



Asante

A Communication Division of UIC Corporation



FriendlyNET GX6-2400W

®

24-Port Smart Gigabit Ethernet Switch

User's Manual



FriendlyNET GX6-2400W 24-Port Smart Gigabit Ethernet Switch

User's Manual

Asante

47709 Fremont Blvd Fremont, CA 94538 USA

SALES

408-435-8388

TECHNICAL SUPPORT

1. 408-435-4388: Worldwide
2. www.asante.com/support
3. support@asante.com

Switch DEFAULTS

IP address: 192.168.0.1

Password: Asante

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1 Introduction

Congratulations on becoming the owner of the ASANTE smart switch! You may now manage your LAN (local area network) through a friendly and powerful user interface.

This user guide tells you how to set up the smart switch, and how to customize its configuration to get the most out of this product.

1.1 L2 smart managed features

- Energy Saving for Green Ethernet
- VLAN Tagging (IEEE 802.1Q)
- Source IP Filtering
- IEEE 802.1X with Radius Server
- Rapid Spanning Tree Protocol (RSTP) (IEEE 802.1w)
- Link Aggregation (IEEE 802.3ad)
- QoS (IEEE 802.1p/DSCP)
- Rate Limiting
- Storm Control (D LF/Multicast/Broadcast)
- Port Mirroring
- IGMP Snooping
- SNMP and Port statistics
- Flow Control (IEEE 802.3x)
- Web-based Management

1.2 Conventions used in this document

1.2.1 Notations

- Acronyms are defined the first time they appear in text and in the glossary.
- For brevity, the smart switch is referred to as “the switch.”
- The terms *LAN* and *network* are used interchangeably to refer to a group of Ethernet-connected computers at one site.

1.2.2 Typography

- *Italics* are used to present the parameters for the command line interpreter.
- **Boldface** type text is used for items you select from menus and drop-down lists, and text strings you type when prompted by the program.

2 Getting to know the Smart Switch

2.1 Package contents

The switch package comes with the following items:

- GX6-2400W (24-port) L2 smart managed switch
- AC Power cord
- Rack installation kit (two brackets with six screws)
- Installation CD-ROM

2.2 Front Panel

The front panel includes LED indicators that show the system and port status.



Front panel labels and LEDs

Label	Color	Status	Description
POWER	Green	On	Unit is powered on
		Flashing	Self-test, INIT, or downloading
	Amber	On	Abnormal temperature or voltage
	Off		No power
LINK/ACT	Green	On	Link (RJ-45 or SFP) is present; port is enabled
		Flashing	Data is being transmitted/received
	Off		No Ethernet link
1000Mbps	Amber	On	1000Mbps
	Off		100/10Mbps if LINK/ACT is on

23 Rear Panel

The switch rear panel contains the port for the power connection connections.

Power Connector



Figure 1. Rear panel Table 2. Rear panel

labels

No.	Label	Description
1	Power Connector	Connects to the supplied power cord

2.4 Technical specifications

Standards	IEEE 802.3, 802.3u, 802.1Q, 802.1p, 802.3x, 802.1 D, 802.3ab, 802.3z, 802.3ac, TCP/IP
Port	24-Port 1000 BaseT with 2 shared Gigabit SFP
Speed	BaseT: 10/100/1000Mbps at full duplex, 20/200/2000Mbps at full duplex Gigabit SFP: 2000Mbps at full duplex
Protocol	CSMA/CD
Cable Type	Category 5 or better
Max Segment Length	100M (328 ft) over Category 5 twisted-Pair cable or better
LED	Power, LINK/ACT, 1000Mbps
Buffer Memory	500 KB
MAC Address	8 K
Jumbo Frame	9 KB
Forwarding Architecture	Store-and-forward
System Configuration	Web, SNMP
Size (W x D x H)	430 x 178 x 44 (mm), 16.9 x 7 x 1.7 (inch)
Weight (Net/Gross)	3.5 kg / 5.0 kg (105.8 oz / 141 oz)
Power	100 ~ 240 VAC, 50-60 Hz
EMI/EMC Certification	FCC A, CE
Operating Temp.	0°C to 40°C (32°F to 104°F)
Storage Temp.	-40°C to 70°C (-40°F to 158°F)
Operating Humidity	20% to 85%, relative humidity, non-condensing
Storage Humidity	20% to 90%, relative humidity, non-condensing

3 Quick start guide

This section provides the basic instructions to set up the switch environment. Part 1 shows you how to install the switch on a flat surface or on a rack. Part 2 provides instructions to set up the hardware.

Part 3 shows you how to configure basic settings on the switch.

Obtain the following information from your network administrator before proceeding:

IP address for the switch

Default gateway for the network

Mask for this network

3.1 Part 1 — Installing the hardware

Connect the device to the power outlet, and your computer or network. Figure 5 illustrates the hardware connections.

3.1.1 Installing the switch on a flat surface

The switch should be installed on a level surface that can support the weight of the switches and their accessories. Attach four rubber pads on the marked location on the bottom of the switch.

3.1.2 Mounting the switch on a rack

Attach brackets to each side of the switch and make the posts insert to the switch.

Insert and tighten two screws to securely attach the bracket to the rack on each side.

3.2 Part 2 — Setting up the switch

Connect the device to the power outlet, and your computer or network.

3.2.1 Connect to the computers or a LAN

You can use Ethernet cable to connect computers directly to the switch ports. You can also connect hubs/switches to the switch ports by Ethernet cables. You can use either the crossover or straight-through Ethernet cable to connect computers, hubs, routers, or switches.



Use a twisted-pair Category 5 Ethernet cable to connect the 1000BASE-T port. Otherwise, the link speed can not reach 1Gbps.

3.2.2 Attach the power adapter

1. Connect the AC power cord to the POWER receptacle on the back of the switch and plug the other end of the power cord into a wall outlet or a power strip.
2. Check the front LED indicators with the description in Table 4. If the LEDs light up as described, the switch hardware is working properly.

No.	LED	Description
1	System	Solid green indicates that the device is turned on. If this light is off, make sure that the power cord is attached to the switch and plugged into a power source.
2	LINK/ACT [1] to [24]	Solid green indicates that the port can communicate with the LAN, or flashing when the device is sending or receiving data from your LAN computer.
3	1 000Mbps [1] to [24]	Solid amber indicates that the port is Communicating at 1000Mbps.

Part 3 — Basic switch setting for management

After completing the hardware connections, configure the basic settings for your switch. You can only apply basic settings using the Web interface.

Web interface: The switch has a set of pages to allow you to manage it using IE 6.0 or higher.

3.3.1 Setting up through the Web interface

To successfully connect your PC to the switch, your PC must have an IP address in the same range as the switch. Perform the following steps to accomplish this .

1. To use the Web interface the first time, your computer must have its IP address set in the 192.168.0.xxx network. If you are unsure how to set the IP address, consult your OS documentation.
2. With your PC connected to the switch, open your Web browser (Internet Explorer), and type the following URL in the address/location box, and press **<Enter>**:

192.168.0.1

This is the factory default I P address of the switch. A login screen appears, as shown below.

The screenshot shows the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface has a green header with the Asante logo on the left and the switch model name and version (Version : 1.10) on the right. Below the header is a navigation menu with 'Setup' selected. Under 'Setup', 'System' is highlighted in yellow. The main content area displays 'Please enter password to login' in blue text, followed by a 'Password:' label and a text input field. A 'Proceed' button is located below the input field. The left sidebar contains a list of configuration options: System, Port Management, VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin, and Logout.

Enter the password, and then click Proceed button.
Use the following default the first time log into this interface into this interface:

Default Password: Asante

3. To setup a new IP address or password, click **"System"**, (see Figure 3). Fill in the new settings as New IP Address, network mask, gateway, and password. Then click Save Settings button.
4. If your new address is different from the default, the browser can not update the switch status window or retrieve any page. This is normal. You have to retype the new IP address in the address/location box, and press **<Enter>**. The WEB link returns.

