

# **CERIO Corporation**

# **CS-2408G**

8 Port 10/100/1000M Gigabit Web Managed Switch with 4

**Combo Gigabit Ports** 

**User's Manual** 





### **FCC Warning**

This device has been tested and found to comply with limits for a Class A digital device, pursuant to Part 2 and 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 radiates radio frequency energy and, if not installed and used in accordance with the user's manual, may cause interference in which case user will be required to correct the interference at his own expense.

### **CE Mark Warning**

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user many be required to take adequate measures.





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- 1. Introduction
  - 1.1 Front Panel



1.2 Rear Panel Layout



# 2. Software Configuration

**CS-2408G** supports web-based configuration. Upon the completion of hardware installation, **CS-2408G** can be configured through a PC/NB by using its web browser such as Internet Explorer 6.0 or later.

Set the IP segment of the administrator's computer to be in the same range as **CS-2408G** for accessing the system. Do not duplicate the IP Address used here with IP Address of **CS-2408G** or any other device within the network. **Please refer to the following steps** 



### **Example of Segment: (Windows 7)**

### Step 1:

Please click on the computer icon in the bottom right window, and click "Open Network and Sharing Center"



### Step 2 :

In the Network and Sharing Center page, click on the left side of "Change adapter setting" button



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### Step 3 :

In "Change adapter setting" Page, right click on Local LAN then select "Properties"



### Step 4 :

In the "Properties" page, click the "Properties" button to open TCP/IP setting







### Step 5 :

In Properties page for setting IP addresses, find "Internet Protocol Version 4 (TCP/IPv4)" and double click to open TCP/IPv4 Properties window



### Step 6 :

Select "Use the following IP address", and fix in IP Address to: 192.168.2.X

ex. The X is any number from 1 to 253

Subnet mask : 255.255.255.0

And Click "OK" to complete fixing the computer IP settings

Internet Protocol Version 4 (TCP/IPv4) Properties										
General										
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.										
Obtain an IP address automatical	y									
• U <u>s</u> e the following IP address:										
IP address:	192.168.2.100									
S <u>u</u> bnet mask:	255 . 255 . 255 . 0									
Default gateway:										
Obtain DNS server address autom	atically									
O Use the following DNS server add	resses:									
Preferred DNS server:										
Alternate DNS server:										
Valjdate settings upon exit Advanced										
	OK Cancel									





### Step 7 :

### **Open Web Browser**

Without a valid certificate, users may encounter the following problem in IE7 when they try to access system's WMI (<u>https://192.168.2.200</u>). There will be a "Certificate Error", because the browser treats system as an illegal website.

CERIO	CS-2408G 8 Port 10/100/1000M Gigabit Web Managed Switch with 4 Combo Gigabit Ports
	Login
	Username:
	Password LOGIN

System login Overview page will appear after successful login.

### System login username and password information

The CS-2424G web switch default IP is 192.168.2.200

Into the management page as follows, please enter Username and password

- $\geq$ Default IP Address: 192.168.2.200
- **Default Username and Password**  $\geq$

Management Account	Root Account
Username	root
Password	default

After the authentication procedure, the home page will shows up. Select one of the configurations by clicking the icon.





CERIO	CS-2408G 8 Port 10/100/1000M	Gigabit Web Managed Switch with 4 (	Combo Gigabi	t Ports	
Status / System Info	ormation			Save I L	ogout I Reboot
Status System Information Logging Message Port Link Aggregation MAC Address Table Network		2 4 6 8 10 12 10 12 1 3 5 7 9 11 9 11			<u> </u>
VLAN	System Information	Edit	90%		CPU
MAC Address Table      Spanning Tree      Discovery	Model System Name	CS-2408G Switch	80%		
<ul> <li>✓ Multicast</li> <li>✓ Security</li> </ul>	System Location System Contact	Default Default	60% 50%		
¥ QoS ¥ Diagnostics	MAC Address	00:E0:4C:11:3F:50	30%		
★ Management	IPv4 Address IPv6 Address	192.168.2.200 fe80::2e0:4cff;fe11:3f50/64	10%		
	System OID System Uptime	1.3.6.1.4.1.27282.3.2.10 0 day, 0 hr, 34 min and 52 sec	15:11:00	15:12:00 15:13:00 Time	15:14:00
	Current Time Loader Version	2000-01-01 08:34:52 UTC+8 2.1.3.46351	90%		MEM

## 3. Status

# 3.1 System Information

This administrator can check CS-2408G system information from.

Status / System Infor	rmation	
Status		
System Information Logging Message Port Link Aggregation MAC Address Table	2 4 6 8 10 12 10 12 1 3 5 7 9 11 9 11	
S Network		
¥ Port		
\$VLAN	System Information Edit	100%
SMAC Address Table	Model CS-2408G	90%
Spanning Tree	Evelop Hana Solid	80%
Oiscovery	System name Switch	70%
➤ Multicast	System Location Default	60%
Security	System Contact Default	50%
¥QoS		40%
♥Diagnostics	MAC Address 80:4D:EA:00:11:22	30%
XManagement	IPv4 Address 192.168.2.200	20%
	IPv6 Address fe80::2e0:4dff.fe11:3f50/64	10% The
	System OID 1.3.6.1.4.1.27282.3.2.10	15:22:00 15:23:00 15:24:00 15:25:00
	System Uptime 0 day, 0 hr, 34 min and 52 sec	
	Current Time 2000-01-01 08:34:52 UTC+8	100%
	Loader Version 2.1.3.46351	90% MEM
	Loader Date Apr 07 2017 - 11:08:58	80%
	Firmware Version 1.00.01	60%
	Firmware Date May 02 2017 - 14:54:38	50%
	Telnet Disabled	30%
	SSH Disabled	20%



#### 3.2 **Logging Message**

Administrator can viewing RAM or Flash message

CERIO	CS-24 8 Por	S-2408G Port 10/100/1000M Gigabit Web Managed Switch with 4 Combo Gigabit Ports Save   Logout   Reboot									
Status / Logging N	lessag	e									
System Information Logging Message Port Link Aggregation MAC Address Table	!	Loggin Viewing	g Message								
¥ Network		Showing	All 🗸 entries		Showing 1 to 7 of 7 entries	Q					
¥Port ¥VLAN	- 1	Log ID	Time	Severity	Descripti	ion					
¥MAC Address Table		1	Jan 01 2000 09:06:20	notice	New http connection for user root, so	urce 192.168.2.10 ACCEPTED					
Spanning Tree		2	Jan 01 2000 08:34:50	notice	New http connection for user root, so	uroe 192.168.2.10 ACCEPTED					
🛠 Discovery		3	Jan 01 2000 08:02:05	notice	New http connection for user root, so	uroe 192.168.2.10 ACCEPTED					
¥ Multicast		4	Jan 01 2000 08:01:03	notice	GigabitEthernet4 link up						
<b>∛</b> Security		5	Jan 01 2000 08:01:01	notice	GigabitEthernet12 link up						
¥QoS		6	Jan 01 2000 08:01:01	notice	RESTART: System restarted - Warm S	Start					
➡ Diagnostics		7	Jan 01 2000 08:01:01	notice	Logging is enabled						
¥ Management		Clear	Refresh			First Previous 1 Next Last					

#### 3.3 Port

### 3.3.1 Statistics

The status support MIB Counter function, Administrator can choose specific port to monitor "Interface", "Etherlike" and "RMON" information.

Port	GE1 🤍
MIB Counter	All     Interface     Etherlike     RMON
Refresh Rate	<ul> <li>None</li> <li>5 sec</li> <li>10 sec</li> <li>30 sec</li> </ul>

- Port: Administrator can select specific port.  $\succ$
- $\geq$ **MIB Counter:** Administrator can choose MIB type.
- $\geq$ Refresh Rate: Administrator can choose seconds to monitor.





90 100

### 3.3.2 Bandwidth Utilization



Administrator can instantly watch TX/RX traffic for all port.

## 3.4 Link Aggregation Table

If administrator have set 5.2 Link Aggregation functions, when can monitor LACP status in this page.

Status / Link Aggregation									
👅 Status									
System Information Logging Message Port	Link Aggregation Table								
Statistics							Q		
Bandwidth Utilization	_	_							
Link Aggregation	LAG	Name	Туре	Link Status	Active Member	Inactive Member			
MAC Address Table	LAG 1								
Solution State	LAC 2								
¥ Port	LAG 2								
¥ VLAN	LAG 3								
✓ MAC Address Table	LAG 4								
	LAG 5								
Spanning Tree	LAG 6								
Second Se		Toot 1	Otatia	Down		000 0010			
♦ Multicast	LAG 7	rest-1	Static	Down		GE9-GE IU			
Security	LAG 8	Test	LACP	Down		GE11-GE12			

- LAG: Link Aggregation Group.
- Name: LAG name.
- **Type:** LAG used type.
- Link Status: Display whether it working.
- > Active Member: Display that active member by sending LACP data units (LACPDUs).
- Inactive Member: Display that interfaces member by sending LACP data units (LACPDUs).

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# **MAC Address Table**

Administrator can monitor all connection used MAC address of the port.

Status / MAC Address Table									
System Information Logging Message	MAC Add	ress Table							
Link Aggregation MAC Address Table	Showing All	✓ entries		Showing 1 to 3 of 3 entries	Q				
S Network	VLAN MA	AC Address	Туре	Port					
<b>¥</b> Port	1	:50	Management	CPU					
¥ VLAN	1	:97	Dynamic	GE7					
SMAC Address Table	1	tE4	Dynamic	GE2					
Spanning Tree					First Previous 1 Next Last				
S Discovery	Clear	Refresh							
S Multicast									

- **VLAN:** Display VLAN number.
- $\triangleright$ MAC Address: Display device MAC address information.
- $\triangleright$ **Type:** Display connected type.
- $\geq$ Port: Display port number.

## 4. Network

Administrator can set IPv4/v6 address and system time of the switch.

#### **IP Address** 4.1

Administrator can set IP address / Subnet Mask / Gateway and DNS in this page. The Switch default IP address is 192.168.2.200.

Network / IP Address			
Status	IDut Address		
Network	IPv4 Address		
IP Address System Time	Address Type	<ul> <li>Static</li> <li>Dynamic</li> </ul>	
¥ Port	IP Address	192.168.2.200	
VLAN XMAC Address Table	Subnet Mask	255.255.255.0	
¥ Spanning Tree	Default Gateway	192.168.2.254	
	DNS Server 1	168.95.1.1	
¥ Security	DNS Server 2	168.95.192.1	
¥QoS			
S Diagnostics	IPv6 Address		
¥ Management	Auto Configuration	🔽 Enable	
	DHCPv6 Client	Enable	
	IPv6 Address		
	Prefix Length	0	(0 - 128)
	IPv6 Gateway		
	DNS Server 1		
	DNS Server 2		





### **#IPv4 Address:**

- $\geq$ Address Type: Administrator can choose Static or dynamic of the IP address type.
- IP Address: Administrator can set IP address of the switch.  $\geq$
- $\geq$ Subnet Mask: Set Mask for IP address.
- $\geq$ Default Gateway: Set IP address for Gateway.
- $\geq$ DNS1/2: Set IP address for DNS.

### **#IPv6 Address:**

- $\geq$ Auto configuration: Administrator can choose Enable or Disable.
- $\geq$ DHCP IPv6 client: Administrator can choose Enable or Disable.
- $\geq$ IPv6 Address/Prefix Length/IPv6 Gateway: If administrator to disable "auto configuration" function then administrator can manual set this functions.

#### 4.2 **System Time**

Administrator can set system time for the switch.

