



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

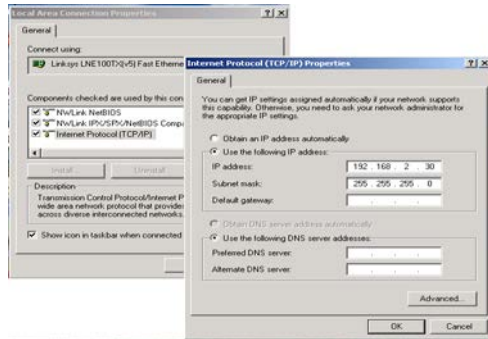
Please follow the steps to configure this Web Smart switch.

Step 1:

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

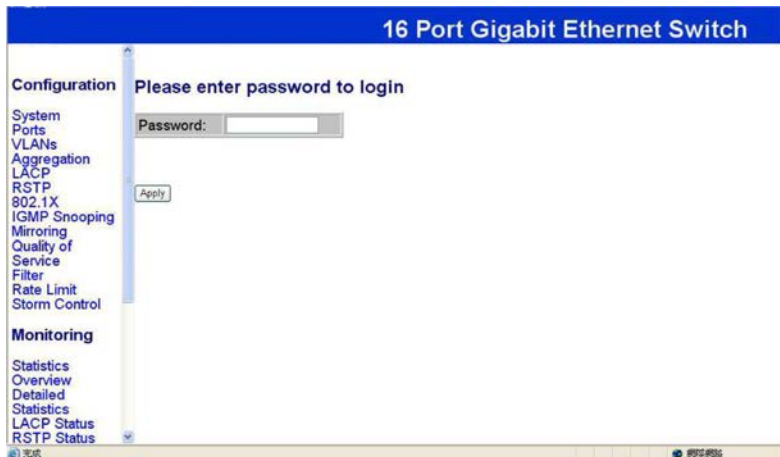
Step 2:

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

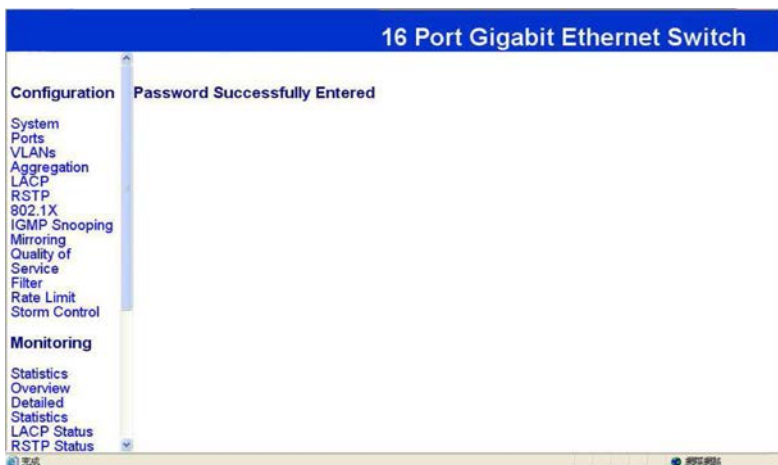
Password: 1234

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

Configuration

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

System Configuration

MAC Address	00-03-cd-08-00-00
SW Version	Luton16 2.29
HW 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

Statistics
Overview
Detailed
Statistics
LACP Status
RSTP Status

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

16 Port Gigabit Ethernet Switch

Mask 255.255.255.0

Configuration

System
Ports
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Rate Limit
Storm Control

Monitoring

Statistics
Overview
Detailed
Statistics
LACP Status
RSTP Status

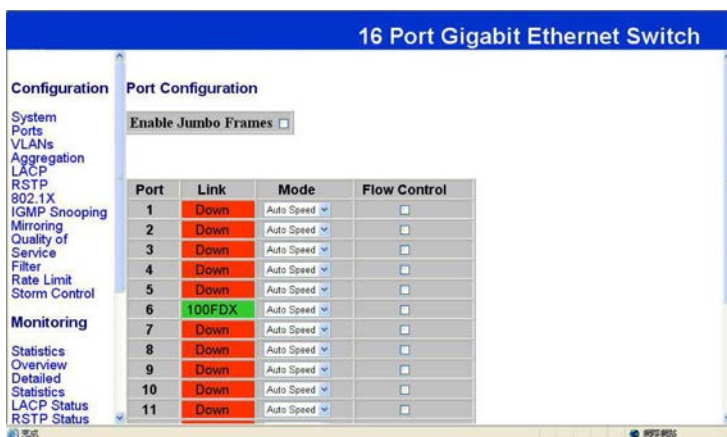
Mask	255.255.255.0
Fallback Gateway	0.0.0.0
TFTP Server Enabled	<input type="checkbox"/>
Management VLAN	1
Name	
Password	
Inactivity Timeout (secs)	0
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	0.0.0.0
SNMP Read Community	public
SNMP Write Community	private
SNMP Trap Community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