The screenshot displays the web management interface for an Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is titled 'GX6-2400W 24-Port Smart Gigabit Ethernet Switch' and 'Version : 1.10'. The left sidebar contains a 'Setup' menu with options like System, Port Management, VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin, and Logout. The main content area is titled 'System Configuration' and shows the following settings:

MAC Address	00-03-6d-ff-ef-67
S/W Version	1.10
H/W Version	1.0
Active IP Address	192.168.123.5
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.123.254
DHCP Server	0.0.0.0
DHCP Enabled	<input type="checkbox"/>
New IP Address	192.168.123.5
New Subnet Mask	255.255.255.0
New Gateway	192.168.123.254
Management VLAN	1
Password	•••••
Inactivity Timeout (secs)	6000
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

At the bottom of the configuration area, there are two buttons: 'Save Settings' and 'Refresh'. The browser's address bar shows 'Internet' and the page is zoomed to 100%.

Part 4 - Hardware Reset

There is a recessed “reset” button on the right side of the front panel. The reset button may be engaged by using a paper click or other small item. If the reset button is momentarily engaged, the switch performs a warm reset. If the reset button is engaged for 10 seconds or longer, the switch performs a reset to factory default routine. Note: A reset to factory default settings a IP addresses, passwords, etc. will all return to factory default settings

4. System Configuration

The switch provides Web pages that allow switch management through the Internet. The program is designed to work best with Microsoft Internet Explorer® 5.5, or later versions.

4.1 Log into Web user interface

1. From a PC, open your web browser, type the following in the web address (or URL) field, and press **<Enter>**:

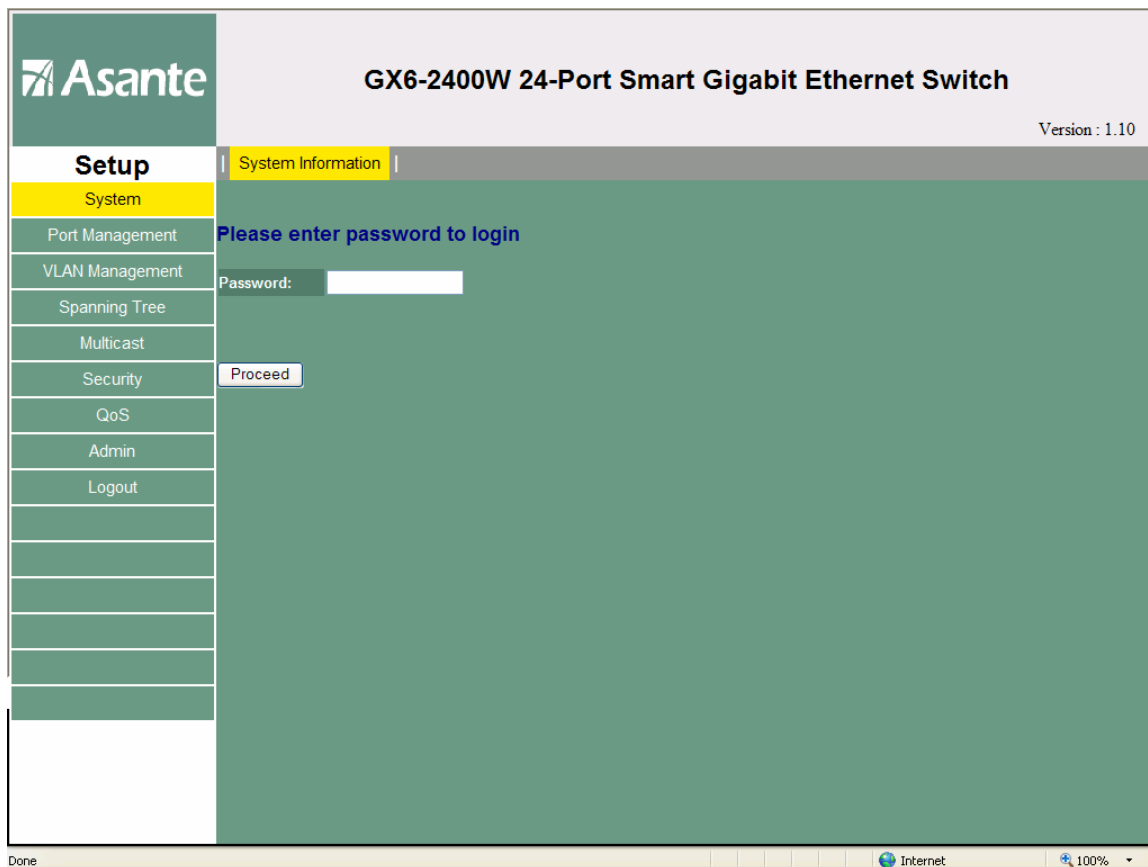
192.168.0.1

This is the factory default IP address for the switch.

2. Enter your password then click Proceed

Default Password: Asante

A login screen displays, as shown



4.2 System Page

The System Page allows you to view assorted system information. The MAC and IP address information is found here. DHCP server information and version information is also here (see Figure 3). The top section of the System Page is a display only. Changes can only be made below .

The screenshot displays the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is divided into a left-hand navigation menu and a main content area. The navigation menu includes 'Setup' (highlighted), 'System', 'Port Management', 'VLAN Management', 'Spanning Tree', 'Multicast', 'Security', 'QoS', 'Admin', and 'Logout'. The main content area is titled 'System Configuration' and is divided into two sections: 'System Information' and 'System Configuration'. The 'System Information' section displays the following details:

MAC Address	00-03-6d-ff-ef-67
S/W Version	1.10
H/W Version	1.0
Active IP Address	192.168.123.5
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.123.254
DHCP Server	0.0.0.0

The 'System Configuration' section allows for the following settings:

DHCP Enabled	<input type="checkbox"/>
New IP Address	<input type="text" value="192.168.123.5"/>
New Subnet Mask	<input type="text" value="255.255.255.0"/>
New Gateway	<input type="text" value="192.168.123.254"/>
Management VLAN	<input type="text" value="1"/>
Password	<input type="password" value="*****"/>
Inactivity Timeout (secs)	<input type="text" value="6000"/>
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	<input type="text" value="0.0.0.0"/>
SNMP Read Community	<input type="text" value="public"/>
SNMP Write Community	<input type="text" value="private"/>
SNMP Trap Community	<input type="text" value="public"/>

At the bottom of the configuration section, there are two buttons: 'Save Settings' and 'Refresh'. The browser's status bar at the bottom shows 'Internet' and '100%' zoom level.

On the lower portion of the system page, settings can be changed. The term refers to the setting that will take effect once the Save Settings button is clicked. This is where IP, SNMP and other settings can be changed. Once the desired changes are made, click the Save Settings button at the bottom of the page.

The screenshot displays the web management interface for an Asante GX6-2400W switch. The interface is divided into a left-hand navigation menu and a main content area. The navigation menu includes options like 'Setup', 'System', 'Port Management', 'VLAN Management', 'Spanning Tree', 'Multicast', 'Security', 'QoS', 'Admin', and 'Logout'. The main content area is titled 'System Configuration' and shows the following settings:

Parameter	Value
MAC Address	00-03-6d-ff-ef-67
S/W Version	1.10
H/W Version	1.0
Active IP Address	192.168.123.5
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.123.254
DHCP Server	0.0.0.0
DHCP Enabled	<input type="checkbox"/>
New IP Address	192.168.123.5
New Subnet Mask	255.255.255.0
New Gateway	192.168.123.254
Management VLAN	1
Password	•••••
Inactivity Timeout (secs)	6000
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

At the bottom of the configuration area, there are two buttons: 'Save Settings' and 'Refresh'. The browser's address bar shows 'Internet' and the page is zoomed to 100%.