Network / System Time			
Status     Network     IP Address     Status	Source	<ul> <li>SNTP</li> <li>From Computer</li> <li>Manual Time</li> </ul>	
¥Port	Time Zone	UTC +8:00 🗸	
¥VLAN			
★MAC Address Table	SNTP		
¥Spanning Tree		<ul> <li>Hostname</li> </ul>	
♦ Discovery	Address Type	IPv4	
¥ Multicast	Server Address		
<b></b>			
¥QoS	Server Port	123	(1 - 65535, default 123)
♥Diagnostics			
<b>X</b> Management	Manual Time		
	Date	2017-05-08	ҮҮҮҮ-MM-DD
	Time	16:10:05	HH:MM:SS

- $\geq$ **Source:** Administrator can choose update time by SNTP / From computer or Manal Time.
- $\succ$ Time Zone: Set time zone.
- **SNTP:** If administrator chooses use SNTP mode then need to set time server address.  $\geq$
- $\geq$ **Manual Time:** If administrator chooses to manual time then can manual set this system time.
- $\geq$ Daylight Saving Time: Administrator can Disable or Enable daylight saving time function.





# 5. Port

#### Port setting 5.1

Administrator can disable port or set port speed and flow control.

Port / Port Sett	ing											
¥Status ¥Network ■Port			Port	Setti	ng Ta	ible						
Port Setting Link Aggregation EEE						-						Q
Jumbo Frame				Entry	Port	Туре	Description	State	Link Status	Speed	Duplex	Flow Control
¥VLAN				1	GE1	1000M Copper		Enabled	Down	Auto	Auto	Disabled
MAC Address Table		_		2	GE2	1000M Copper		Enabled	Down	Auto	Auto	Disabled
Spanning Tree		- 1		3	GE3	1000M Copper		Enabled	Down	Auto	Auto	Disabled
S Discovery		_		4	GE4	1000M Copper		Enabled	Down	Auto	Auto	Disabled
S Multicast		_		5	GE5	1000M Copper		Enabled	Down	Auto	Auto	Disabled
Security		- 1		6	GE6	1000M Copper		Enabled	Down	Auto	Auto	Disabled
QUUS		_		7	GE7	1000M Copper		Enabled	Up	Auto (1000M)	Auto (Full)	Disabled (Disabled)
V Management		- 1		8	GE8	1000M Copper		Enabled	Up	Auto (1000M)	Auto (Full)	Disabled (Disabled)
• management		- 1		9	GE9	1000M Combo Copper		Enabled	Down	Auto	Auto	Disabled
				10	GE10	1000M Combo Copper		Enabled	Down	Auto	Auto	Disabled
				11	GE11	1000M Combo Copper		Enabled	Down	Auto	Auto	Disabled
				12	GE12	1000M Combo Copper		Enabled	Down	Auto	Auto	Disabled
			Ed	lit								
State	$\checkmark$	Enab	le									
Speed	000000000000000000000000000000000000000	Auto Auto Auto Auto Auto	- 10M - 100) - 100( - 10M	M DM /100N		10M 100M 1000M						
Duplex	0	Auto Full Half										
Flow Control	• • •	Auto Enab Disat	le ble									

- $\triangleright$ State: Administrator can choose enable or disable Port.
- **Speed:** Administrator can manual set port speed or auto detection.  $\triangleright$
- **Duplex:** Administrator can manual set full/Half or Auto.  $\geq$
- Flow Control: Administrator can choose Enable or Disable or Auto.  $\geq$





#### **Link Aggregation** 5.2

### 5.2.1 Group

Administrator can set 8 Link Aggregation Group(LAG)

Port / Link Aggreg	ation / G	roup						
∜ Status								
🛠 Network					MAC Ad	dress		
Port		Load Bal	ance Alo	gorithm	O IP-MAC	Address		
Port Setting								_
Link Aggregation		Apply						
Bort Setting								
LACP	Lin	k Aggi	regatio	on Tab	ble			
EEE			-					
Jumbo Frame								
¥VLAN				1				_
♦ MAC Address Table		LAG	Name	Туре	Link Status	Active Member	Inactive Member	
Spanning Tree	0	LAG 1						
S Discovery	0	LAG 2						
¥ Multicast	0	LAG 3						
Security	0	LAG 4						
¥QoS	0	LAG 5						
♥ Diagnostics	0	LAG 6						
¥ Management	<u> </u>	LAG 7	Test-1	Static	Down		GE9-GE10	
	0	LAG 8	Test	LACP	Down		GE11-GE12	

 $\succ$ Load Balance Alogorithm: Administrator can choose Load Balance Alogorithm by MAC or IP Address.

#### **Edit Link Aggregation Group** LAG Name O Static Туре LACP Available Port Selected Port GE1 GE2 GE3 > Member GE4 GE5 GE6 < GE7 GE8

- $\triangleright$ LAG: Display LAG number.
- $\succ$ Name: Administrator can set the application name.



whether to join the LAG group, if yes then use LACP connection, if no then skip LACP check.

 $\geq$ Member: Administrator can choose ports for member.

### 5.2.2 Port Setting

Administrator can set speed and flow control for Link Aggregation Group(LAG).

Port / Link Aggregation	/ Po	rt Set	ting						
¥ Status									
S Network	_								
Port	Por	t Setti	ng Table	•					
Port Setting Link Aggregation	_								
Port Setting		LAG	Туре	Description	State	Link Status	Speed	Duplex	Flow Contro
LACP		LAG 1			Enabled	Down	Auto	Auto	Disabled
EEE		LAG 2			Enabled	Down	Auto	Auto	Disabled
Jumbo Frame		LAG 3			Enabled	Down	Auto	Auto	Disabled
\$VLAN		LAG 4			Enabled	Down	Auto	Auto	Disabled
MAC Address Table		LAG 5			Enabled	Down	Auto	Auto	Disabled
Spanning Tree					Enabled	Down	Auto	Auto	Disabled
Discovery		LAGO			Enabled	Down	Auto	Auto	Disabled
<b>∀</b> Multicast		LAG 7	eth1000M	Test-1	Enabled	Down	Auto	Auto	Disabled
¥ Security		LAG 8	eth1000M	Test	Enabled	Down	Auto	Auto	Disabled
¥QoS		Edit							
♦ Diagnostics									
★ Management									

### Edit Port Setting

Port	LAG6
Description	
State	Inable
Speed	<ul> <li>Auto</li> <li>Auto - 10M</li> <li>Auto - 10M</li> <li>Auto - 100M</li> <li>Auto - 100M</li> <li>Auto - 100M</li> <li>Auto - 10M/100M</li> </ul>
Flow Control	<ul> <li>Auto</li> <li>Enable</li> <li>Disable</li> </ul>



### 5.2.3 LACP

The LACP can aggregate multiple Ethernet ports together to form a logical aggregation group. To upper layer entities, all the physical links in an aggregation group are a single logical link.

Port / Link Aggregation	I / LACP				
<b>¥</b> Status					
<b>∛</b> Network	Syster	n Priority	32768		(1 - 65535. default 32768)
🔳 Port					
Port Setting	Apply				
Link Aggregation		-			
Group Doct Sotting			·		
ACP	LACP P	ort Set	ting lable		
EEE					
Jumbo Frame					
¥VLAN	Entry	Port	Port Priority	Timeout	
℅MAC Address Table		GE1	1	Long	
Spanning Tree		GF2	1	Long	
State Contract Contra		CE3	1	Long	
¥ Multicast		GEA	1	Long	
<b>Ş</b> Security		000	4	Long	
¥QoS		GED	1	Long	
♦ Diagnostics		GE6	1	Long	
♦ Management		GE7	1	Long	
		GE8	1	Long	
		GE9	1	Long	
	1	) GE10	1	Long	
	1	GE11	1	Long	
	1	2 GE12	1	Long	

#### 5.3 EEE

This switch support Energy-effcient Ethernet(EEE) function. Administrator can choose Enable or Disable EEE function. The default is "Disable".

Port / EEE					
∜ Status					
🛠 Network			_		
Port	EEE	Setti	ng la	able	
Port Setting	_				
Port Setting		Entry	Port	State	Operational Status
LACP		1	GE1	Disabled	Disabled
EEE		2	GE2	Disabled	Disabled
Jumbo Frame		3	GE3	Disabled	Disabled
VLAN		4	GE4	Disabled	Disabled
		5	GE5	Disabled	Disabled
Spanning Tree		6	GE6	Disabled	Disabled
X Multicast		7	GE7	Disabled	Disabled
× manedot X Security		8	GE8	Disabled	Disabled
¥ QoS		9	GE9	Disabled	Disabled
✓ Diagnostics		10	GE10	Disabled	Disabled
Sector Secto		11	GE11	Disabled	Disabled
		12	GE12	Disabled	Disabled

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## 5.4 Jumbo Frame

Administrator can set Jumbo Frame for switch.

Port / Jumbo Frame			
<b>∀</b> Status			
<b></b>		Enable	
Port Setting	Jumbo Frame	10000	Byte (1518 - 10000, default 1522)
Clink Aggregation     Group     Port Setting     LACP     EEE     Jumbo Frame      VLAN	Apply		

# 6. VLAN

Administrator can set IEEE 802.1q Tag Based VLAN or Port Based VLAN. System default is VLAN1 Port based (PVID).

## 6.1 Create VLAN

Administrator can select VLAN number in Available VLAN list, this VLAN number based on IEEE 802.1q standard. Available VLAN list can be multiple choices.

¥ Status							
Solution State		Available VLA	N	Created VL/	AN .		
¥ Port		VLAN 2		VLAN 1			
VLAN		VLAN 3	î —	VLAN 101	^		
VLAN	VI AN	VLAN 4	- <b>&gt;</b>	VLAN 102			
Create VLAN	VLAN	VLAN 5					
VLAN Configuration		VLAN 7					
Membership		VLAN 8					
Port Setting		VLAN 9	¥		<b>~</b>		
Voice VLAN		-					
S MAC Address Table	Apply						
🛠 Spanning Tree							
S Discovery		blo					
🛠 Multicast		Die					
Security	Chowing All	optriog			Chowing 1 to 2 of 2 optriop		
¥QoS	Showing All	V enuies			Showing 1 to 3 of 5 entities		Q,
🛠 Diagnostics	VLAN	Name	Туре				
🛠 Management	1	default	Default				
	101	VLAN0101	Static				
	□ 102	VLAN0102	Static				
	102		213400			Firet	Provioue 1 Next Last
						First	Flevious i Next Last

VLAN: Administrator can select VLANs number go to Created VLAN table and click "Apply" button then complete the create VLANs, after complete will display VLANs list in below table.



VLAN Table: Administrator can checkbox VLAN to edit or delete, if check and click "edit" button then administrator can manual modify name description for this VLAN.

Edit VLAN I	lame
Name	VLAN0101
Apply	Close

## 6.2 VLAN Configuration Table

Administrator can choose set Excluded / Forbidden / Tagged / Untagged function in membership table of the Port and LAG.

VLAN / VLAN / VLAN	Configu	ratior	ו					
🛠 Status								
S Network								
<b>∛</b> Port	VLAN	Con	figurat	tion Table				
VLAN		dafault						
☆ VLAN	VLAIN J	derault	$\sim$					
Create VLAN								
VLAN Configuration Membership	Entry	Port	Mode		Membe	ership		PVID
Port Setting	1	GE1	Trunk	Excluded	Forbidden	O Tagged	OUntagged	
Voice VLAN	2	GE2	Trunk	Excluded	Forbidden	O Tagged	OUntagged	
SMAC Address Table	3	GE3	Trunk	Excluded	• Forbidden	O Tagged	OUntagged	
Spanning Tree	4	GE4	Trunk	Excluded	Forbidden	O Tagged	OUntagged	
S Discovery	5	GE5	Trunk	Excluded	OForbidden	O Tagged	Untagged	
	6	GE6	Trunk	Excluded	OForbidden	O Tagged	Untagged	
Security	7	GE7	Trunk	Excluded	OForbidden	O Tagged	Untagged	
¥QoS	8	GE8	Trunk		OForbidden	O Tadded	Untagged	
S Diagnostics	9	GE9	Trunk		OForbidden		Untagged	
S Management	10	GE10	Trunk		OForbidden		Untagged	

> VLAN: Administrator can click drop down menu to choose VLAN and set.