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

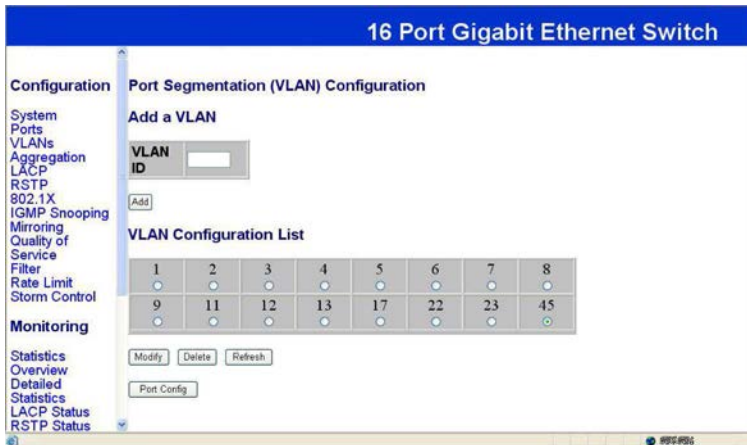


You can enable or disable Jumbo Frames by clicking the checking box.

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



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

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

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="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Apply

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

The screenshot displays the configuration interface for a 16 Port Gigabit Ethernet Switch. The title bar at the top reads "16 Port Gigabit Ethernet Switch". On the left, a navigation menu lists various configuration categories: 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, and RSTP Status. The "LACP" option is selected, leading to the "LACP Port Configuration" page. This page features a table titled "Port Protocol Enabled Key Value" with columns for port numbers, checkboxes for enabling the protocol, and input fields for the key value. Ports 1 through 14 are listed, each with a checkbox and a text box containing the word "auto".

Port	Protocol Enabled	Key Value
1	<input type="checkbox"/>	auto
2	<input type="checkbox"/>	auto
3	<input type="checkbox"/>	auto
4	<input type="checkbox"/>	auto
5	<input type="checkbox"/>	auto
6	<input type="checkbox"/>	auto
7	<input type="checkbox"/>	auto
8	<input type="checkbox"/>	auto
9	<input type="checkbox"/>	auto
10	<input type="checkbox"/>	auto
11	<input type="checkbox"/>	auto
12	<input type="checkbox"/>	auto
13	<input type="checkbox"/>	auto
14	<input type="checkbox"/>	auto

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

Configuration: RSTP 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

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"/>		
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

16 Port Gigabit Ethernet Switch

Configuration 802.1X 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

Mode: Disabled

RADIUS IP: 0.0.0.0

RADIUS UDP Port: 1812

RADIUS Secret:

Port	Admin State	Port State			
1	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
2	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
3	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
4	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
5	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
6	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
7	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
8	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
9	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
10	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics

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

- Auto
- Force Authorized
- Force Unauthorized

Configuration: IGMP Configuration

The screenshot shows the 'IGMP Configuration' page of a '16 Port Gigabit Ethernet Switch'. The left sidebar contains 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, and RSTP Status. The main content area is titled 'IGMP Configuration' and includes the following settings:

