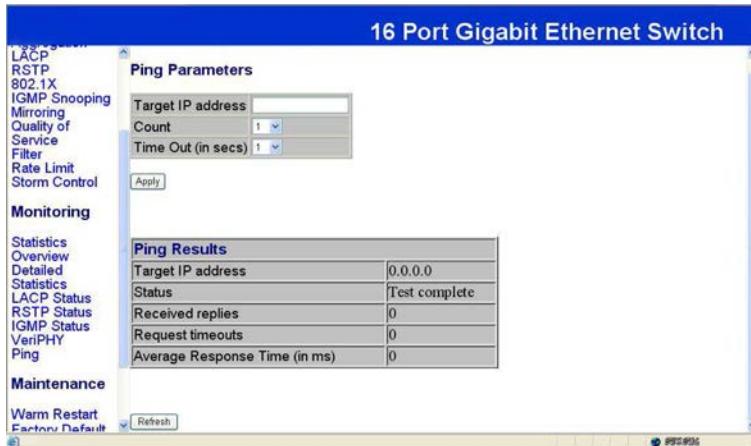


The screenshot shows the 'VeriPHY Cable Diagnostics' page of a 16 Port Gigabit Ethernet Switch. The left sidebar includes 'Monitoring' (Statistics Overview, Detailed Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY Ping) and 'Maintenance' (Warm Restart, Factory Default). The main content area has 'Port' (Port 1) and 'Mode' (Full) dropdowns, an 'Apply' button, and a 'Cable Status' table. The table has columns for Pair, Length [m], and Status, with four rows labeled A, B, C, and D, all showing '-' in the Status column.

Pair	Length [m]	Status
A	-	-
B	-	-
C	-	-
D	-	-

You can read VeriPHY cable status for all ports which you want to check by clicking the port number and the mode.

Monitoring: Ping Parameters



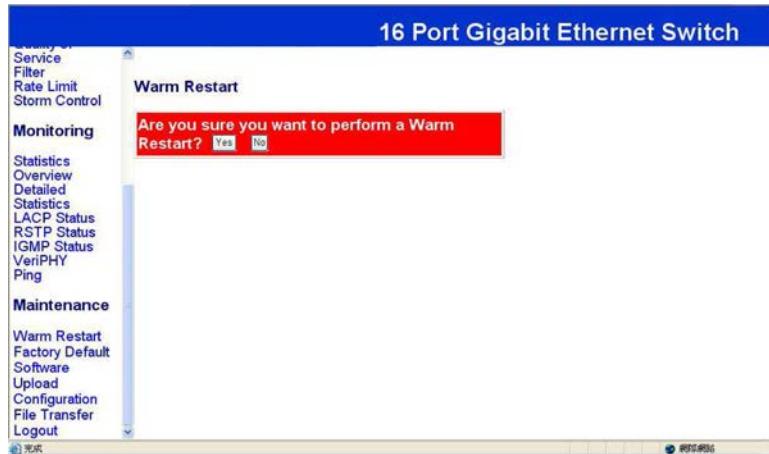
The screenshot shows a network management interface for a 16 Port Gigabit Ethernet Switch. The left sidebar contains navigation links for LACP, RSTP, 802.1X, IGMP Snooping, Mirroring, Quality of Service, Filters, Rate Limit, and Storm Control. The Monitoring section is selected, displaying sub-links for Statistics Overview, Detailed Statistics, LACP Status, RSTP Status, IGMP Status, and a Ping button. The main content area is titled "Ping Parameters" and includes fields for Target IP address (empty), Count (1), and Time Out (in secs) (1). An "Apply" button is present. Below this is a "Ping Results" table with the following data:

Ping Results	
Target IP address	0.0.0.0
Status	Test complete
Received replies	0
Request timeouts	0
Average Response Time (in ms)	0

At the bottom of the interface, there are buttons for Warm Restart and Factory Default, and a Refresh button.

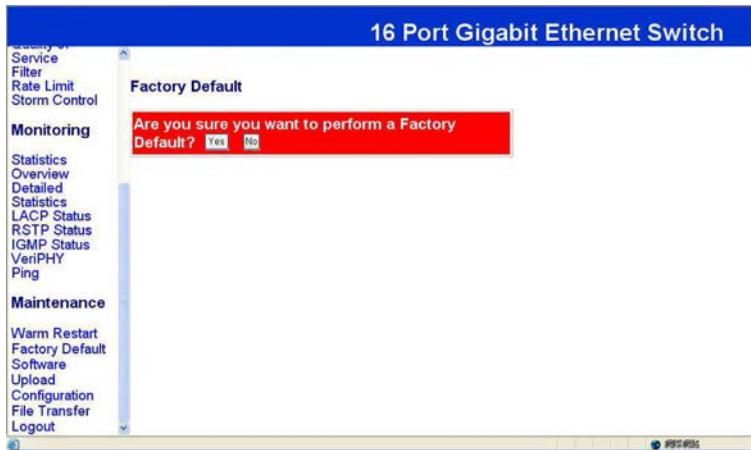
You can set target IP address by setting the mode which you want.

Monitoring: Warm Restart



You can select yes/no to do the warm restart, and then the new settings will change according to your selection.

Maintenance: Factory Default



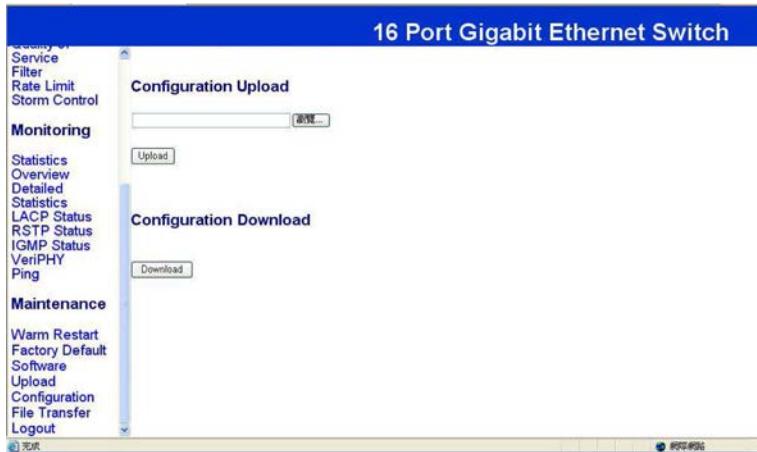
You can select yes/no to perform a Factory Default, and then the new settings will change according to your selection.

Maintenance: Software Upload



Follow the instruction on the screen to upload new software.

Maintenance: Configuration Upload



Follow the instruction on the screen to upload and download the configuration.

Logout