#### **Membership Table** 6.3

Display all port setting information. Administrator can checkbox and click "Edit" button to modify VLAN type. (Note: Number=VLAN number, F=Forbidden, T=Tagged, U=Untagged, P=PVID)

VLAN / VLAN / Membership										
¥ Status										
¥ Network	Mer	nbers	ship T	able						
¥ Port										
VLAN										
☆ VLAN Create VLAN		Entry	Port	Mode	Administrative VLAN	Operational VLAN				
VLAN Configuration	0	1	GE1	Trunk	1UP, 10F, 101T, 102F	1FP, 10F, 101T, 102F				
Membership Bort Sotting	0	2	GE2	Trunk	1F, 10F, 101UP, 102F	1F, 10F, 101UP, 102F				
Voice VLAN	0	3	GE3	Trunk	1UP, 10T, 11T, 101F, 102T	1FP, 10T, 11T, 101F, 102T				
MAC Address Table	0	4	GE4	Trunk	1F, 10T, 11F, 101F, 102UP	1F, 10T, 11F, 101F, 102UP				
🛠 Spanning Tree	0	5	GE5	Trunk	1UP, 10T	1UP, 10T				
¥ Discovery	0	6	GE6	Trunk	1UP, 10T	1UP, 10T				
🛠 Multicast	0	7	GE7	Trunk	1UP	1UP				
¥ Security	0	8	GE8	Trunk	1UP	1UP				
¥QoS	0	9	GE9	Trunk	1UP	1UP				
V Diagnostics	0	10	GE10	Trunk	1UP	1UP				
¥ Management	0	11	GE11	Trunk	1UP	1UP				
	0	12	GE12	Trunk	1UP, 101T, 102T	1UP, 101T, 102T				

#### **Port Setting** 6.4

Administrator can set Access / Trunk / Hybrid for VLAN ports.

VLAN / VLAN / Port Setting										
🛠 Status										
S Network	_									
S Port	Por	t Sett	ing Ta	able						
VLAN										
☆ VLAN										
Create VLAN VLAN Configuration		Entry	Port	Mode	PVID	Accept Frame Type	Ingress Filtering			
Membership		1	GE1	Access	101	Untag Only	Enabled			
Port Setting		2	GE2	Trunk	101	All	Enabled			
Voice VLAN		3	GE3	Trunk	4095	All	Enabled			
MAC Address Table		4	GE4	Trunk	102	All	Enabled			
Spanning Tree		5	GE5	Trunk	1	All	Enabled			
S Discovery		6	GE6	Trunk	1	All	Enabled			
S Multicast		7	GE7	Trunk	1	All	Enabled			
Security		8	GE8	Trunk	1	All	Enabled			
\$ QoS		9	GE9	Trunk	1	All	Enabled			
S Diagnostics		10	GE10	Trunk	1	All	Enabled			
& Management		11	GE11	Trunk	1	All	Enabled			





Port	GE1
Mode	<ul> <li>Hybrid</li> <li>Access</li> <li>Trunk</li> </ul>
PVID	101 (1 - 4094)
Accept Frame Type	All     Tag Only     Untag Only
Ingress Filtering	🔽 Enable

- Hybrid: Suitable for the inclusion of not VLANs and VLANs in the network environment.  $\geq$
- $\triangleright$ Access: Suitable for the Switch and device connection in VLAN network environment.
- $\succ$ Trunk: Suitable Switch and Switch connection in VLAN network environment.

#### 6.5 Voice VLAN

Voice VLAN allows you to enhance VoIP service by configuring ports to carry IP Voice traffic from IP phones on a specific VLAN. VoIP traffic has a preconfigured OUI prefix in the source MAC address. Administrator can set VLAN ID in the range of 1 to 4094.

VLAN / Voice VLAN /	Property
🛠 Status	
S Network	State Enable
S Port	
VLAN	
VLAN	CoS/802.10 CoS/802.10
Voice VLAN Property	Remarking 6
Voice OUI	Aging Time 1440 Sec (30 - 65536, default 1440)
S MAC Address Table	
Spanning Tree	Apply
S Discovery	
😂 Multicast	
Security	Port Setting Table
¥QoS	
S Diagnostics	
🛠 Management	Entry Port State Mode QoS Policy
	1 GE1 Disabled Auto Voice Packet
	2 GE2 Disabled Auto Voice Packet

#### 6.5.1 **Property**

- State: Administrator can choose Enable or Disable this function.  $\geq$
- $\geq$ VLAN: Administrator can choose VLAN.
- $\geq$ CoS / 802.1P Remarking: Administrator can set CoS 802.1p priority level for the VLAN.
- Aging Time: Administrator can set aging time for this rule.  $\geq$





#### 6.5.2 Voice OUI

Organizationally Unique Identifiers (OUI) is the first three bytes of a MAC Address, while the last three bytes contain a unique station ID. Administrator can add a specific manufacturer with the OUI. Once the OUI is added, all traffic received on voice VLAN ports from the specific IP phone with a listed OUI is forwarded on the voice VLAN. Unlike the telephony OUI mode that detects voice devices based on telephony OUI, Auto Voice VLAN mode depends on auto smart port to dynamically add the ports to the voice VLAN. The default has set 8 companies for the voice phone.

Status					
Network			- h la		
Port	VOI	ce OUI T	able		
VLAN	Char	uin a All	trian		
VLAN	Shov	wing All	entries		Showing 1 to 9 of 9 entries
<ul> <li>Voice VLAN</li> <li>Property</li> </ul>		OUI	Description		
Voice OUI		00:E0:BB	3COM		
MAC Address Table		00:03:6B	Cisco		
Spanning Tree		00:E0:75	Veritel		
Discovery		00:D0:1E	Pingtel		
Multicast		00:01:E3	Siemens		
Security		00:60:B9	NEC/Philips		
QoS		00:0F:E2	H3C		
Diagnostics		00:09:6E	Avaya		
Management		8C:4D:EA	CERIO		
		_			
		Add	Edit	Delete	

Administrator can create new OUI or modify or delete OUI in table

Click "Add" button can create new OUI.

Click "Edit" button can modify OUI data.

Click "Delete" button can delete OUI data.

# 7. MAC Address Table

#### 7.1 **Dynamic Address**

This page can display MAC address for connected device. Administrator can set aging time for connected port.





When administrator select checkbox MACs address and click "Add Static Address" button then selected MAC address will move to "Static Address" function.

#### Static Address 7.2

If administrator fixed an MAC address in the port then device MAC address will bind in the port, if device connection other port will can't working only connection bind port.

MAC Address Table / Static Address								
🛠 Status								
¥ Network								
S Port	Static Address Table							
¥ VLAN	Chowing All antring	Chausing 1 to 1 of 1 optring						
MAC Address Table		Showing I to For Fentiles						
Dynamic Address	VLAN MAC Address Port							
Static Address	1 9C:B6:54:44:87:E4 GE7							
Spanning Tree								
S Discovery	Add Edit Delete							
¥ Multicast								
Security								
¥QoS								
¥ Diagnostics								
🛠 Management								



# 8. Spanning Tree

Spanning Tree function allows only one active path at a time between any two network devices (this prevents the loops) but establishes the redundant links as a backup if the initial link should fail. If Spanning Tree costs change, or if one network segment in the Spanning Tree becomes unreachable, the spanning tree algorithm reconfigures the spanning tree topology and reestablishes the link by activating the standby path. Without spanning tree in place, it is possible that both connections may be simultaneously live, which could result in an endless loop of traffic on the LAN.

#### **Property** 8.1

Spanning Tree / Property	,						
🛠 Status							
¥ Network	State	Enable					
¥ Port		STP					
¥ VLAN	Operation Mode	RSTP					
¥ MAC Address Table							
Spanning Tree	Path Cost	<ul> <li>Short</li> </ul>					
Property Port Setting	BPDU Handling	<ul> <li>Filtering</li> </ul>					
Statistics		O Flooding					
S Discovery							
¥ Multicast	Priority	32768	(0 - 61440, default 32768)				
¥ Security	Hello Time	2	Sec (1 - 10, default 2)				
¥ QoS							
♥ Diagnostics	Max Age	20	Sec (6 - 40, default 20)				
¥ Management	Forward Delay	15	Sec (4 - 30, default 15)				
	Tx Hold Count	6	(1 - 10, default 6)				

- $\geq$ State: Administrator can choose Enable or Disable this function.
- $\geq$ Operation Mode: Administrator can choose use STP or RSTP.
- $\geq$ Path Cost: Administrator can choose STP judgment use Path cost for Long or Short.
- $\geq$ BPDU Handling: When the Switch receives the BPDU frame, Administrator can choose the BPDU Handling mode for Filtering or Flooding.
- $\geq$ Priority: Administrator can set bridge priority, default is 32768. The lower value(priority) is the root bridge.







- $\succ$ Hello Time: The hello time is the time between each bridge protocol data unit (BPDU) that is sent on a port. This time is equal to 2 seconds (sec) by default, but you can tune the time to be between 1 and 10 sec.
- Max. Age / Forward delay : 2\*(Forward Delay-1) >= Max Age >= 2\*(Hello Time+1)  $\succ$
- $\triangleright$ **TX hold Count:** When STP/RSTP use Tx hold count to configure the BPDU burst size by specifying the transmit hold count value. Default is before pausing for 6 second, administrator can set range 1~10.

#### 8.2 **Port Setting**

Spanning Tree / Port Setting															
¥ Status															
¥ Network															
¥ Port	Port 9	Setti	ng Tal	ble											
¥VLAN															
♦ MAC Address Table														Q	
Spanning Tree		Entry	Port	State	Path Cost	Priority	BPDU Filter	BPDU Guard	Operational Edge	Operational Point-to-Point	Port Role	Port State	Designated Bridge	Designated Port ID	Designated Cost
Property		1	GE1	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-1	20000
Port Setting Statistics	H I	2	GE2	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-2	20000
♦ Discovery		3	GE3	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-3	20000
¥ Multicast	n	4	GE4	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-4	20000
¥ Security		5	GE5	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-5	20000
¥ QoS		6	GE6	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-6	20000
♥ Diagnostics		7	GE7	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-7	20000
♥ Management		8	GE8	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-8	20000
		9	GE9	Enabled	20000	128	Disabled	Disabled	Disabled	Enabled	Designated	Forwarding	4096-00:E0:4C:11:3F:50	128-9	20000
		10	GE10	Enabled	20000	128	Disabled	Disabled	Disabled	Enabled	Backup	Discarding	4096-00:E0:4C:11:3F:50	128-10	20000
		11	GE11	Enabled	20000	128	Disabled	Disabled	Disabled	Enabled	Designated	Forwarding	4096-00:E0:4C:11:3F:50	128-11	20000
		12	GE12	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-12	20000
		13	LAG1	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-13	20000
		14	LAG2	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-14	20000
		15	LAG3	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-15	20000
		16	LAG4	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-16	20000
		17	LAG5	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-17	20000
		18	LAG6	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-18	20000
		19	LAG7	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-19	20000
		20	LAG8	Enabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-20	20000

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Spanning Tree / Port Setting	l	
Status		
System Information	State	G Enable
Logging Message	Path Cost	0 (0 - 20000000) (0 = Auto)
Link Aggregation MAC Address Table	Priority	128 🗸
S Network	Edge Port	Enable
¥ Port	BPDU Filter	Enable
VLAN	BPDU Guard	Enable
MAC Address Table      Spanning Tree      Property	Point-to-Point	Auto     Enable     Discrete
Port Setting		
Statistics	Port State	Disabled
♦ Discovery ♦ Multicast	Designated Bridge	0-00:00:00:00:00
Security	Designated Port ID	128-1
¥ QoS	Designated Cost	20000
Stagnostics	Operational Edge	False
♦ Management	Operational Point-to-Point	False

- State: Administrator can set Enable or Disable.
- Path Cost: Path Cost (1-20000000) This parameter is used determine the best path between devices. Therefore, lower values should be assigned to ports attached to faster media, and higher values assigned to ports with slower media. (Path cost takes precedence over port priority.) Note that when the Path Cost Method is set to short, the maximum path cost is 65,535. Range: 1-200000000, (set 0 = Auto, default is 0).
- Priority: If the path cost for all ports on a switch is the same, the port with the highest priority (i.e., lowest value) will be configured as an active link in the Spanning Tree. Where more than one port is assigned the highest priority, the port with lowest numeric identifier will be enabled. Range: 0-240, default is 128.
- Edge Port: Use portfast, if this port connection end-station of device then administrator can enable the function will be can't receive BPDU.
- BPDU Filter / BPDU Guard: If this port has set Trunk function then this port can't be enabled Edge Port / BPDU Filter / BPDU Guard otherwise Trunk will not working normally.