4.3 Port Management – Port Config

The following table shows the status and speed of each port. The speed and flow control can be set for each port.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | **Port Config** | Port Statistics | Detailed Statistics | LACP Statistics | LACP Property | Aggregation

System

Port Management

VLAN Management

Spanning Tree

Multicast

Security

QoS

Admin

Logout

Port Configuration

Enable Jumbo Frames

PERFECT_REACH/Power Saving Mode: Disable

Port	Link	Mode	Flow Control
1	Down	Auto Speed	<input type="checkbox"/>
2	Down	Auto Speed	<input type="checkbox"/>
3	Down	Auto Speed	<input type="checkbox"/>
4	Down	Auto Speed	<input type="checkbox"/>
5	Down	Auto Speed	<input type="checkbox"/>
6	Down	Auto Speed	<input type="checkbox"/>
7	Down	Auto Speed	<input type="checkbox"/>
8	Down	Auto Speed	<input type="checkbox"/>
9	Down	Auto Speed	<input type="checkbox"/>
10	Down	Auto Speed	<input type="checkbox"/>
11	Down	Auto Speed	<input type="checkbox"/>
12	Down	Auto Speed	<input type="checkbox"/>
13	Down	Auto Speed	<input type="checkbox"/>

Internet 100%

Port Config - Lower page

The port status and speed the high number ports can be viewed by scrolling down. At the bottom of the screen, the Save Settings button should be clicked to save the settings.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | **Port Config** | Port Statistics | Detailed Statistics | LACP Statistics | LACP Property | Aggregation

Port	Status	Speed	Link
3	Down	Auto Speed	<input type="checkbox"/>
4	Down	Auto Speed	<input type="checkbox"/>
5	Down	Auto Speed	<input type="checkbox"/>
6	Down	Auto Speed	<input type="checkbox"/>
7	Down	Auto Speed	<input type="checkbox"/>
8	Down	Auto Speed	<input type="checkbox"/>
9	Down	Auto Speed	<input type="checkbox"/>
10	Down	Auto Speed	<input type="checkbox"/>
11	Down	Auto Speed	<input type="checkbox"/>
12	Down	Auto Speed	<input type="checkbox"/>
13	Down	Auto Speed	<input type="checkbox"/>
14	Down	Auto Speed	<input type="checkbox"/>
15	Down	Auto Speed	<input type="checkbox"/>
16	Down	Auto Speed	<input type="checkbox"/>
17	100FDX	Auto Speed	<input type="checkbox"/>
18	Down	Auto Speed	<input type="checkbox"/>
19	Down	Auto Speed	<input type="checkbox"/>
20	Down	Auto Speed	<input type="checkbox"/>
21	Down	Auto Speed	<input type="checkbox"/>
22	Down	Auto Speed	<input type="checkbox"/>
23	Down	Auto Speed	<input type="checkbox"/>
24	Down	Auto Speed	<input type="checkbox"/>

Save Settings Refresh

4.3.1 PORT STATISTICS

The statistics overview page is a per port byte count history. Every port has its own byte counter for each of six categories. The categories are Tx Bytes, TX Frames, RX Bytes, RX Frames, TX Errors and RX Errors. The chart that occupies the majority of this page is output only. The clear and refresh buttons allow the related functions to be invoked. Clicking the clear button allows information for all counters to be cleared back to zero. Clicking the Refresh button increments all counters to include the most recent traffic available.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | Port Config | **Port Statistics** | Detailed Statistics | LACP Statistics | LACP Property | Aggregation

System
Port Management
 VLAN Management
 Spanning Tree
 Multicast
 Security
 QoS
 Admin
 Logout

Statistics Overview for all ports

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	0	0	0	0	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
17	1006896	1810	5584096	41984	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0

Internet 100%

4.3.2 Detailed Statistics

The detailed statistics page provides additional information on a per port basis. Here the characteristics of the traffic being handled are categorized by byte size, error type and various other parameters. Reset and clear buttons are available to be used on a per port basis.

The screenshot displays the web management interface for an Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface includes a navigation menu on the left with options like Setup, System, Port Management, VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin, and Logout. The main content area is titled 'GX6-2400W 24-Port Smart Gigabit Ethernet Switch' and 'Version : 1.10'. A breadcrumb trail shows 'Port Config | Port Statistics | Detailed Statistics | LACP Statistics | LACP Property | Aggregation'. The 'Detailed Statistics' page is titled 'Statistics for Port 1' and features a grid of buttons for ports 1 through 24. Below the grid are several tables of statistics for Port 1, including Receive Total, Transmit Total, Receive Size Counters, Transmit Size Counters, Receive Error Counters, and Transmit Error Counters. The 'Receive Total' and 'Transmit Total' tables show counts for Rx Packets, Rx Octets, Rx High Priority Packets, Rx Low Priority Packets, Rx Broadcast, Rx Multicast, Rx Broad- and Multicast, and Rx Error Packets. The 'Receive Size Counters' and 'Transmit Size Counters' tables show counts for Rx and Tx Bytes in various size ranges (64, 65-127, 128-255, 256-511, 512-1023, 1024-Bytes). The 'Receive Error Counters' and 'Transmit Error Counters' tables show counts for Rx CRC/Alignment, Rx Undersize, Rx Oversize, Rx Fragments, Rx Jabber, Rx Drops, Tx Collisions, Tx Drops, and Tx Overflow. The interface also includes 'Clear' and 'Refresh' buttons.

4.3.3 LACP Statistics

The displayed chart is a color coded output showing the LACP status of each port. A legend is included to explain the meaning of various output colors and symbols. Below the legend there is a refresh button that may be used to update the output chart for more current information.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet

Setup | Port Config | Port Statistics | Detailed Statistics | **LACP Statistics** | LACP Property | Aggregation

System

Port Management

VLAN Management

Spanning Tree

Multicast

Security

QoS

Admin

Logout

LACP Aggregation Overview

Group/Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Normal	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down

Legend

- Down Port link down
- Blocked Port Blocked by RSTP. Number is Partner port number if other switch has LACP enabled
- Learning Port Learning by RSTP
- Forwarding Port link up and forwarding frames
- Forwarding Port link up and forwarding by RSTP. Number is Partner port number if other switch has LACP enabled

LACP Port Status

Port	Protocol Active	Partner Port Number	Operational Port Key
1	no		
2	no		
3	no		
4	no		
5	no		
6	no		
7	no		
8	no		
9	no		
10	no		
11	no		
12	no		
13	no		
14	no		
15	no		
16	no		
17	no		
18	no		
19	no		
20	no		

Done

4.3.4 LACP Property

All the ports in the link aggregation group MUST operate in full-duplex mode at the same speed. All ports in the link aggregation group MUST be the same speed.

The screenshot displays the Asante network management interface for a GX6-2400W 24-Port Smart Gigabit Ethernet switch. The interface is divided into a left-hand navigation menu and a main configuration area. The navigation menu includes sections for Setup, System, Port Management (highlighted), VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin, and Logout. The main configuration area is titled 'LACP Port Configuration' and features a table with 24 rows, one for each port. Each row contains a port number, a 'Protocol Enabled' checkbox, and a 'Key Value' dropdown menu. All checkboxes are currently unchecked, and all dropdown menus are set to 'auto'. Below the table are two buttons: 'Save Settings' and 'Refresh'. The top of the interface shows the Asante logo and the device model name 'GX6-2400W 24-Port Smart Gigabit Ethernet'. A breadcrumb trail at the top of the main area includes 'Port Config', 'Port Statistics', 'Detailed Statistics', 'LACP Statistics', 'LACP Property' (highlighted), and 'Aggregation'. A 'Done' button is visible at the bottom left of the interface.

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
15	<input type="checkbox"/>	auto
16	<input type="checkbox"/>	auto
17	<input type="checkbox"/>	auto
18	<input type="checkbox"/>	auto
19	<input type="checkbox"/>	auto
20	<input type="checkbox"/>	auto
21	<input type="checkbox"/>	auto
22	<input type="checkbox"/>	auto
23	<input type="checkbox"/>	auto
24	<input type="checkbox"/>	auto

4.3.5 Aggregation

VLAN ports can be added to trunk groups on this page. Click Save Settings when done.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | Port Config | Port Statistics | Detailed Statistics | LACP Statistics | LACP Property | **Aggregation**

System
Port Management
VLAN Management
Spanning Tree
Multicast
Security
QoS
Admin
Logout

Aggregation/Trunking Configuration

Group\Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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"/>	<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"/>	<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"/>	<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"/>	<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"/>	<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"/>	<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"/>	<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"/>	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Internet 100%

4.4 VLAN Management

The switch supports the creation of VLANs. Enter the VLAN ID for a new VLAN Then click add. A new screen then presents itself.

The screenshot displays the web management interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is divided into a left-hand navigation menu and a main content area. The navigation menu includes options like System, Port Management, VLAN Management (which is currently selected and highlighted in yellow), Spanning Tree, Multicast, Security, QoS, Admin, and Logout. The main content area is titled 'Port Segmentation (VLAN) Configuration' and features an 'Add a VLAN' section with a 'VLAN ID' input field and an 'Add' button. Below this is a 'VLAN Configuration List' table with one entry, '1', and a radio button. Action buttons for 'Modify', 'Delete', and 'Refresh' are provided for the list. A 'Port Config' button is also visible at the bottom of the configuration area. The top right corner of the interface shows the version number 'Version : 1.10'. The browser's address bar at the bottom indicates the URL 'http://192.168.123.5/GR2802_submenu2.htm' and the page is zoomed to 100%.