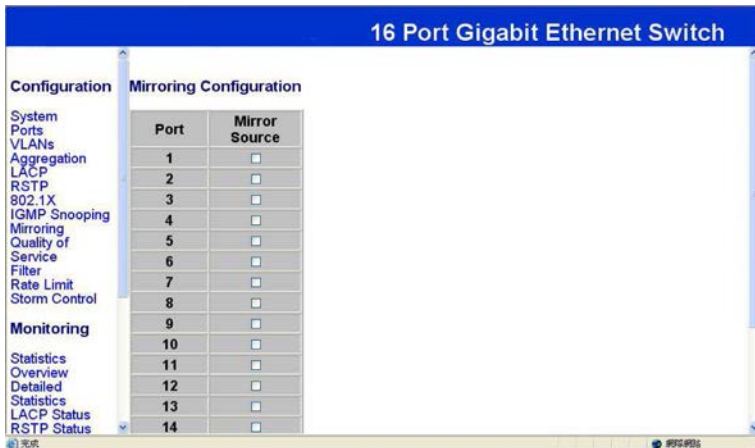
- IGMP Enabled**: ☐
- Router Ports**: A grid of checkboxes for ports 1 through 16. Ports 1-8 are in the first row, and ports 9-16 are in the second row. All checkboxes are currently unchecked.
- Unregistered IPMC Flooding enabled**: ☒

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"/>
9	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>
16	<input type="checkbox"/>	<input type="checkbox"/>

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

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

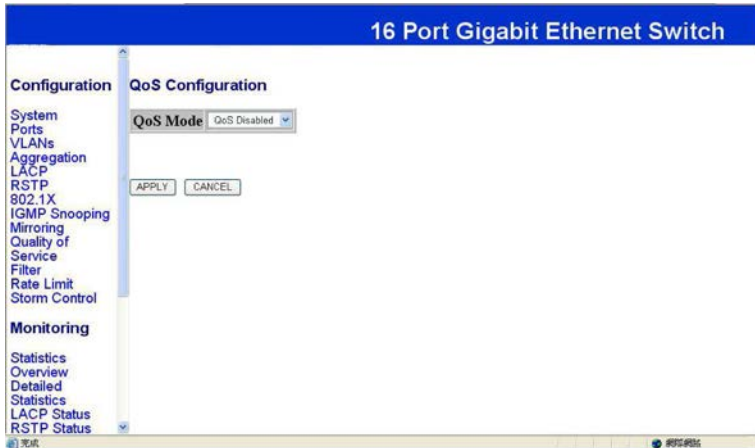
Configuration: Port Mirror configuration



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

- 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

Filter Configuration

Port	Mode	Source IP Filter		DHCP Server Allowed
		IP Address	IP Mask	
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"/>

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

Configuration: Rate Limit Configuration

16 Port Gigabit Ethernet Switch

Configuration Rate Limit 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

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 Storm Control 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	
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

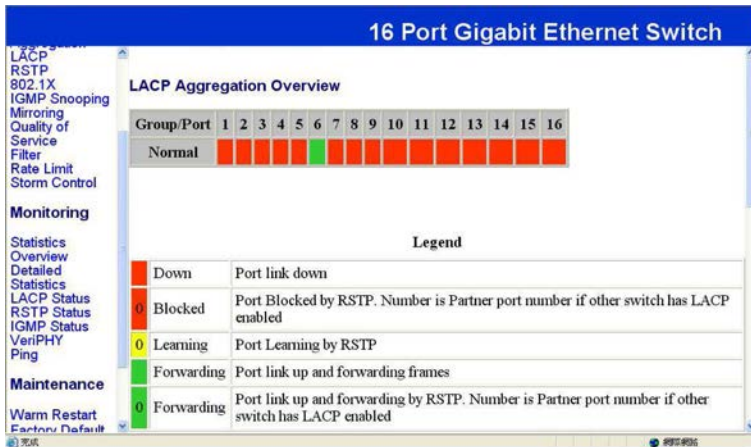
You can set up storm control by configuring the modes.

Monitoring: Statistics Overview for All Ports

16 Port Gigabit Ethernet Switch						
Statistics Overview for all ports						
<div>System</div> <div>Ports</div> <div>VLANs</div> <div>Aggregation</div> <div>LACP</div> <div>RSTP</div> <div>802.1X</div> <div>IGMP Snooping</div> <div>Mirroring</div> <div>Quality of Service</div> <div>Filter</div> <div>Rate Limit</div> <div>Storm Control</div> <div>Monitoring</div> <div>Statistics Overview</div> <div>Detailed Statistics</div> <div>LACP Status</div> <div>RSTP Status</div> <div>IGMP Status</div> <div>VeriPHY</div> <div>Ping</div>						
<div>Clear</div> <div>Refresh</div>						
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: LACP Status



You can read LACP status for LACP ports.