#### 8.3 **Statistics Table**

Spanning Tree / Statistics										
<b>∛</b> Status	C4-4		Table							
¥ Network	Stat	ISTICS	lable							
¥ Port	Refre	sh Rate	0 ~	sec						
¥ VLAN			· ·							
♦ MAC Address Table										
Spanning Tree				Receive	BPDU	Transmit	BPDU			
Property Det Catting	14	Entry	Port	Config	TCN	Config	TCN			
Statistics		1	GE1	0	0	0	0			
* Discovery		2	GE2	0	0	0	0			
¥ Multicast		3	GE3	0	0	0	0			
¥ Security		4	GE4	0	0	0	0			
¥QoS		5	GE5	0	0	0	0			
♥ Diagnostics		6	GE6	0	0	48	0			
♦ Management		7	GE7	0	0	0	0			
		8	GE8	0	0	0	0			
		9	GE9	2	0	50	0			
		10	GE10	50	0	2	0			
		11	GE11	0	0	50	0			
		12	GE12	0	0	0	0			
		13	LAG1	0	0	0	0			
		14	LAG2	0	0	0	0			
		15	LAG3	0	0	0	0			
		16	LAG4	0	0	0	0			
		17	LAG5	0	0	0	0			
		18	LAG6	0	0	0	0			
		19	LAG7	0	0	0	0			
		20	LAG8	0	0	0	0			

If administrator set "8.1 Property Operation" is STP mode then will display Receive / Transmit BPDU status in the page.

#### Discovery(LLDP) 9.

The Link Layer Discovery Protocol (LLDP) is a vendor-neutral link layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802 local area network, principally wired Ethernet.

LLDP information is sent by devices from each of their interfaces at a fixed interval, in the form of an Ethernet frame. Each frame contains one LLDP Data Unit (LLDPDU). Each LLDPDU is a sequence of type-length-value (TLV) structures.





#### 9.1 **Property**

Discovery / LLDP / Pro	perty									
<b>∛</b> Status										
¥ Network	LLDP									
¥Port	State 🗸 Enable									
<b>∛</b> VLAN										
SMAC Address Table		Filtering								
Spanning Tree	LLDP Handling	Bridging     Election								
Discovery										
☆ LLDP	TLV Advertise Interval	30	Sec (5 - 32767, default 30)							
Property Port Setting	Hold Multiplier	4	(2 - 10, default 4)							
Packet View Local Information	Reinitializing Delay	2	Sec (1 - 10, default 2)							
Neighbor Statistics	Transmit Delay	2	Sec (1 - 8191, default 2)							
X Multicast										
<b>∛</b> Security	Арріу									
¥QoS										
♥Diagnostics										
¥ Management										

- State: Administrator can choose Enable or disable this LLDP function.  $\geqslant$
- $\geq$ LLDP Handing: If cancel checkbox then administrator can choose Filtering / Bridging / Flooding for LLDP handing.
- TLV Advertise Interval: Set LLDPDU Send Interval period (range 5-32760, default is 30)  $\geq$
- $\geq$ Hold Multiplier: Set Hold value (Range 2-10, default is 4). Administrator can control the aging time of local information on the neighbor device by configuring the value of the Hold multiplier. TTL=Hold multiplier \* TLV Advertise Interval.
- $\geq$ Reinitializing Delay: Set this value will be delayed for a period of time to be initialized, to avoid frequent changed when the port use LLDP mode, default value is 2.
- $\geq$ Transmit Delay: Set this value main purpose is to be local device to send LLDPDU delay time to a neighbor device. To avoid frequent changes in local configuration caused by frequent transmission of LLDPDUs, default value is 2.

#### 9.2 **Port Setting**

Administrator can configure each port of the LLDPDU Transmit / Receive / Normal or Disable the mode and choose from "Optional TLV" list send the TLV type of port.





Discovery / LLDP / Port Setting											
<b></b> ¥Status											
¥Network			_	_							
¥ Port		Port	Setti	ng Ta	ble						
¥VLAN											
¥MAC Address Table											
¥ Spanning Tree			intry	Port	Mode	Selected TLV	ļ				
Discovery	_ 1		1	GE1	Normal	802 1 P\/ID					
LLDP			2	052	Normal	902.1 DV/D					
Property			2	GEZ	Normai	002.1 PVID					
Port Setting			3	GE3	Normal	802.1 PVID					
Packet View			4	GE4	Normal	802.1 PVID					
Local Information			5	GE5	Normal	802.1 PVID					
Neighbor Statistics			6	GE6	Normal	802.1 PVID					
Stationed			7	GE7	Normal	802.1 PVID					
Security			8	GE8	Normal	802.1 PVID					
¥QoS			9	GE9	Normal	802.1 PVID					
♥Diagnostics			10	GE10	Normal	802.1 PVID					
¥ Management			11	GE11	Normal	802.1 PVID					
			12	GE12	Normal	802 1 PVID					

Port	GE1-GE12
Mode	<ul> <li>Transmit</li> <li>Receive</li> <li>Normal</li> <li>Disable</li> </ul>
Optional TLV	Available TLV     Selected TLV       Port Description <ul> <li>System Name</li> <li>System Description</li> <li>System Capabilities</li> <li>B02.3 MAC-PHY</li> <li>Subscription</li> </ul>
802.1 VLAN Name	Available VLAN Selected VLAN

- $\succ$ Mode: Administrator can choose Transmit(TX) / Receive(RX) or Normal(TX+RX) and Disable, if choose disable will don't send and receive LLDPDU.
- $\triangleright$ Optional TLV: Administrator can be configuration information into different TLV, encapsulates LLDPDU and issued to the neighbor device.
- $\succ$ 802.1 VLAN Name: Administrator can choose VLAN group.





#### 9.3 **Packet View Table**

Administrator can select which port to view and click on the "Detail" button to view the information of the LLDP packet on the selected port.

Discovery / LLDP / P	acket \	/iew				
¥ Status						
S Network			_			
¥ Port	Pac	ket Vi	ew la	able		
¥ VLAN						
¥MAC Address Table						
🛠 Spanning Tree		Entry	Port	In-Use (Bytes)	Available (Bytes)	Operational Statu
Discovery			054		1110	Net Overlandian
LLDP		1	GET	48	1440	Not Overloading
Property	0	2	GE2	48	1440	Not Overloading
Port Setting	0	3	GE3	48	1440	Not Overloading
Packet View	0	4	GE4	48	1440	Not Overloading
Local Information	0	5	GE5	48	1440	Not Overloading
Neighbor Statistics	0	6	GE6	48	1440	Not Overloading
<pre>&gt; Multicast</pre>	0	7	GE7	48	1440	Not Overloading
 ŞSecurity	0	8	GE8	48	1440	Not Overloading
¥QoS	0	9	GE9	48	1440	Not Overloading
♥ Diagnostics	0	10	GE10	49	1439	Not Overloading
<b>≈</b> Management	0	11	GE11	49	1439	Not Overloading
	0	12	GE12	49	1439	Not Overloading

Port	GE1
Mandatory TLVs	
Size (Bytes)	21
Operational Status	Transmitted
802.3 TLVs	
Size (Bytes)	0
Operational Status	Transmitted
Optional TLVs	
•	
Size (Bytes)	0
Size (Bytes) Operational Status	0 Transmitted
Size (Bytes) Operational Status	0 Transmitted
Size (Bytes) Operational Status 802.1 TLVs	0 Transmitted
Size (Bytes) Operational Status 802.1 TLVs Size (Bytes)	0 Transmitted 8
Size (Bytes) Operational Status 802.1 TLVs Size (Bytes) Operational Status	0 Transmitted 8 Transmitted
Size (Bytes) Operational Status 802.1 TLVs Size (Bytes) Operational Status	0 Transmitted 8 Transmitted
Size (Bytes) Operational Status 802.1 TLVs Size (Bytes) Operational Status Total	0 Transmitted 8 Transmitted
Size (Bytes) Operational Status 802.1 TLVs Size (Bytes) Operational Status Total In-Use (Bytes)	0 Transmitted 8 Transmitted 48



#### **Local Information** 9.4

Administrator can select which port to view and click on the "detail" button to view the information of the local device as well as the information of selected port LLDP property.

Chassis ID Subtype	MAC address
Chassis ID	8C:4D:EA:11:22:33
System Name	Switch
System Description	8 Port 10/100/1000M Gigabit Web Managed Switch with 4 Combo Gigabit Ports
Supported Capabilities	Bridge
Enabled Capabilities	Bridge
Port ID	GE2
Port ID Subtype	Local
Port Description	

Management Addr	ress Table					
Address Subtype	Address	Interface Subtype	Interface Number			
IPv4	192.168.2.200	System Port Number	0			
IPv6	fe80::2e0:4cff:fe11:3f50	System Port Number	0			
MAC/PHY Detail						
Aut	to-Negotiation Supported	True				
	Auto-Negotiation Enabled	True				
Auto-Negotiatio	n Advertised Capabilities	1000baseTFD , 100	baseTXFD , 100baseT>	(, 10baseTFD , 10baseT		
	Operational MAU Type	dot3MauType10Gigl	BaseLX4			
802.3 Detail						
80	2.3 Maximum Frame Size	1522				
802.3 Link Aggreg	ation					
	Aggregation Capability	Capable				
	Aggregation Status	Not aggregated				
	Aggregation Port ID	0				

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#### Neighbor 9.5

If use 2 switch and open LLDP function, will identify device for the LLDP neighbors and the neighbors of the summary attribute will show in Neighbor Table.

Discovery / LLDP / Ne	eighbor						
¥ Status							
S Network							
¥ Port	Neighbor lab	ble					
¥ VLAN	Oberraine All						
¥MAC Address Table	Snowing All v e	ntries			Showing	0 to 0 of 0 entries	
¥ Spanning Tree	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name	Time to Live
Discovery						0	repulte found
☆ LLDP						0	results found.
Property							
Port Setting	Clear	Refresh Detail					
Packet View							
Local Information							
Statistics							
<b>∀</b> Multicast							
Security							
¥QoS							
♦ Diagnostics							
¥ Management							

#### **Statistics** 9.6

This page can display Transmit / Receive Frame / Receive TLV and Neighbor timeout information's.