VLAN - Setup

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | VLAN Management |

- System
- Port Management
- VLAN Management**
- Spanning Tree
- Multicast
- Security
- QoS
- Admin
- Logout

VLAN Setup

VLAN ID: 1

Port	Member	Port	Member
Port 1	<input checked="" type="checkbox"/>	Port 13	<input checked="" type="checkbox"/>
Port 2	<input checked="" type="checkbox"/>	Port 14	<input checked="" type="checkbox"/>
Port 3	<input checked="" type="checkbox"/>	Port 15	<input checked="" type="checkbox"/>
Port 4	<input checked="" type="checkbox"/>	Port 16	<input checked="" type="checkbox"/>
Port 5	<input checked="" type="checkbox"/>	Port 17	<input checked="" type="checkbox"/>
Port 6	<input checked="" type="checkbox"/>	Port 18	<input checked="" type="checkbox"/>
Port 7	<input checked="" type="checkbox"/>	Port 19	<input checked="" type="checkbox"/>
Port 8	<input checked="" type="checkbox"/>	Port 20	<input checked="" type="checkbox"/>
Port 9	<input checked="" type="checkbox"/>	Port 21	<input checked="" type="checkbox"/>
Port 10	<input checked="" type="checkbox"/>	Port 22	<input checked="" type="checkbox"/>
Port 11	<input checked="" type="checkbox"/>	Port 23	<input checked="" type="checkbox"/>
Port 12	<input checked="" type="checkbox"/>	Port 24	<input checked="" type="checkbox"/>

Save Settings Refresh

Internet 100%

VLAN - Per Port Configuration

This screen is reached by clicking on the Port Config button on the VLAN page. The ports and trunks are listed. Each one may be listed as a member or removed. Click Save Settings when finished.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | VLAN Management

System
Port Management
VLAN Management
Spanning Tree
Multicast
Security
QoS
Admin
Logout

VLAN Per Port Configuration

Port	VLAN aware Enabled	Ingress Filtering Enabled	Packet Type	Pvid
Port 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1
Port 16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/> All <input type="radio"/> Tagged Only	1

Done Internet 100%

4.5 Spanning Tree

RSTP

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | RSTP | RSTP Port |

- System
- Port Management
- VLAN Management
- Spanning Tree**
- Multicast
- Security
- QoS
- Admin
- Logout

RSTP VLAN Bridge Overview

VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
1	32769:00-03-6d-ff-ef-682	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
Port 7						Non-STP
Port 8						Non-STP
Port 9						Non-STP
Port 10						Non-STP
Port 11						Non-STP
Port 12						Non-STP
Port 13						Non-STP
Port 14						Non-STP
Port 15						Non-STP
Port 16						Non-STP

Done Internet 100%

4.5.1 RSTP Port

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version : 1.10

Setup | RSTP | **RSTP Port**

System
Port Management
VLAN Management
Spanning Tree
Multicast
Security
QoS
Admin
Logout

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			
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
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto

Done Internet 100%

4.6 Multicast IGMP Status

This page shows the status of IGMP on a per VLAN basis. A refresh button is available for use.

The screenshot displays the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The page title is "GX6-2400W 24-Port Smart Gigabit Ethernet Switch" with a version of 1.10. The left sidebar shows a navigation menu under "Setup" with options: System, Port Management, VLAN Management, Spanning Tree, Multicast (highlighted), Security, QoS, Admin, and Logout. The main content area is titled "IGMP Status" and contains 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 browser status bar at the bottom shows "Done", "Internet", and "100%".

4.6.1 IGMP Configuration

Various IGMP settings can be enabled or disabled. Ports can also be selected.

The screenshot displays the web management interface for an Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is titled "Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch" and "Version : 1.10". The left sidebar contains a "Setup" menu with options: System, Port Management, VLAN Management, Spanning Tree, Multicast (highlighted), Security, QoS, Admin, and Logout. 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 24. Ports 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 24 are all currently unchecked.
- Unregistered IPMC Flooding enabled:

VLAN ID	IGMP Snooping Enabled	IGMP Querying Enabled
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

At the bottom of the configuration area, there are two buttons: "Save Settings" and "Refresh". The browser address bar at the bottom shows "http://192.168.123.5/igmpconf" and the page is zoomed to 100%.

4.7 Security – Source IP Filter

Selecting filter brings up the filter configuration settings. Filters may be applied on a per port basis. Each port allows the ability to choose one of three settings, disabled, static or DHCP. With static selected you may enter an IP address and subnet mask to specify a range of IP addresses that are allowed to pass the switch. With DHCP selected, only the IP address allocated by a DHCP server is allowed. No traffic from other IP addresses is allowed to pass the switch.

The screenshot displays the 'Source IP Filter' configuration page. On the left is a navigation menu with 'Security' highlighted. The main area is titled 'Filter Configuration' and contains a table for 24 ports. Each port's mode is set to 'Disabled', and the 'DHCP Server Allowed' checkbox is checked. At the bottom, there are 'Save Settings' and 'Refresh' buttons.

Port	Source IP Filter			DHCP Server Allowed
	Mode	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"/>
13	Disabled			<input checked="" type="checkbox"/>
14	Disabled			<input checked="" type="checkbox"/>
15	Disabled			<input checked="" type="checkbox"/>
16	Disabled			<input checked="" type="checkbox"/>
17	Disabled			<input checked="" type="checkbox"/>
18	Disabled			<input checked="" type="checkbox"/>
19	Disabled			<input checked="" type="checkbox"/>
20	Disabled			<input checked="" type="checkbox"/>
21	Disabled			<input checked="" type="checkbox"/>
22	Disabled			<input checked="" type="checkbox"/>
23	Disabled			<input checked="" type="checkbox"/>
24	Disabled			<input checked="" type="checkbox"/>

4.7.2 802.1 x

This section is used for configuration of 802.1 x. Information is presented on a per port basis. Click Save Settings near the bottom of the page when done.

Setup

System

Port Management

VLAN Management

Spanning Tree

Multicast

Security

QoS

Admin

Logout

Source IP Filter
802.1X
Storm Control

802.1X Configuration

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
11	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
12	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
13	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
14	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
15	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
16	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
17	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
18	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
19	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
20	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
21	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
22	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
23	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
24	Force Authorized	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
			Re-authenticate All	Force Reinitialize All	

Parameters

Save Settings
Refresh

4.7.3 Storm Control

On the storm control configuration page five functions may be rate limited, ICMP rate, Learn Frames rate, Broadcast Rate, Multicast Rate, and Flooded Unicast Rate. Each column has a drop down menu with available rate selections. Once the settings are complete be sure to click the Save Settings button to invoke the function. See Graphic.