Monitoring: RSTP Status

The screenshot displays the web interface of a 16 Port Gigabit Ethernet Switch. The left sidebar contains a navigation menu with categories: Configuration (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, VeriPHY, Ping), and Maintenance (Warm Restart, Factory Default). The main content area is titled "16 Port Gigabit Ethernet Switch" and features two sections: "RSTP VLAN Bridge Overview" and "RSTP Port Status".

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!

Refresh

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 the web interface of a 16 Port Gigabit Ethernet Switch. The main title is "16 Port Gigabit Ethernet Switch". The left sidebar contains a menu with categories: "Monitoring" (Statistics, Overview, Detailed, Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY, Ping) and "Maintenance" (Warm Restart, Factory Default). The "IGMP Status" page is active, displaying 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

Below the table is a "Refresh" button. The bottom status bar shows the switch's IP address as 192.168.1.1.

You can read IGMP status for IGMP ports.

Monitoring: VeriPHY Cable Diagnostics

The screenshot displays the web interface of a 16 Port Gigabit Ethernet Switch. The title bar at the top reads "16 Port Gigabit Ethernet Switch". The left sidebar contains a list of navigation links: 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, VeriPHY, Ping, Maintenance, Warm Restart, and Factory Default. The "Monitoring" section is currently selected.

The main content area is titled "VeriPHY Cable Diagnostics". It features two dropdown menus: "Port" (set to "Port 1") and "Mode" (set to "Full"). Below these is an "Apply" button.

Below the "Apply" button is a table titled "Cable Status". The table has three columns: "Pair", "Length [m]", and "Status". The data rows are as follows:

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

16 Port Gigabit Ethernet Switch

Ping Parameters

Target IP address

Count

Time Out (in secs)

Ping Results

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

Monitoring

- Statistics
- Overview
- Detailed
- Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default

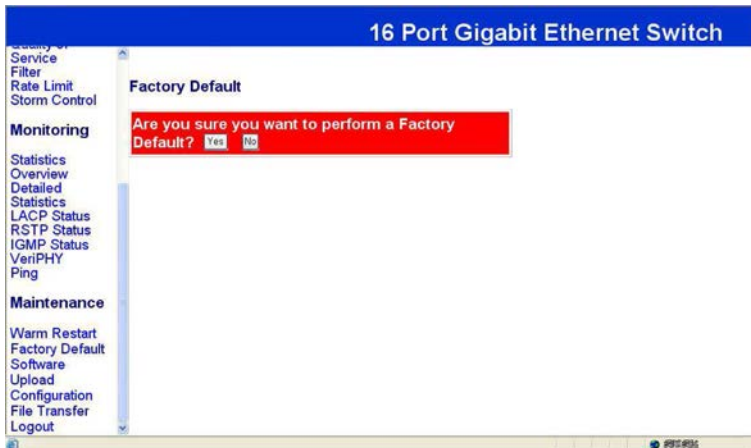
You can set target IP address by setting the mode which you want.

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



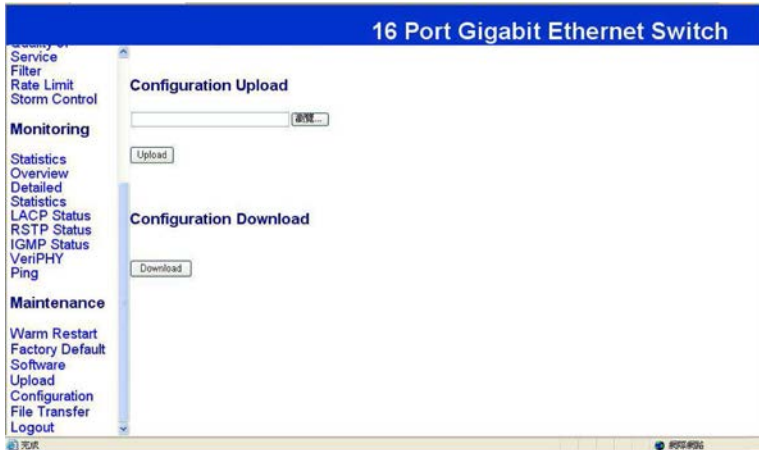
You can select yes/no to perform a Factory Default, and then the new settings will change according to your selection.

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