/										
	Glob	oal Sta	atistic	S						
able	1	nsertion	s O							
		Deletion	s O							
		Drop	5 0							
		AgeOut	5 0							
	C	ear	Refre	sh						
ation										
	Stati	istics	Table							
		5005	lable							
		5105	lable							
		151105	lable							
				Transmit Frame	Rec	eive Fram	e	Rec	ceive TLV	Neighbor
		Entry	Port	Transmit Frame Total	Rec	eive Fram Discard	e Error	Rec	eive TLV Unrecognized	Neighbor Timeout
		Entry 1	Port GE1	Transmit Frame Total	Rec Total	eive Fram Discard	e Error O	Red Discard 0	eive TLV Unrecognized 0	Neighbor Timeout 0
		Entry 1 2	Port GE1 GE2	Transmit Frame Total 0 420	Rec Total 0	eive Fram Discard 1 0 0	e Error 0 0	Red Discard 0 0	eive TLV Unrecognized 0 0	Neighbor Timeout 0
		Entry 1 2 3	Port GE1 GE2 GE3	Transmit Frame Total 0 420 0	Total 0 0 0	eive Frame Discard 0 0 0	e Error 0 0	Rec Discard 0 0	eive TLV Unrecognized 0 0 0	Neighbor Timeout 0 0
		Entry 1 2 3 4	Port GE1 GE2 GE3 GE4	Transmit Frame Total 0 420 0 0	Total 0 0 0 0 0	eive Frame Discard 0 0 0 0	e Error 0 0 0	Rec Discard 0 0 0	eive TLV Unrecognized 0 0 0	Neighbor Timeout 0 0 0
		Entry 1 2 3 4 5	Port GE1 GE2 GE3 GE4 GE5	<b>Transmit Frame Total</b> 0 420 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Total 0 0 0 0 0	eive Frame Discard 0 0 0 0 0 0	e Error 0 0 0 0	Rec Discard 0 0 0 0 0 0	eive TLV Unrecognized 0 0 0 0 0	Neighbor Timeout 0 0 0 0
		Entry 1 2 3 4 5 6	Port GE1 GE2 GE3 GE4 GE5 GE6	Transmit Frame Total 0 420 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec Total 1 0 0 0 0 0 0	eive Fram Discard 0 0 0 0 0 0	e Error 0 0 0 0 0 0	Rec Discard 0 0 0 0 0 0 0	eive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0
		Entry 1 2 3 4 5 6 7	Port GE1 GE2 GE3 GE4 GE5 GE6 GE7	Transmit Frame Total 0 420 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec Total 0 0 0 0 0 0 0 0 0 0	eive Fram Discard 0 0 0 0 0 0 0 0	e Error 0 0 0 0 0 0 0 0	Rec Discard 0 0 0 0 0 0 0 0 0 0	seive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0 0
		Entry 1 2 3 4 5 6 7 8	Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8	Transmit Frame Total 0 420 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		eive Fram Discard I 0 0 0 0 0 0 0 0 0 0	e Error 0 0 0 0 0 0 0 0 0 0 0 0 0	<b>Discard</b> 0 0 0 0 0 0 0 0 0 0 0	eive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0 0 0 0 0 0 0 0
		Entry 1 2 3 4 5 6 7 8 9	Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9	Transmit Frame Total 0 420 0 420 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Total         I           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	eive Fram Discard I 0 0 0 0 0 0 0 0 0 0 0 0 0	e Error 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<b>Rec</b> <b>Discard</b> 0 0 0 0 0 0 0 0 0 0	eive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Entry 1 2 3 4 5 6 7 8 9 10	Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9 GE10	Transmit Frame Total	Total         I           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	eive Fram Discard 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	e Error 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<b>Rec</b> <b>Discard</b> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	eive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Entry 1 2 3 4 5 6 7 8 9 10 11	Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9 GE10 GE11	Transmit Frame Total	Total     0	eive Fram Discard 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	e Error 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec Discard 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	seive TLV Unrecognized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Neighbor Timeout 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0





#### **Multicast** 10.

Multicast is the only type of IPv4 multicast that is supported by the Ethernet gateway.

### 10.1 General

#### 10.1.1 Property

This page can be configured with unknown multicast action, administrator can set the forwarding method is based on the DMAC or the DIP, the function implements high performance data transfer from point to multipoint in network will be reduce the loading on the network.

Multicast / General / F	Property	
😂 Status		
🗧 Network		O Flood
¥ Port	Unknown Multicast	<ul> <li>Drop</li> </ul>
¥ VLAN		Forward to Router Port
S MAC Address Table		
🛠 Spanning Tree	Multicast Forward M	ethod
S Discovery	IPv4	O DMAC-VID
Multicast		
<ul> <li>General</li> <li>Property</li> <li>Group Address</li> <li>IGMP Snooping</li> </ul>	Apply	
Security		
¥QoS		
🛠 Diagnostics		
¥ Management		

#### 10.1.2 **Group Address**

The multicast address range is 224.0.0.0 to 239.255.255.255 and forms the Class D range which is made up of the high order bits 1110 followed by the 28 bit multicast group ID. There is no subletting with these Class D addresses. A multicast group can have a permanently-assigned address or the group may be Transient.

Multicast / General / G	roup	Addre	ess				
🛠 Status							
S Network	_						
<b>∛</b> Port	Gro	up Ac	dress Table	•			
¥ VLAN							
¥MAC Address Table	Snow	ing   All	✓ entries			Snov	wing 1 to 2 of 2 entries
🛠 Spanning Tree		VLAN	Group Address	Member	Type	Life (Sec)	
S Discovery		1	224 10 0 1	CE5-CE6	Static		
👅 Multicast		4	224.10.0.1	052.054	Otatic		
General		1	225.0.0.1	GE3-GE4	Static		
Property Group Address GIGMP Snooping Property Querier Statistics	A	dd	Edit	Delete	R	efresh	





## 10.2 IGMP snooping

IGMP snooping is the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to listen in on the IGMP conversation between hosts and routers. By listening to these conversations the switch maintains a map of which links need which IP multicast streams. Multicasts may be filtered from the links which do not need them and thus controls which ports receive specific multicast traffic. The IGMP snooping support v2 & v3, administrator can forward or drop Unknown Multicast.



¥ Status									
¥ Network		State 🔽 Er	nable						
🛠 Port		-	MPv2						
\$ VLAN		Version	MPv3						
¥ MAC Address Table	Papart	Supproceion E	nabla						
🛠 Spanning Tree	Report	suppression V E	lable	_					
🛠 Discovery	Apply								
Multicast		-							
General     Property     Group Address     IGMP Snooping     Droperty	VLAN Se	etting Table							
Querier			Router Port	Query	Query	Query Max	Last Member	Last Member	
Statistics	VLAN	Operational Status		Robustness	Interval	Response Interval	Query Counter	Query Interval	Immediate Leave
¥ Security				Republication	105	neoponoo meerra	query counter	duory interval	
¥QoS		Disabled	Enabled	2	125	10	2	1	Disabled
S Diagnostics	Edit								
S Management									

VLAN	1					
State	Enable					
Router Port Auto Learn	✓ Enable					
Immediate leave	Enable					
Query Robustness	2	(1 - 7, default 2)				
Query Interval	125	Sec (30 - 18000, default 125)				
Query Max Response Interval	10	Sec (5 - 20, default 10)				
Last Member Query Counter	2	(1 - 7, default 2)				
Last Member Query Interval	1	Sec (1 - 25, default 1)				
Operational Status						
Status	Disabled					
Query Robustness	2					
Query Interval	125 (Sec)					
Query Max Response Interval	10 (Sec)					
Last Member Query Counter	2					
Last Member Query Interval	1 (Sec)					





- $\succ$ **State:** Administrator can choose Enable or Disable this function.
- $\geq$ Router Port Auto Learn: Administrator can enable Router Port Auto Learn.
- $\geq$ Immediate leave: Immediate leave for the specified VLAN. Administrator enable immediate leave will host tracking is started, which allows the switch to track the hosts that send membership reports. The switch can then determine when the last host on an interface leaves the multicast group and immediately stop forwarding multicast traffic to the interface.
- $\geq$ Query Robustness: Administrator can configure IGMP Snooping for Query Robustness.
- $\geq$ Query Interval: Administrator can configure IGMP Snooping for Query Interval.
- Query Max Response Interval: Administrator can configure IGMP Snooping for Query Max Response  $\geq$ Interval
- $\geq$ Last Member Query Counter: The number of times, from 1 through 7, that the router sends groupor group-source-specific queries upon receipt of a message indicating a leave.
- $\geq$ Last Member Query Interval: Last Member Query Interval set 1 is average of about 150 milliseconds. Administrator can configure value 1~25. This Last Member Query Interval is in order to avoid the impact of higher rates of IGMP leave messages.
- $\geq$ **Operational Status:** Display IGMP snooping configuration information.

#### 10.2.2 Querier

Administrator can choose created VLAN to enable or disable the IGMP Snooping query function. When select checkbox and click "Edit" button will be go to set IGMP Snooping version, this function can get IGMP Snooping query device regularly to VLAN local segments in all hosts and routers send IGMP Snooping general query packets, to the query segment which multicast group members.

Multicast / IGMP Snoop	oing / Queri	er				
¥ Status						
¥Network						
¥ Port	Querier Ta	able				
¥VLAN						
¥MAC Address Table						
¥ Spanning Tree	VLAN	State	Operational Status	Version	Querier Address	
*Discovery		Dischlad	Disabled			
Multicast		Disabled	Disabled			
General Property Group Address IGMP Snooping Property Querier Statistics	Edit					
⇒ Security						
¥ QoS						
♥Diagnostics						
¥ Management						





VLAN	1
State	Enable
Version	<ul> <li>IGMPv2</li> <li>IGMPv3</li> </ul>

#### 10.2.3 **Statistics**

Display Receive / Transmit Packet information of IGMP snooping.

Receive Packet						
Total	17					
Valid	2					
InValid	15					
Other	0					
Leave	0					
Report	0					
General Query	0					
Special Group Query	0					
Source-specific Group Query	0					
Transmit Packet						
Leave	0					
Report	0					
General Query	0					
Special Group Query	0					
Source-specific Group Query	0					



# 11. Security

## 11.1 RADIUS

Administrator can be configuration RADIUS to connection RADIUS Server.

Security / RADIUS	5	
<b>∜</b> Status		
& Network	Use Default Para	rameter
<b>\$</b> Port	Retry	3 (1 - 10. default 3)
¥VLAN		
MAC Address Table	Timeout	3 Sec (1 - 30, default 3)
Spanning Tree	Key String	
♦ Discovery ★ Multicast		
Security	Apply	
RADIUS TACACS+ AAA Method List Login Authentication Management Access Management Access Management VLAN Management Service Authentication Manager Protected Port Storm Control	RADIUS Table Showing All v er Server Addr 192.168.2.1 Add	le entries Showing 1 to 1 of 1 entries Iress Server Port Priority Retry Timeout Usage 1812 23760 3 3 802.1X Edit Delete
🗧 DoS		
Server Address	192.168.2.1	
Server Address Server Port	192.168.2.1 1812	(0 - 65535, default 1812)
Server Address Server Port Priority	192.168.2.1 1812 23760	(0 - 65535, default 1812) (0 - 65535)
Server Address Server Port Priority	192.168.2.1 1812 23760 ✓ Use Default	(0 - 65535, default 1812) (0 - 65535)
Server Address Server Port Priority Key String	192.168.2.1 1812 23760 ✓ Use Default	(0 - 65535, default 1812) (0 - 65535)
Server Address Server Port Priority Key String	192.168.2.1 1812 23760 ✓ Use Default	(0 - 65535, default 1812) (0 - 65535)
Server Address Server Port Priority Key String	192.168.2.1 1812 23760 ✓ Use Default ✓ Use Default	(0 - 65535, default 1812) (0 - 65535)
Server Address Server Port Priority Key String Retry	192.168.2.1 1812 23760 ✓ Use Default ✓ Use Default 3	(0 - 65535, default 1812) (0 - 65535) (1 - 10, default 3)
Server Address Server Port Priority Key String Retry	192.168.2.1 1812 23760 ✓ Use Default ✓ Use Default 3 ✓ Use Default	(0 - 65535, default 1812) (0 - 65535) (1 - 10, default 3)
Server Address Server Port Priority Key String Retry Timeout	192.168.2.1 1812 23760 ✓ Use Default ✓ Use Default 3 ✓ Use Default 3	(0 - 65535, default 1812) (0 - 65535) (1 - 10, default 3) Sec (1 - 30, default 3)



## 11.2 TACACS+

Administrator can be configuration TACACS+ to connection TACACS+ Server.