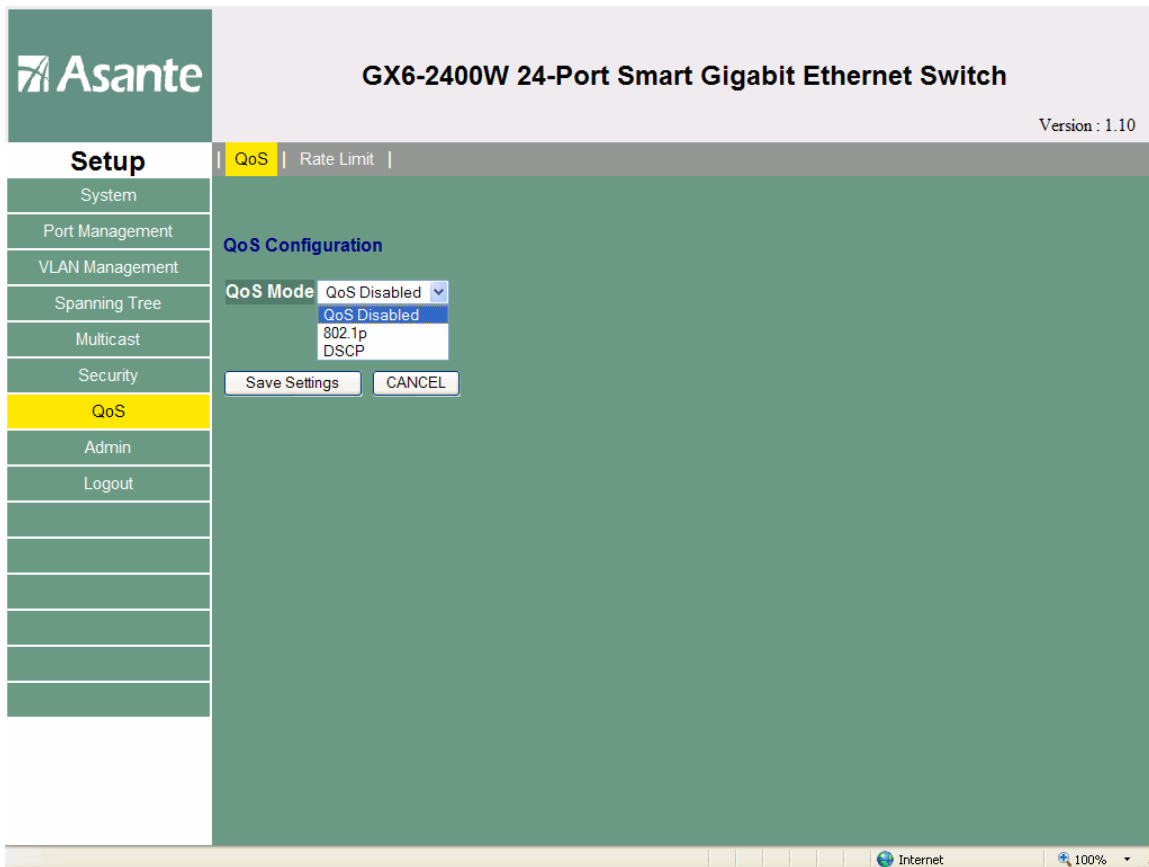
The screenshot displays the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface features a dark green header with the Asante logo and the device name. A navigation menu on the left lists various setup options, with 'Security' highlighted. The main content area shows the 'Storm Control Configuration' page, which includes a table for configuring storm control settings. The table has two columns: the function name and the rate limit selection. All five functions (ICMP Rate, Learn Frames Rate, Broadcast Rate, Multicast Rate, and Flooded unicast Rate) are currently set to 'No Limit'. Below the table are 'Save Settings' and 'Refresh' buttons. The browser's address bar shows 'Internet' and a zoom level of 100%.

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

4.8 Quality of Service

The GX6-2400W supports two types of QoS (Quality of Service.) The two options are 802.1p and DSCP. Use the QoS mode drop down menu to enable one of the QoS protocols. There is no enable choice. Therefore, to enable QoS, do so by selecting either 802.1p or DSCP. Each selection brings up its own configuration chart.

With 802.1p selected you have the ability to prioritize traffic based on the 802.1p value. Once the settings are complete be sure to click the Save Settings button to invoke the function. See Graphic.



4.8.1 DSCP

With DSCP selected you have the ability to prioritize traffic based on the DSCP value. The GX6-2400W supports four levels of priority. Once the settings are complete be sure to click the Save Settings button to invoke the function. See Graphic.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch Version: 1.10

Setup | QoS | Rate Limit

System
Port Management
VLAN Management
Spanning Tree
Multicast
Security
QoS
Admin
Logout

QoS Configuration

QoS Mode: DSCP
Prioritize Traffic: All High Priority

DSCP Configuration

DSCP Value(0..63)	Priority
	high
	high
	high
	high
	high
	high
	high
	high
All others	high

Save Settings CANCEL

Internet 100%

4.8.2 - 802.1p

Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch
Version : 1.10

Setup | QoS | Rate Limit |

- System
- Port Management
- VLAN Management
- Spanning Tree
- Multicast
- Security
- QoS**
- Admin
- Logout

QoS Configuration

QoS Mode: 802.1p
Prioritize Traffic: Custom

802.1p Configuration

802.1p Value	Priority	802.1p Value	Priority	802.1p Value	Priority	802.1p Value	Priority
0	normal	1	low	2	low	3	normal
4	medium	5	medium	6	high	7	high

Save Settings CANCEL

Done Internet 100%

4.8.3 Rate limit

The rate limit configuration page allows the ability to allocate bandwidth on a per port basis. Both policer and shaper allow limits to be set.

Asante GX6-2400W 24-Port Smart Gigabit Ethernet

Setup | QoS | **Rate Limit**

System
Port Management
VLAN Management
Spanning Tree
Multicast
Security
QoS
Admin
Logout

Rate Limit Configuration

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
16	No Limit	No Limit
17	No Limit	No Limit
18	No Limit	No Limit
19	No Limit	No Limit
20	No Limit	No Limit
21	No Limit	No Limit
22	No Limit	No Limit
23	No Limit	No Limit
24	No Limit	No Limit

Save Settings Refresh

Done

4.9 Admin

4.9.1 Port Mirroring

Any port can be the source for a mirror operation. In the “Mirror Source” column there is a box corresponding to each specific port number. When a box is clicked, a check mark appears. This enables that port to be the source. Near the bottom of the page on the “Mirror Port” row use the selector to designate the mirror port. This is the port the sourced information will be mirrored to.

Once the settings are complete be sure to click the Save Settings button to invoke the function.

The screenshot displays the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is divided into a left-hand navigation menu and a main content area. The navigation menu includes sections like Setup, System, Port Management, VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin (highlighted), and Logout. The main content area is titled "Port Mirroring Configuration" and features a table with 24 rows, each representing a port. The columns are "Port" and "Mirror Source". Each "Mirror Source" cell contains a checkbox. Below the table, there is a "Mirror Port" dropdown menu currently set to "1", and two buttons: "Save Settings" and "Refresh".

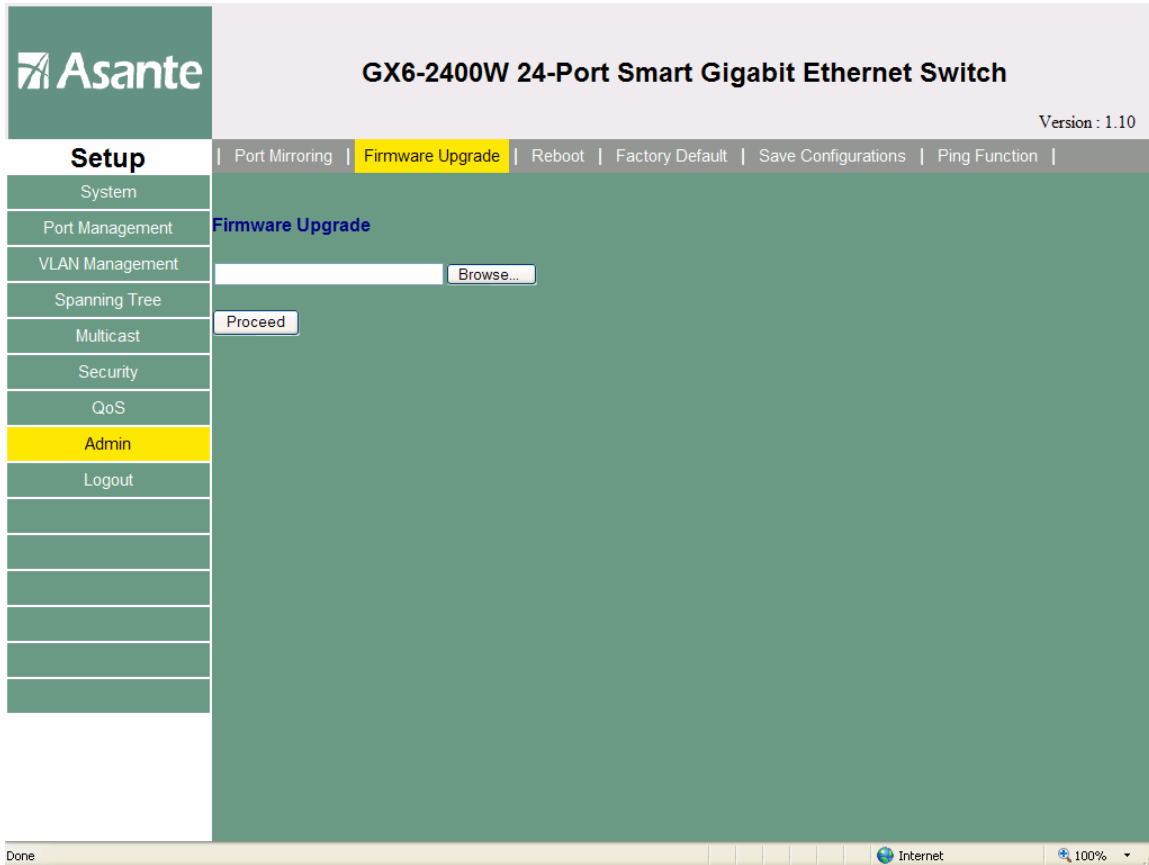
Port	Mirror Source
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>
9	<input type="checkbox"/>
10	<input type="checkbox"/>
11	<input type="checkbox"/>
12	<input type="checkbox"/>
13	<input type="checkbox"/>
14	<input type="checkbox"/>
15	<input type="checkbox"/>
16	<input type="checkbox"/>
17	<input type="checkbox"/>
18	<input type="checkbox"/>
19	<input type="checkbox"/>
20	<input type="checkbox"/>
21	<input type="checkbox"/>
22	<input type="checkbox"/>
23	<input type="checkbox"/>
24	<input type="checkbox"/>