Security / TACACS+			
¥ Status			
S Network	Use Default Parameter		
<b>≈</b> Port	Timeout 5	Sec (1 - 30, default 5)	
¥VLAN			
★MAC Address Table	Key String		
Spanning Tree			
State	Apply		
<b>∛</b> Multicast			
Security	TACACS+ Table		
RADIUS			
TACACS+	Showing All 🧹 entries	Showing 0 to 0 of 0 ent	tries
Method List			
Login Authentication	Server Address Server Port	Priority Timeout	
Management Access			0 results found.
Management VLAN	Add Edit Dolot		
Management Service	Add Edit Delet		
Protected Port			
Storm Control			
S DoS			
¥QoS			
♦ Diagnostics			
∜ Management			

### 11.3 AAA

#### 11.3.1 **Method List**

Administrator can set groups of AAA security, each group have 4 method table, each method can select 1 of 6 type which contains Empty / None / Local / Enable / RADIUS and TACACS+





Name	
Method 1	Empty     None     Local     Enable     RADNIS     TACACS+
Method 2	Empty     None     Local     Enable     RADNIS     TACACS+
Method 3	Empty     None     Local     Enable     RADNIS     TACACS+
Method 4	Empty     None     Local     Enable     RADRUS

- **Empty:** Close authentication type of this method.  $\triangleright$
- **None**: Don't use authentication.  $\geq$
- $\geq$ Local: System login account use local system authentication in "menu -> management -> user Account".
- **Enable**:
- $\triangleright$ **RADIUS:** System login account use remote RADIUS server authentication.
- $\geq$ **TACACS+**: System login account use remote TACACS+ server authentication.

#### 11.3.2 Login Authentication

When administrator has created security groups in "AAA=>method" then administrator can select different security group in service port.

Security / AAA / Logir	n Authentica	tion
🛠 Status		
S Network	Canaala	Tast 4 (1) Local
<b>∛</b> Port	Console	lest_1 (2) Enable
¥ VLAN	Tolnot	TEST 2 (1) RADIUS
SMAC Address Table	Temer	1ES1_2 ≥ (2) TACACS+
😂 Spanning Tree	SSH	default 🧹 (1) Local
S Discovery		
S Multicast	НТТР	default 🔽 (1) Local
Security	HTTPS	default 🤍 (1) Local
RADIUS		
TACACS+	Apply	
AAA Method List		
Management Access		
Authentication Manager		
Protected Port		
Storm Control		
© DoS		



# 11.4 Management Access

#### 11.4.1 **Management VLAN**

When created VLAN function then administrator can select a specific VLAN, only allow this VLAN can to enter the UI management page.

Security / Management	Access / Management VLAN
🛠 Status	
¥ Network	1 - default
¥ Port	Management VLAN
¥ VLAN	Note: Change Management VLAN may cause connection interrupted
SMAC Address Table	
🛠 Spanning Tree	Арріу
S Discovery	
🛠 Multicast	
Security	
RADIUS	
TACACS+	
× AAA	
Management Access	
Management VLAN	
Authentication Manager	
Protected Port	
Storm Control	
V DoS	

#### 11.4.2 **Management Service**

Administrator can select enable Telnet / SSH / HTTP / HTTPS / SNMP by different protocol to login service and configuration login timeout limit and password error retry count limit.

5	Managemen	t Service								
ork	Telnet	Enable								
N	558		Enable							
Address Table	НТТР	Enable								
wery	HTTPS	🖌 Enable								
cast	SNMP	🗸 Enable								
ırity										
DIUS	Session Tim	eout								
CACS+	Console	10	Min (0 - 65535, default 10)							
anagement Access	Telnet	10	Min (0 - 65535, default 10)							
Aanagement VLAN Aanagement Service	9.94	10	Min (0, 85525, default 10)							
thentication Manager		10	Will (0 - 00030, delabit 10)							
otected Port	HTTP	50	Min (0 - 65535, default 10)							
S	HTTPS	10	Min (0 - 65535, default 10)							
nostics	Password R	etry Count								
agement	Console	3	(0 - 120, default 3)							
	Telnet	3	(0 - 120, default 3)							
	SSH	3	(0 - 120, default 3)							
	Silent Time									
	Console	0	Sec (0 - 65535, default 0)							
	Telnet	0	Sec (0 - 65535, default 0)							

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- $\geq$ Session Timeout: After login management page, in the set time if not session then system will auto timeout, administrator need re-login.
- Password Retry Count: If login error reaches the set value then login page will be kicked out,  $\succ$ administrator need reopen the login page.
- $\geq$ Silent Time: This function to be matched "Password Retry Count" function, if login error reaches the set value within then set value of silent time will can't be reopen login page until the set time end.

### **11.5** Authentication Manager

#### 11.5.1 Property

Administrator can select use 802.1x authentication.

Security 7 Authenticat		nager	7. PI	operty				
Status								
S Network								
≴ Port	Por	t Mod	le Tab	ole				
\$ VLAN								
🛠 MAC Address Table								
Spanning Tree				Authentication Type				
S Discovery		Entry	Port	Authentication type	Host Mode	Method	Guest VLAN	VLAN Assign Mode
🛠 Multicast				802.1x				-
Security		1	GE1	Disabled	Multiple Authentication	RADIUS	Disabled	Static
RADIUS		2	GE2	Disabled	Multiple Authentication	RADIUS	Disabled	Static
TACACS+		3	GE3	Disabled	Multiple Authentication	RADIUS	Disabled	Static
AAA Maaaaaaaa Aaaaaaa		4	GE4	Disabled	Multiple Authentication	RADIUS	Disabled	Static
Authentication Manager		5	GE5	Disabled	Multiple Authentication	RADIUS	Disabled	Static
Property		6	GE6	Disabled	Multiple Authentication	RADIUS	Disabled	Static
Port Setting		7	GE7	Disabled	Multiple Authentication	RADIUS	Disabled	Static
Sessions		8	GE8	Disabled	Multiple Authentication	RADIUS	Disabled	Static
Storm Control		9	GE9	Disabled	Multiple Authentication	RADIUS	Disabled	Static
DoS		10	GE10	Disabled	Multiple Authentication	RADIUS	Disabled	Static
\$QoS		11	GE11	Disabled	Multiple Authentication	RADIUS	Disabled	Static
S Diagnostics		12	GE12	Enabled	Multiple Authentication	RADIUS , Local	Disabled	Static
S Management		Edit						



#### **Port Setting** 11.5.2

Administrator can set authentication method by Ports.

Security / Authenticatio	on Ma	inager	·/ P	ort Setting									
¥ Status													
¥ Network	_		_										
¥ Port	Pol	rt Sett	ing T	able									
\$ VLAN													
S MAC Address Table													Q
🛠 Spanning Tree							Commo	n Timer			802.1x Pa	rameters	
S Discovery	10	Entry	Port	Port Control	Reauthentication	Max Hosts	Deputhentiontion	Inactiva	Quiat	TV Doried			Max Domicat
S Multicast							Reauthentication	Inactive	Quiet	TX Period	Supplicant Timeout	Server Timeout	Max Request
Security		1	GE1	Disabled	Disabled	256	3600	60	60	30	30	30	2
RADIUS		2	GE2	Disabled	Disabled	256	3600	60	60	30	30	30	2
TACACS+		3	GE3	Disabled	Disabled	256	3600	60	60	30	30	30	2
× AAA		4	GE4	Disabled	Disabled	256	3600	60	60	30	30	30	2
Management Access		5	GE5	Disabled	Disabled	256	3600	60	60	30	30	30	2
Authentication Manager Property		6	GE6	Disabled	Disabled	256	3600	60	60	30	30	30	2
Port Setting		7	GE7	Disabled	Disabled	256	3600	60	60	30	30	30	2
Sessions		8	GE8	Disabled	Disabled	256	3600	60	60	30	30	30	2
Protected Port		9	GE9	Disabled	Disabled	256	3600	60	60	30	30	30	2
Storm Control DoS		10	GE10	Disabled	Disabled	256	3600	60	60	30	30	30	2
×QoS		11	GE11	Disabled	Disabled	256	3600	60	60	30	30	30	2
<ul> <li>✓ Diagnostics</li> </ul>		12	GE12	Force Authorized	Enabled	256	3600	60	60	30	30	30	2
¥ Management		Edit											

Port	GE12									
Authentication Type	✓ 802.1x									
Host Mode	<ul> <li>Multiple Authentication</li> <li>Multiple Hosts</li> <li>Single Host</li> </ul>									
Method	Available Method Select Method          Available Method       Select Method         Image: Available Method       Image: Available Metho									
Guest VLAN	Enable									
VLAN Assign Mode	<ul> <li>Disable</li> <li>Reject</li> <li>Static</li> </ul>									

- $\geq$ **Port**: Display selected port number.
- $\succ$ Authentication Type: Administrator can enable or disable authentication for 802.1 x protocol.
- $\geq$ Host Mode: Administrator has three mode can choose for Multiple Authentication / Multiple Hosts and Single Host.
- $\succ$ Guest VLAN: Administrator can enable or disable the Guest VLAN.
- $\geq$ VLAN Assign Mode: Administrator can select Reject or Static for VLAN Assign mode or disable the function.







#### **Sessions** 11.5.3

Display session information of authentication.

Security / Authentication	on Mar	nager /	Sess	ions									
Status													
S Network	_												
¥ Port	Ses	sions Ta	ble										
¥ VLAN													
¥ MAC Address Table	Show	Showing All ventries Showing 0 to 0 of 0 entries											
🛠 Spanning Tree								Operationa	I Information	1		Authorized Informat	ion
Strain Discovery	<b>II</b> – I	Seccion ID	Dort		Current Tune	Statue		Cassian	Inactived	Ouist		Deputhentiontion	Incotivo
¥ Multicast		Session ID	Pon	MAC Address	Current type	Status	VLAN	Session	Inactived	Quiet	VLAN	Reauthentication	Inactive
🖬 Security								Time	Time	Time		Period	Timeout
RADIUS									0 results	found.			
TACACS+													
AAA	0	lear	Refres	h									
Management Access													
Authentication Manager Property													
Port Setting													
Sessions													
Protected Port													
Storm Control													
∛ DoS													

### **11.6 Protected Port**

Administrator can select ports to protected

Security / Protected Port								
¥ Status								
Ketwork	_							
¥ Port	Protected Port Table							
¥ VLAN								
¥ MAC Address Table								
🛠 Spanning Tree		Entry	Port	State				
¥ Discovery		1	GE1	Unprotected				
¥ Multicast		2	GE2	Unprotected				
Security		3	GE3	Unprotected				
RADIUS		4	GE4	Unprotected				
AAA		5	GE5	Unprotected				
Method List		6	GE6	Unprotected				
Login Authentication		7	GE7	Unprotected				
Management Access		8	GE8	Protected				
Protected Port		9	GE9	Unprotected				
Storm Control		10	GE10	Unprotected				
∜ DoS		11	GE11	Unprotected				
¥QoS		12	GE12	Unprotected				
X Diagnostics								
Edit Protected Port								
Port     GE1-GE12       State     Protected								
Apply Close								

State: Administrator can click checkbox to enable or disable of protected ports.  $\triangleright$ 





## **11.7 Storm Control**

This function can prevent broadcast storms, administrator can choose ports to enable or disable of prevent storms. When choose enable, administrator can set safe value of broadcast / Multicast / Unicast, if over safety value in ports then system can according to action drop or shutdown this ports.

Security / Storm Cont	trol											
🛠 Status	· · · · ·	,њы <u>л</u>										
S Network												
\$ Port	Por	t Sett	ing Ta	able								
\$ VLAN												-
🛠 MAC Address Table												
🛠 Spanning Tree					Dro	adcast	Unknow	un Multicaet	Unknor	un Unicant		ĉ
S Discovery		Entry	Port	State	БІО	aucasi	UIIKIIOW		UIKIIU	vii onicast	Action	
🛠 Multicast					State	Rate (Kbps)	State	Rate (Kbps)	State	Rate (Kbps)		
Security		1	GE1	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	[
RADIUS		2	GE2	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
TACACS+		3	GE3	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
Method List		4	GE4	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	I
Login Authentication		5	GE5	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
Management Access		6	GE6	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	ľ
Authentication Manager		7	GE7	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
Protected Port		8	GE8	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	ľ
> DoS		9	GE9	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
\$ QoS		10	GE10	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
♥ Diagnostics		11	GE11	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	
× Management		12	GE12	Disabled	Disabled	10000	Disabled	10000	Disabled	10000	Drop	

Port	GE1-GE12
State	Enable
Decederat	Enable
Broadcast	10000 Kbps (16 - 1000000, default 10000)
	Enable
Unknown Multicast	10000 Kbps (16 - 1000000, default 10000)
	Enable
Unknown Unicast	10000 Kbps (16 - 1000000, default 10000)
Action	<ul><li>● Drop</li><li>● Shutdown</li></ul>

## 11.8 DoS

DoS attack (denial-of-service) is a cyber-attack where the perpetrator seeks to make a machine or network resource unavailable to its intended users by temporarily or indefinitely disrupting services of a host connected to the Internet. Denial of service is typically accomplished by flooding the targeted machine or resource with superfluous requests in an attempt to overload systems and prevent some or all legitimate requests from being fulfilled.

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#### 11.8.1 Property

Administrators can enable and set security values to guard against DoS

V otatus		
¥ Network	POD	✓ Enable
\$ Port	Land	- Eachla
¥ VLAN	Lanu	
MAC Address Table	UDP Blat	✓ Enable
Spanning Tree	TCP Blat	✓ Enable
Discovery		
Multicast	DMAC = SMAC	✓ Enable
Security	Null Coord Attack	
RADIUS	NUII Scan Attack	
AAA	X-Mas Scan Attack	✓ Enable
Method List	TCP SYN-FIN Attack	✓ Enable
Login Authentication		
Management Access	TCP SYN-RST Attack	✓ Enable
Protected Port	ICMR Erzamont	
Storm Control	icimir Fragment	
☆ DoS	TCP-SYN	✓ Enable
Property	101 011	Note: Source Port < 1024
Port Setting		✓ Enable
× uos	TCP Fragment	
Management		Note: Offset = 1
		✓ Enable IPv4
	Ping Max Size	✓ Enable IPv6
		512 Byte (0 - 65535, default 512)
		🖌 Enable
		20 Byte (0 - 31, default 20)
	IBvC Min Erzement	Enable
	1PV6 Win Fragment	1240 Byte (0 - 65535, default 1240)
	Smurf Attents	Enable
	Smurr Attack	0 Netmask Length (0 - 32, default 0)



#### 11.8.2 **Port Setting**

Administrator can choose ports to enable or disable this function.

Security / DoS / Port Setting						
¥ Status						
<b>∛</b> Network	_					
¥Port	Port S	etti	ng Tal	ible		
¥VLAN						
¥MAC Address Table	_					
¥Spanning Tree		intry	Port	State		
♦ Discovery		4	CE1	Displad		
♦ Multicast		1	GET	Disabled		
Security		2	GE2	Disabled		
RADIUS		3	GE3	Disabled		
TACACS+		4	GE4	Disabled		
AAA		5	GE5	Disabled		
Method List		6	GE6	Disabled		
Login Authentication		7	GE7	Disabled		
Authentication Manager		8	GE8	Disabled		
Protected Port		9	GE9	Disabled		
Storm Control		10	GE10	Disabled		
☆ DoS		11	GE11	Disabled		
Property Port Setting		12	GE12	Disabled		

Edit Port	Setting
Port	GE1-GE12
State	Enable
Apply	Close

#### 12. QoS

Quality of Service (QoS) prioritizes network traffic and manages available bandwidth so that the most important traffic goes first. QoS is implemented as rules or policies that prioritize packets, optionally change information in the packet header, and assign them to outbound port queues based on their priority.

## **12.1 Property**

Administrator can set enable or disable QoS function. This switch implements two priority modes based on port, on cos and on DSCP. The port priorities are labeled as CoSO~7.





QoS / General / Property

<b>¥</b> Status								
¥ Network	Port	t Setti	ng Tal	ole				
¥ Port			-					
¥VLAN								
SMAC Address Table	-	_						
🗧 Spanning Tree		Entry	Port	Cos	Truet		Remark	ing
\$Discovery		Linuy	FUIL	003	must	CoS	DSCP	IP Precedence
\$ Multicast		1	GE1	0	Enabled	Disabled	Disabled	Disabled
Ş Security		2	GE2	0	Enabled	Disabled	Disabled	Disabled
QoS		3	GE3	0	Enabled	Disabled	Disabled	Disabled
☆ General		4	GE4	0	Enabled	Disabled	Disabled	Disabled
Property Queue Scheduling		5	GE5	0	Enabled	Disabled	Disabled	Disabled
CoS Mapping		6	GE6	0	Enabled	Disabled	Disabled	Disabled
DSCP Mapping		7	GE7	0	Enabled	Disabled	Disabled	Disabled
IP Precedence Mapping		8	GE8	0	Enabled	Disabled	Disabled	Disabled
Rate Limit		9	GE9	0	Enabled	Disabled	Disabled	Disabled
Diagnostics		10	GE10	0	Enabled	Disabled	Disabled	Disabled
o manayement		11	GE11	0	Enabled	Disabled	Disabled	Disabled
		12	GE12	0	Enabled	Disabled	Disabled	Disabled
		13	LAG1	0	Enabled	Disabled	Disabled	Disabled
		14	LAG2	0	Enabled	Disabled	Disabled	Disabled
		15	1.463	0	Enabled	Disabled	Dischlad	Disabled

Port	GE1-GE12,LAG1-LAG8
CoS	0 (0 - 7)
Trust	Enable
Remarking	
CoS	Enable
DSCP	Enable
IP Precedence	Enable
Apply Clo	use and the second s

### 12.2 Queue Scheduling

This "queue scheduling" function support WRR and Strict Priority two method.

The following picture shows an example description of Queue Scheduling. When you select the combined SP and WRR queueing method, this switch schedules traffic in queue 7 and queue 6 first, based on the strict priority queueing method. When there is no traffic in queue 7 and queue 6, the device schedules the other queues in round-robin fashion from the highest priority queue to the lowest priority queue (Q0 through Q5).



QoS / General / Queu	e Schedu	ling			
¥ Status					
¥Network					
¥ Port	Queue	Scheduling	j Tabl	e	
¥VLAN			_	_	
¥MAC Address Table	Queue			Method	
Spanning Tree	Queue	Strict Priority	WRR	Weight	WRR Bandwidth (%)
S Discovery	1	0		3	11.54%
¥ Multicast	2	0	ŏ	3	11.54%
Security	3	ŏ	ŏ	3	11.54%
■ Qo S	4	0	ĕ	4	15.38%
☆ General	5	0	0	5	19.23%
Property Queue Scheduling	6	0	۲	8	30.77%
CoS Mapping	7	۲	0	13	
DSCP Mapping	8	۲	0	15	
Rate Limit	Apply				

- $\succ$ Strict Priority: The function assigns the maximum weights to each queue, to cause the queuing mechanism to serve as many packets in one queue as possible before moving to a lower queue.
- WRR: Weight Round Robin Scheduling is like waiting in line, Packets in all the queues are sent in  $\geq$ order based on the weight value for each queue.
- $\geq$ Weight: Administrator can set weight priority queue.

# 12.3 CoS Mapping

CoS to Queue mapping or Queue to CoS Mapping is queue schedule method and bandwidth allocation, it is possible to achieve the desired QoS in a network.





QoS / General / CoS	S Mapping	
<b>≈</b> Status	CoS to Oueue Menning	
<b>∛</b> Network	Cos to Queue Mapping	
<b>≈</b> Port		
¥VLAN	Cos Queue	
♦ MAC Address Table	0 2 🗸	
¥ Spanning Tree	1 1 🗸	
S Discovery	2 3 🗸	
<b>X</b> Multicast	3 4 🗸	
<b></b> \$ Security	4 5 🗸	Queue
■ QoS	5 6 🗸	Queue
General	6 7 🗸	1
Property	7 8 🗸	2
Queue Scheduling		3
CoS Mapping	Apply	4
IP Precedence Manning		5
Rate Limit		6
♦ Diagnostics		7
≤ Management		8

Queue	Queue to CoS Mapping					
Queue	CoS					
1	1 🗸					
2	0 🗸					
3	2 🗸					
4	3 🗸					
5	4 🗸					
6	5 🗸					
7	6 🗸					
8	7 🗸					

CoS (0 to 7)	Queue(1 to 8)	Description
7 is highest	8 is highest priority	
0	2	Background
1	1	Best Effort
2	3	Excellent Effort
3	4	Critical Application LVS phone SIP
4	5	Video
5	6	Voice Cisco IP phone default
6	7	Interwork Control LVS phone RTP
7	8	Network Control

## 12.4 DSCP Mapping

This DSCP values range from 0 through 63, whereas the internal forwarding priority values range from 1 through 8. Any DSCP value within a given range is mapped to the same internal forwarding priority value. These include the CS (Class Selector), AF (Assured Forwarding) and EF (Expedited Forwarding). For example, a packet with a DSCP tag value of 1 can be assigned to the High queue.





QOS / General / DSC	P Mapping							
S Network								
\$ Port	DSCP to	Queu	e Mappiı	ng				
\$ VLAN							1	
MAC Address Table	DSCP	Queue	DSCP	Queue	DSCP	Queue	DSCP	Queue
Spanning Tree	0 [CS0]	1 🗸	16 [CS2]	3 🗸	32 [CS4]	5 🗸	48 [CS6]	7 🗸
Discovery	1	1 🗸	17	3 🗸	33	5 🗸	49	7 🗸
Multicast	2	1 🗸	18 [AF21]	3 🗸	34 [AF41]	5 🗸	50	7 ~
Security	3	1 🗸	19	3 🗸	35	5 🗸	51	7 🗸
QoS	4	1 🗸	20 [AF22]	3 🗸	36 [AF42]	5 🗸	52	7 🗸
General	5	1 🗸	21	3 🗸	37	5 🗸	53	7 ~
Property	6	1 🗸	22 [AF23]	3 🗸	38 [AF43]	5 🗸	54	7~
Queue Scheduling	7	1 🗸	23	3 🗸	39	5 🗸	55	7 ~
DSCP Mapping	8 [CS1]	2 🗸	24 [CS3]	4 🗸	40 [CS5]	6 🗸	56 [CS7]	8 🗸
IP Precedence Mapping	9	2 🗸	25	4 🗸	41	6 🗸	57	8 🗸
Rate Limit	10 [AF11]	2 🗸	26 [AF31]	4 🗸	42	6 🗸	58	8 🗸
)iagnostics	11	2 🗸	27	4 🗸	43	6 🗸	59	8 ~
lanagement	12 [AF12]	2 🗸	28 [AF32]	4 🗸	44	6 🗸	60	8 🗸
	13	2 🗸	29	4 🗸	45	6 🗸	61	8 🗸
	14 [AF13]	2 🗸	30 [AF33]	4 🗸	46 [EF]	6 🗸	62	8 🗸
	15	2 🗸	31	4 🗸	47	6 🗸	63	8 🗸

### Queue to DSCP Mapping

Queue	DSCP	
1	0 [CS0]	~
2	8 [CS1]	$\sim$
3	16 [CS2]	$\sim$
4	24 [CS3]	$\sim$
5	32 [CS4]	$\sim$
6	40 [CS5]	$\sim$
7	48 [CS6]	$\sim$
8	56 [CS7]	$\sim$

### 12.5 IP Precedence to Queue Mapping

The IP Precedence standard uses the first 3 bits of the ToS byte to mark packets with 8 levels of priority, numbered 0-7, with 0 being the lowest priority and 7 the highest. Because IP Precedence and ToS use different bits in the ToS byte to mark the priority of a packet, they can co-exist in the same packet header without interfering with each other.