Mirror Port: 1

Save Settings Refresh

4.9.2 Firmware Upgrade

The software update page allows the firmware to be updated for the switch. To use this function the software must exist in some location that may be easily browsed. Either enter the exact path manually via the keyboard, or use the browse button to browse for its location. Once the firmware file location is identified, click the upload button.



4.9.3 Reboot

This allows the switch to be rebooted (reset). To reset click yes. After clicking yes, the system reboots and therefore will be unavailable for several seconds. Login will be required.



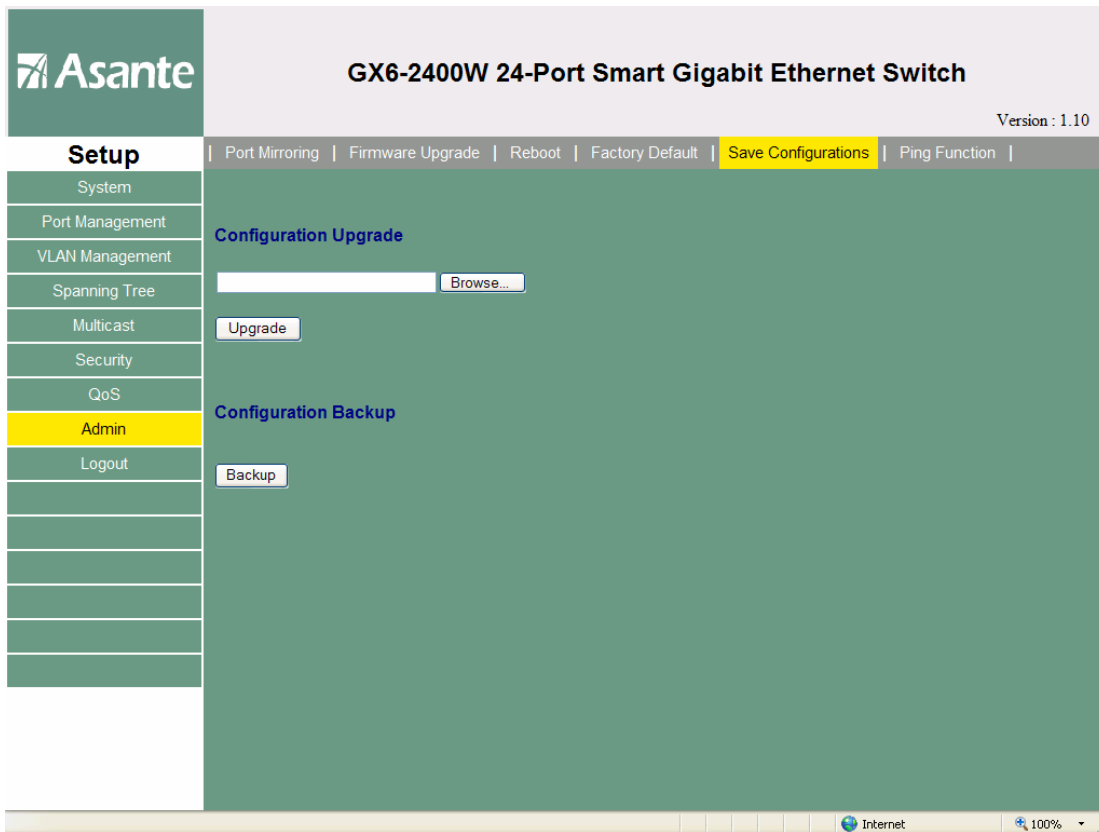
4.9.4 Factory default

This resets all settings back to factory default. If the yes button is clicked, all configurations like passwords, vlans, etc. except IP configurations (address, subnet mask, and default gateway) will all return to factory default settings. The IP configurations can be reset back to factory defaults by pushing the reset button in the front panel. As a safety measure, click on the system button and record the current settings before resetting the switch to default. Some of the settings may need to be reentered once the switch reboots.



4.9.5 Save Configurations

The save configuration function can be used to save the switch configuration file. To save the configuration click the backup button and save it to an easily located location. On this page an existing configuration from the same switch or another similar switch may be downloaded. To do this the complete file name may be entered manually via keyboard, or the file may be located using the browse button. Once the file is identified click the upgrade button to execute the download.



4.9.6 Ping Function

This page contains fields for IP Address, iteration count, and timeout. A refresh button is also available.

You can also test whether access to the Internet is working by typing an external address, such as that for www.yahoo.com (216.115.108.243). If you do not know the IP address of a particular Internet location, you can use the nslookup command, as explained in a later section.

From most other IP-enabled operating systems, you can execute the same command at a command prompt or through a system administration utility.

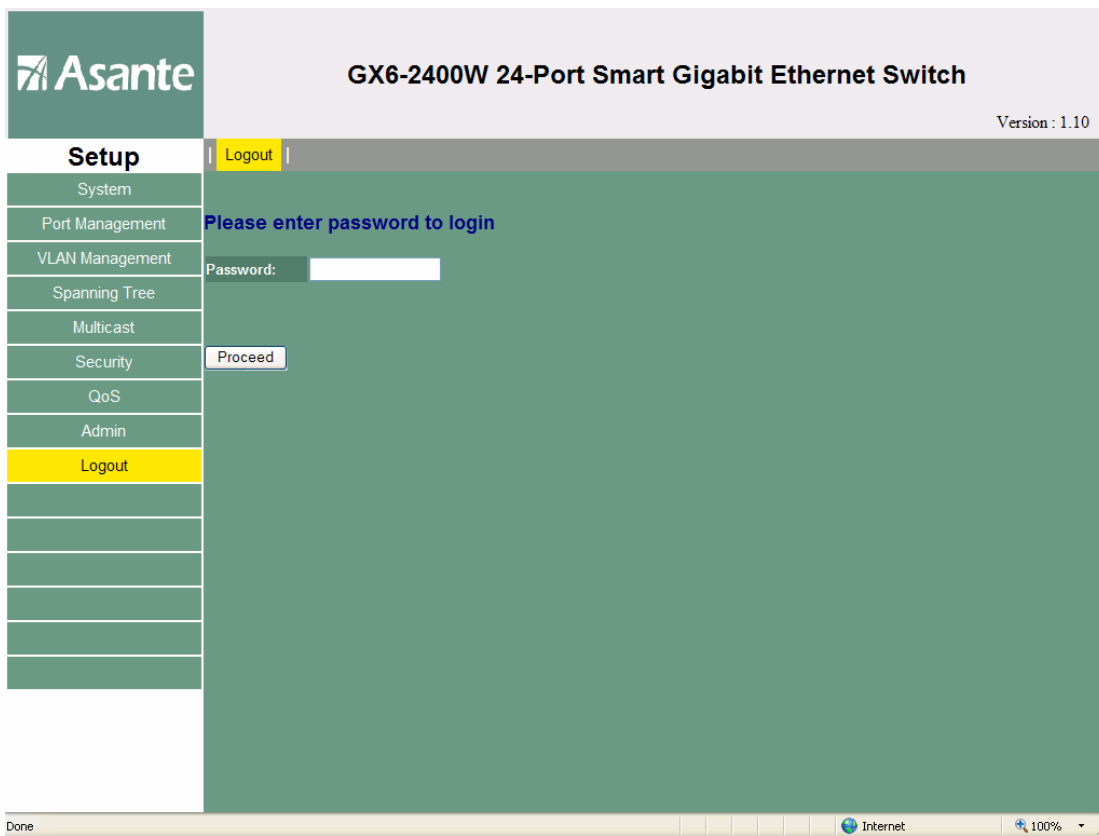
The screenshot displays the web interface for the Asante GX6-2400W 24-Port Smart Gigabit Ethernet Switch. The interface is titled "GX6-2400W 24-Port Smart Gigabit Ethernet Switch" and "Version: 1.10". The "Setup" menu is expanded, showing options like System, Port Management, VLAN Management, Spanning Tree, Multicast, Security, QoS, Admin, and Logout. The "Ping Function" tab is selected, showing the "Ping Parameters" section with fields for "Target IP address", "Count" (set to 1), and "Time Out (in secs)" (set to 1). A "Proceed" button is visible. Below this is the "Ping Results" section, which shows 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

A "Refresh" button is located at the bottom of the results section.