QoS / General / IP Pre	ecedence Mapping
¥ Status	
<b>⇒</b> Network	
¥ Port	IP Precedence to Queue Mapping
¥ VLAN	
¥MAC Address Table	IP Precedence Queue
🛠 Spanning Tree	0 1 🗸
♦ Discovery	1 2 🗸
¥ Multicast	2 3 🗸
<b>X</b> Security	3 4 🗸
■ Qo S	4 5 🗸
☆ General	5 6 🗸
Property	6 7 🗸
CoS Mapping	7 8 🗸
DSCP Mapping	
IP Precedence Mapping	Арру
🗧 Rate Limit	

## 12.6 Rate Limit

The rate limiting function can be configured to limit of Ingress/Egress traffic on a particular interface. Administrator can set Ingress/Egress rate limiting in Ports. The usage rate is 16 to 1000000 Kbps

QoS / Rate Limit / Ingress / Egress Port							
¥Status							
¥Network			_	_			
¥ Port	Ingr	ess /	Egres	s Port	lable		
¥ VLAN							
¥MAC Address Table							
¥ Spanning Tree				In	gress	E	gress
S Discovery		Entry	Port	04-4-	<b>D</b> -4- (1(1))	01-1-	
<b>∀</b> Multicast				State	Rate (Kbps)	State	Rate (Kbps)
<b>∛</b> Security		1	GE1	Disabled		Disabled	
■ Qo S		2	GE2	Disabled		Disabled	
General		3	GE3	Disabled		Disabled	
Property		4	GE4	Disabled		Disabled	
Queue Scheduling		5	GE5	Disabled		Disabled	
DSCP Mapping		6	GE6	Disabled		Disabled	
IP Precedence Mapping		7	GE7	Disabled		Disabled	
		8	GE8	Disabled		Disabled	
Ingress / Egress Port		9	GE9	Disabled		Disabled	
* Diagnostics		10	GE10	Disabled		Disabled	
♦ Management		11	GE11	Disabled		Disabled	
		12	GE12	Disabled		Disabled	

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Port	GE1-GE12
Ingroop	Enable
ingress	1000000 Kbps (16 - 1000000)
E	Enable
Egress	1000000 Kbps (16 - 1000000)

#### 13. Diagnostics

### 13.1 Logging

#### Property 13.1.1

This function support log message includes Console / RAM / Flash message send to remote log server. Administrator can enable or disable this function.

Diagnostics / Loggi	ng / Property					
Status						
S Network	State	🗸 Enable				
¥ Port						
¥ VLAN	Console Log	nging				
🛠 MAC Address Table	State	✓ Enable				
🛠 Spanning Tree		Nation				
S Discovery	Minimum	Notice				
🗧 Multicast	Severity	Note: Emergency, Alert, Critical, Error, Warning, Notice				
😂 Security						
¥QoS	RAM Loggin	g				
Diagnostics	State	🔽 Enable				
Logging     Property	Minimum	Notice				
Remote Server	Seventy	Note: Emergency, Alert, Critical, Error, Warning, Notice				
Ping						
Copper Test	Flash Loggi	Flash Logging				
¥ Management	State	Enable				
	Minimum	Notice				
	Severity	Note: Emergency, Alert, Critical, Error, Warning, Notice				

 $\succ$ Minimum Severity: Administrator can choose message type to monitor.







### 13.1.2 Remote Server

When the creation is complete then system log messages will send to remote log servers.

Diagnostics / Logging	/ Rer	note s	Server				
<b></b>							
<b>∛</b> Network	_						
<b>¥</b> Port	Rer	note s	Server Table				
¥ VLAN							
¥ MAC Address Table							
🛠 Spanning Tree						Minimum	Г
S Discovery		Entry	Server Address	Server Port	Facility	Soverity	
S Multicast						Sevenity	
Security		1	192.168.2.50	514	Local 0	Debug	
¥QoS		Add	Edit	Delete			
Diagnostics							
Logging							
Property							
Remote Server							
Ping							
Copper Test							
<b>≈</b> Management							

## 13.2 Mirroring

Mirroring function can mirror Rx/Tx traffic, Packet can mirror to destination port and for analysis.

Diagnostics / Mirroring						
🛠 Status						
S Network						
S Port	Miri	roring Tal	ble			
\$ VLAN						
S MAC Address Table						
🗧 Spanning Tree		Session ID	State	Monitor Port	Ingress Port	Earess Port
S Discovery		4	Dischlad			
🛠 Multicast	0	1	Disabled			
🛠 Security	0	2	Disabled			
¥QoS	0	3	Disabled			
Diagnostics	0	4	Disabled			
<ul> <li>Logging</li> <li>Property</li> <li>Remote Server</li> <li>Mirroring</li> <li>Ping</li> <li>Copper Test</li> </ul>		Edit				
🗧 Management						



Session ID	1					
State	Enable					
Monitor Port	GE1 🔽					
	Send or Receive Normal Packet					
Ingress Port	Available Port Selected Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 V					
Egress Port	Available Port Selected Port GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8					

- $\geq$ Mirroring Port: Administrator can choose a mirroring Port.
- $\geq$ Ingress Port: Administrator can choose mirrored ports for ingress.
- Egress Port: Administrator can choose mirrored ports for egress.  $\succ$

### 13.3 Ping

Administrators can use this ping function to check connected device whether is active. This ping function support IPv4 and IPv6 protocol.

Diagnostics / Ping		
<b>∛</b> Status		
S Network		O Hostname
S Port	Address Type	● IPv4
¥VLAN		● IPv6
¥MAC Address Table	Server Address	
🛠 Spanning Tree		
S Discovery	Count	User Defined
¥ Multicast	Count	4 Sec (1 - 65535)
<b>∛</b> Security		
¥QoS	Ping Stop	
Diagnostics		
<ul> <li>Logging</li> <li>Property</li> <li>Remote Server</li> <li>Mirroring</li> </ul>	Ping Result	
Ping	Packet Status	
Copper Test	Status	N/A
S Management	Transmit Packet	0





# 13.4 Copper Test

Administrator can use this function check port Result whether is working, if working then display OK.

Diagnostics / Coppe	er Test						
¥Status							
\$ Network	Port	GE9 😈					
<b>¥</b> Port							
¥VLAN	Copper Test						
¥MAC Address Table							
🛠 Spanning Tree							
<b>∛</b> Discovery	Copper le	Copper Test Result					
<b>∛</b> Multicast							
¥ Security	Cable State	Ie					
¥QoS	Cable Statt	15 					
Diagnostics	Port	GE9					
🕆 Logging	Result	ок					
Property Remote Server	Length	N/A					
Mirroring	_						
Ping							
Copper Test							
Management							

#### 14. Management

## 14.1 User Account

Administrator can added or modify user login account and password.

Management / User Account						
<b>¥</b> Status						
¥ Network						
¥ Port	User Account					
¥ VLAN						
¥ MAC Address Table	Snowing All v entries					
🛠 Spanning Tree	Username Privilege					
S Discovery						
¥ Multicast						
¥ Security	Add Edit Delete					
¥QoS						
Viagnostics						
📕 Management						
User Account Firmware Configuration SNMP						





### 14.2 Firmware

#### Upgrade / Backup 14.2.1

Administrator can upgrade or backup firmware, method can choose use TFTP or HTTP protocol. If choose backup then administrator can choose firmware image to backup.

Management / Firmwar	e / Upgrade / Backup	
🛠 Status		
¥ Network	Upgrade	
¥ Port	Action O Backup	
¥ VLAN	TFTP	
¥MAC Address Table	Method O HTTP	
🛠 Spanning Tree	● Image0	
S Discovery	Firmware O Image1	
¥ Multicast		
¥ Security	Apply	
¥QoS		
🛠 Diagnostics		
👅 Management		
User Account Firmware Upgrade / Backup Active Image Configuration SNMP		

#### 14.2.2 **Active Image**

If the Switch has upload multiple firmware in system then administrator can choose a firmware to do system default start.

Management / Firmware	/ Active Imag	ge
😂 Status		
S Network		O Image0
S Port	Active Image	Image1
S VLAN		Note: the image was selected for the next boot
S MAC Address Table		
Spanning Tree	Active Image	
S Discovery	Firmware	Image0
S Multicast	Version	1 00 02
Security		
<b>\$</b> QoS	Name	Cerio_GS812A_V1.00.02_r220_vmlinux_web.bix
Solution Diagnostics	Size	6279207 Bytes
Management	Created	2017-05-13 15:34:47
User Account		
Firmware	Backup Image	
Active Image	Firmware	Image1
Configuration	Version	1.00.02
SIMP	Name	Cerio_GS812A_V1.00.02_r218_vmlinux_web.bix
	Size	6279249 Bytes
	Created	2017-05-12 15:19:44





## 14.3 Configuration

#### Upgrade / Backup 14.3.1

Administrator can backup system configuration file to PC or upload configuration file to Switch system.

Management / Configuration / Upgrade / Backup		
🛠 Status		
S Network		O Upgrade
🕏 Port	Action	<ul> <li>Backup</li> </ul>
¥ VLAN	Method	● TFTP
S MAC Address Table		O HTTP
🗧 Spanning Tree		Running Configuration
S Discovery		Startup Configuration
🛠 Multicast	Configuration	<ul> <li>Backup Configuration</li> </ul>
🛠 Security		RAM Log     Track Log
¥QoS		
🛠 Diagnostics	Filename	瀏覽 未選擇檔案。
👅 Management		
User Account Firmware Upgrade / Backup Active Image Configuration Upgrade / Backup Save Configuration SNMP	Арріу	

#### **Save Configuration** 14.3.2

This Functions purpose is to backup current configuration, restore prior configuration or reset back to factory default configurations.

Management / Configu	ration / Save Configuration
🛠 Status	
¥ Network	O Running Configuration
¥ Port	Source File O Startup Configuration
¥ VLAN	<ul> <li>Backup Configuration</li> </ul>
¥ MAC Address Table	Destination File O Startup Configuration
🛠 Spanning Tree	Backup Configuration
♥ Discovery	
¥ Multicast	Apply Restore Factory Default
¥ Security	
¥ QoS	
¥ Diagnostics	
🖬 Management	
User Account Firmware Configuration Upgrade / Backup Save Configuration SNMP	

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### **14.4 SNMP**

#### 14.4.1 Community

Indicates the community read access string to permit access to SNMP agent. The allowed string length is 0 to 255, and the allowed content is the ASCII characters from 33 to 126. The field is applicable only when SNMP version is SNMPv1 or SNMPv2c. If SNMP version is SNMPv3, the community string will be associated with SNMPv3 communities table. It provides more flexibility to configure security name than a SNMPv1 or SNMPv2c community string. In addition to community string, a particular range of source addresses can be used to restrict source subnet.

Management / SNMP /	Community
🛠 Status	
¥ Network	
¥ Port	Community Table
¥ VLAN	
SMAC Address Table	Showing All v entries
Spanning Tree	Community Access
S Discovery	Dublic Read-Write
¥ Multicast	public Read-White
¥ Security	Add Delete
¥ QoS	
S Diagnostics	
👅 Management	
User Account	
Firmware	
Configuration	
Community	
Trap Event	
Notification	
Community	
Access O Read-Only Read-Write	
Apply Close	

Administrator can create Read-Only or Read-Write of the community in SNMP.

- $\geq$ Read-Only: Administrator can enable a remote device to retrieve "read-only" information from a device.
- $\geq$ Read-Write: Can be mainly used in requests for information from a device and to modify settings on that device.





### 14.4.2 Trap Event

Administrator can choose SNMP Trap Event Type to monitor

Management / SNMP / Trap Event		
🛠 Status		
S Network	Authentication Failure	✓ Enable
S Port	Link Up / Down	Z Enable
S VLAN		
SMAC Address Table	Cold Start	Z Enable
🛠 Spanning Tree	Warm Start	✓ Enable
S Discovery		
🛠 Multicast	Apply	
Security		
¥QoS		
🛠 Diagnostics		
👅 Management		
User Account		
S Firmware		
Configuration		
☆ SNMP		
Community		
Trap Event		
Notification		

### 14.4.3 Notification

Administrator can configuration SNMPv1 / SNMPv2 and server IP address.

Address Type	<ul> <li>Hostname</li> <li>IPv4</li> <li>IPv6</li> </ul>
Server Address	
Version	O SNMPv1 ● SNMPv2
Туре	O Trap ● Inform
Community	public 🗸