4.10 Logout

Selecting Logout ends the session. The login screen is again presented as shown below.



5. Troubleshooting

Problems with suggestion actions is also provided.

All the known bugs are listed in the release note. Read the release note before you set up the switch. Contact Customer Support if these suggestions do not resolve the problem.

5.1 Diagnosing problems using IP utilities

5.1.1 ping

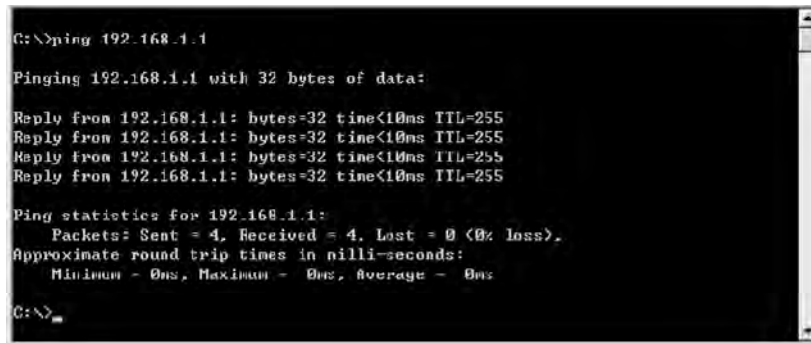
Ping is a command you can use to check whether your PC can recognize other computers on your network and the Internet. A ping command sends a message to the computer you specify. If the computer receives the message, it sends messages in reply. To use it, you must know the IP address of the computer with which you are trying to communicate.

On Windows-based computers, you can execute a ping command from the Start menu. Click the Start button, and then click Run. In the Open text box, type a statement such as the following:

```
ping 192.168.1.1
```

You can substitute any private IP address on your LAN or a public IP address for an Internet site, if known.

If the target computer receives the message, a Command Prompt window appears as shown.



```
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255
Reply from 192.168.1.1: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Using the ping utility

If the target computer cannot be located, you will receive the message “Request timed out.”

Using the ping command, you can test whether the path to the switch is working (using the pre-configured default LAN IP address 192.168.1.1) or another address you assigned.

You can also test whether access to the Internet is working by typing an external address, such as that for www.yahoo.com (216.115.108.243). If you do not know the IP address of a particular Internet location, you can use the nslookup command, as explained in the following section.

From most other IP-enabled operating systems, you can execute the same command at a command prompt or through a system administration utility.

5.1.2 nslookup

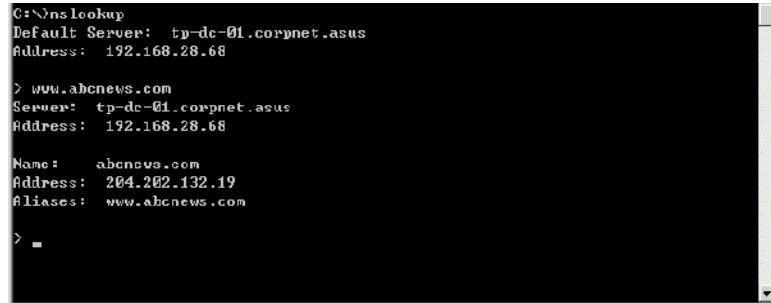
You can use the nslookup command to determine the IP address associated with an Internet site name. You specify the common name, and the nslookup command looks up the name on your DNS server (usually located with your ISP). If that name is not an entry in your ISP's DNS table, the request is then referred to another higher-level server, and so on, until the entry is found. The server then returns the associated IP address.

On Windows-based computers, you can execute the nslookup command from the Start menu. Click the Start button, then click Run. In the Open text box, type the following:

nslookup

A Command Prompt window displays with a bracket prompt (>). At the prompt, type the name of the Internet address you are interested in, such as www.absnews.com.

The window displays the associate IP address, if known. See Figure 29.



```
C:\>nslookup
Default Server: tp-dc-01.corpnet.asus
Address: 192.168.28.68

> www.absnews.com
Server: tp-dc-01.corpnet.asus
Address: 192.168.28.68

Name: absnews.com
Address: 204.202.132.19
Aliases: www.absnews.com

> _
```

Figure 29. Using the nslookup utility

There may be several addresses associated with an Internet name. This is common for web sites that receive heavy traffic; they use multiple, redundant servers to carry the same information.

To exit from the nslookup utility, type **exit** and press <Enter> at the command prompt.

5.2 Simple fixes

The following table lists some common problems that you may encounter when installing or using the switch, and the suggested actions to solve the problems.

Table 6. Troubleshooting

Problem	Suggested Action
LEDs	
Power LED does not light up after the switch is turned on.	1. Verify if the power cord is securely connected to the switch and a wall socket/power strip.
1000Mbps LED does not illuminate after an	1. Verify if the Ethernet cable is securely connected to your LAN switch/hub/PC and to the switch. Make sure the PC and/or hub/switch is turned on.
Ethernet cable is attached	2. Some equipment does not support 1000Mbps. In this case, it is normal for the 1000Mbps LED to be out.
Network Access	
PC cannot access another host in the same network	1. Check that the Ethernet cabling is good and the LED is green. 2. If the port LED is amber, check if this port is disabled. You may need to wait a minute if you just turned on the switch.
PCs cannot display web configuration pages.	1. The switch is powered up and the connecting port is enabled. The factory default IP for the switch is 192.168.1.1. 2. Verify your network setup in your PC for this information. If your PC does not have a valid route to access the switch, change the switch IP to an
You forgot/lost your WEB Configuration password.	1. If you have not changed the password from the default, try using "Asante" as the password. 2. Login to console mode through RS232 or USB, use "sys user show" to display the lost information
Some pages do not display completely	1. Verify that you are using Internet Explorer v5.5 or later. Netscape is not supported. Support for Javascript® must be enabled in your browser. Support for Java® may also be required. 2. Ping the switch IP address to see if the link is stable. If some ping packets fail, check your network setup to make sure a valid setting.
Changes not saved	1. Make sure you have gone to Admin – Save configuration and saved the configuration.
Cannot show the texts on the terminal emulator.	1. The factory default baud rate is 9600, no flow control, 8 bit data, no parity check and stop bit is one. 2. Check if the cable is good.

6 Glossary

10BASE-T	A designation for the type of wiring used by Ethernet networks with a data rate of 10 Mbps. Also known as Category 3 (CAT 3) wiring. <i>See also data rate, Ethernet.</i>
100BASE-T	A designation for the type of wiring used by Ethernet networks with a data rate of 100 Mbps. Also known as Category 5 (CAT 5) wiring. <i>See also data rate, Ethernet.</i>
1000BASE-T	A designation for the type of wiring used by Ethernet networks with a data rate of 1000 Mbps.
binary	The "base two" system of numbers, that uses only two digits, 0 and 1, to represent all numbers. In binary, the number 1 is written as 1, 2 as 10, 3 as 11, 4 as 100, etc. Although expressed as decimal numbers for convenience, IP addresses in actual use are binary numbers; e.g., the IP address 209.191.4.240 is 11010001.10111111.00000100.11110000 in binary. <i>See also bit, IP address, network mask.</i>
bit	Short for "binary digit," a bit is a number that can have two values, 0 or 1. <i>See also binary.</i>
bps	bits per second
CoS	Class of Service. Defined in 802.1Q, the value range is from 0 to 7. Due to 4 internal traffic class mapping to 8 priority, Only Cos value 0,2,5,7 are valid according to Cos Queue Mapping.
broadcast	To send data to all computers on a network.
download	To transfer data in the downstream direction, i.e., from the Internet to the user.
Ethernet	The most commonly installed computer network technology, usually using twisted pair wiring. Ethernet data rates are 10 Mbps and 100 Mbps. <i>See also 10BASE-T, 100BASE-T, twisted pair.</i>
filtering	To screen out selected types of data, based on filtering rules. Filtering can be applied in one direction (ingress or egress), or in both directions.

filtering rule A rule that specifies what kinds of data the a routing device will accept and/or reject. Filtering rules are defined to operate on an interface (or multiple interfaces) and in a particular direction (upstream, downstream, or both).

FTP File Transfer Protocol

A program used to transfer files between computers connected to the Internet. Common uses include uploading new or updated files to a web server, and downloading files from a web server.

host A device (usually a computer) connected to a network.

HTTP Hyper-Text Transfer Protocol

HTTP is the main protocol used to transfer data from web sites so that it can be displayed by web browsers. See *also web browser, web site*.

ICMP Internet Control Message Protocol

An Internet protocol used to report errors and other network-related information. The ping command makes use of ICMP.

Internet The global collection of interconnected networks used for both private and business communications.

intranet A private, company-internal network that looks like part of the Internet (users access information using web browsers), but is accessible only by employees.

P See *TCP/IP*.

IP address Internet Protocol address

The address of a host (computer) on the Internet, consisting of four numbers, each from 0 to 255, separated by periods, e.g., 209.191.4.240. An IP address consists of a *network ID* that identifies the particular network the host belongs to, and a *host ID* uniquely identifying the host itself on that network. A network mask is used to define the network ID and the host ID. Because IP addresses are difficult to remember, they usually have an associated domain name that can be specified instead. See *also domain name, network mask*.

ISP Internet Service Provider

A company that provides Internet access to its customers, usually for a fee.

LAN Local Area Network

A network limited to a small geographic area, such as a home, office, or small building.

LED Light Emitting Diode

An electronic light-emitting device. The indicator lights on the front of the SL-1 000 are LEDs.

MAC address	Media Access Control address The permanent hardware address of a device, assigned by its manufacturer. MAC addresses are expressed as six pairs of characters.
mask	See <i>network mask</i> .
Multicast	To send data to a group of network devices.
Mbps	Abbreviation for Megabits per second, or one million bits per second. Network data rates are often expressed in Mbps.
Monitor	Also called " <i>Roving Analysis</i> ", allow you to attach a network analyzer to one port and use it to monitor the traffics of other ports on the switch.
network	A group of computers that are connected together, allowing them to communicate with each other and share resources, such as software, files, etc. A network can be small, such as a <i>LAN</i> , or very large, such as the <i>Internet</i> .
network mask	A network mask is a sequence of bits applied to an IP address to select the network ID while ignoring the host ID. Bits set to 1 mean "select this bit" while bits set to 0 mean "ignore this bit." For example, if the network mask 255.255.255.0 is applied to the IP address 100.10.50.1, the network ID is 100.10.50, and the host ID is 1. See also <i>binary, IP address, subnet, "IP Addresses Explained" section</i> .
NIC	Network Interface Card An adapter card that plugs into your computer and provides the physical interface to your network cabling, which for Ethernet NICs is typically an RJ-45 connector. See <i>Ethernet, RJ-45</i> .
packet	Data transmitted on a network consists of units called packets. Each packet contains a payload (the data), plus overhead information such as where it came from (source address) and where it should go (destination address).
ping	Packet Internet (or Inter-Network) Groper A program used to verify whether the host associated with an IP address is online. It can also be used to reveal the IP address for a given domain name.
port	A physical access point to a device such as a computer or router, through which data flows into and out of the device.
protocol	A set of rules governing the transmission of data. In order for a data transmission to work, both ends of the connection have to follow the rules of the protocol.

remote In a physically separate location. For example, an employee away on travel who logs in to the company's intranet is a remote user.

RJ45 Registered Jack Standard-45
The 8-pin plug used in transmitting data over phone lines. Ethernet cabling usually uses this type of connector.

routing Forwarding data between your network and the Internet on the most efficient route, based on the data's destination IP address and current network conditions. A device that performs routing is called a router.

subnet A subnet is a portion of a network. The subnet is distinguished from the larger network by a *subnet mask* which selects some of the computers of the network and excludes all others. The subnet's computers remain physically connected to the rest of the parent network, but they are treated as though they were on a separate network. *See also network mask.*

subnet mask A mask that defines a subnet. *See also network mask.*

TCP *See TCP/IP.*

TCP/IP Transmission Control Protocol/Internet Protocol
The basic protocols used on the Internet. TCP is responsible for dividing data up into packets for delivery and reassembling them at the destination, while IP is responsible for delivering the packets from source to destination. When TCP and IP are bundled with higher-level applications such as HTTP, FTP, Telnet, etc., TCP/IP refers to this whole suite of protocols.

Telnet An interactive, character-based program used to access a remote computer. While HTTP (the web protocol) and FTP only allow you to download files from a remote computer, Telnet / allows you to log into and use a computer from a remote location.

TFTP Trivial File Transfer Protocol
A protocol for file transfers, TFTP is easier to use than File Transfer Protocol (FTP) but not as capable or secure.

Trunk Two or more ports are combined as one virtual port, also called as Link Aggregation.

TTL Time To Live
A field in an IP packet that limits the life span of that packet. Originally meant as a time duration, the TTL is usually represented instead as a maximum hop count; each router that receives a packet decrements this field by one. When the TTL reaches zero, the packet is discarded.

twisted pair The ordinary copper telephone wiring long used by telephone

companies. It contains one or more wire pairs twisted together to reduce inductance and noise. Each telephone line uses one pair. In homes, it is most often installed with two pairs. For Ethernet LANs, a higher grade called Category 3 (CAT 3) is used for 10BASE-T networks, and an even higher grade called Category 5 (CAT 5) is used for 100BASE-T networks. *See also 10BASE-T, 100BASE-T, Ethernet.*

Upstream	The direction of data transmission from the user to the Internet.
VLAN	Virtual Local Area Network
WAN	Wide Area Network Any network spread over a large geographical area, such as a country or continent. With respect to the SL-1000, WAN refers to the Internet.
Web browser	A software program that uses Hyper-Text Transfer Protocol (HTTP) to download information from (and upload to) web sites, and displays the information, which may consist of text, graphic images, audio, or video, to the user. Web browsers use Hyper-Text Transfer Protocol (HTTP). Popular web browsers include Netscape Navigator and Microsoft Internet Explorer. <i>See also HTTP, web site, WWW.</i>
Web page	A web site file typically containing text, graphics and hyperlinks (cross-references) to the other pages on that web site, as well as to pages on other web sites. When a user accesses a web site, the first page that is displayed is called the <i>home page</i> . <i>See also hyperlink, web site.</i>
Web site	A computer on the Internet that distributes information to (and gets information from) remote users through web browsers. A web site typically consists of web pages that contain text, graphics, and hyperlinks. <i>See also hyperlink, web page.</i>
WWW	World Wide Web Also called <i>(the) Web</i> . Collective term for all web sites anywhere in the world that can be accessed via the Internet

Appendix A

A.1 FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

A.2 Important Safety Instructions

Caution: Do not use an RJ-11 (telephone) cable to connect network equipment.

1. Read all of these instructions.
2. Save these instructions for later use.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart or stand. The product may fall, causing serious damage to the product.
7. The air vent should never be blocked (such as by placing the product on a bed, sofa or rug). This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
9. This product is equipped with a three-wire grounding type plug, which is a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your outlet. Do not defeat the purpose of the grounding type plug.

10. Do not allow anything to rest on the power cord. Do not place this product where people will walk on the cord.
11. If an extension cord is used with this product, make sure that the total ampere ratings on the products into the extension cord do not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
12. Never push objects of any kind into this product through air ventilation slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
13. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to service personnel.