
Network Management Switch Initial Configuration Manual

M Series

CLI operation instructions

The device's CLI management interface is divided into several different modes. The command mode you are currently in determines the commands you can use. By entering a question mark (?) at the command prompt, you can list the commands supported by each command mode. When a user logs into the device, they are initially in Privileged Mode.

Schema name	Prompt	Switch mode	Pattern description
Privileged mode	SWITCH#	Enter "configure" to switch to global mode	Supports network testing; supports viewing information of functional modules; supports configuration saving, clearing, etc.
Global mode	SWITCH(config)#	Enter "exit" to switch to Privileged Mode; enter "interface" to switch to Interface Mode	Supports global configuration commands
Interface mode	SWITCH(config-if)#	Enter "exit" to switch to Global Configuration Mode; enter "end" to switch to Privileged Mode	Supports interface mode configuration commands, including physical interfaces, aggregate interfaces, SVI interfaces

1 Basic commands

1.1 Query switch configuration

SWITCH#show running-config //Query switch configuration now

1.2 Query switch interface status

SWITCH#show interface brief //Query switch interface status information

1.3 Query switch interface bandwidth

SWITCH# show interfaces GigabitEthernet 1 //Query the traffic transmission and reception information of switch "1" interface

1.4 Restore default configuration command

SWITCH#restore-defaults // Restore default configuration command

System: restore factory defaults. Do you want to reboot now? (y/n)y //Enter “Y” to confirm

1.5 Global Save

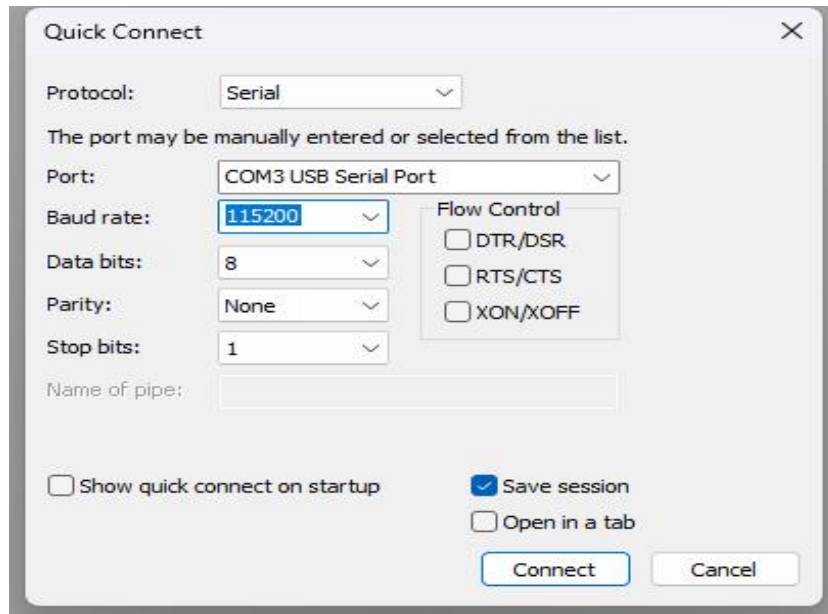
SWITCH#save //Save configuration globally

➤ 2 Device login

The default username and password are both admin

2.1 Serial port login

Login through serial port, taking CRT as an example, protocol Serial, baud rate 115200, turn off flow control, as shown in the following figure:



2.2 Telnet or web login

Login via telnet or web, default IP address is 192.168.1.168

3 Configure management IP

3.1 IPV4 management IP address

Modify the IPV4 management IP address of the switch

```
SWITCH(config)#interface vlan1           // Enter the VLAN1 interface
SWITCH(config-if-vlan1)# ip address 192.168.1.168/24 // Configure IP address as 192.168.1.168, mask as 24 bits
```

3.2 IPV6 management IP address

Modify the IPV6 management IP address of the switch

```
SWITCH(config)# interface vlan1           // Enter the VLAN1 interface
SWITCH(config-if-vlan1)#ipv6 address 2001:1::10.10/80 // Management VLAN: 1, IP Address: 2001:1: 10.10, Mask: 80 bits
```

Note: The management IP address of this form can be used as a three-layer gateway address, so when configuring the management IP address simply, there is no need to configure a gateway.

3.3 DHCP automatically obtains IPv4 address

Modify switch DHCP to automatically obtain IPV4 address

```
SWITCH(config-if-vlan1)# no ip address
SWITCH(config-if-vlan1)# ip dhcp
```

3.4 DHCP automatically obtains IPv6 address

Modify switch DHCP to automatically obtain IPV6 address

```
SWITCH(config-if-vlan1)# ipv6 dhcp client
```

3 Configure management IP

3.5 Configure IPV4 management address for WEB configuration

Save Logout Reboot Chinese Debug

IP Configuration >> IPv4 Management and Routing >> IPv4 Interface

IPv4 Interface Table

<input type="checkbox"/>	Interface	IP Address Type	IP Address	Mask	Status	Roles
<input checked="" type="checkbox"/>	VLAN 1	Static	192.168.1.168	255.255.255.0	Valid	primary

Add Edit Delete

3

4

1

2

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
 - DHCP
 - Multicast
- ^ **IP Configuration**
 - ^ IPv4 Management and Routing
 - IPv4 Interface**
 - IPv4 Routes
 - ARP
 - ^ IPv6 Management and Routing
- ^ Security
 - ACL
 - QoS
 - Diagnostics
 - Management

3 Configure management IP

3.6 Configure IPV4 management address for WEB configuration

Save Logout Reboot Chinese Debug

IP Configuration >> IPv4 Management and Routing >> IPv4 Interface

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
 - DHCP
 - Multicast
- ^ IP Configuration
 - ^ IPv4 Management and Routing
 - IPv4 Interface
 - IPv4 Routes
 - ARP
 - ^ IPv6 Management and Routing
- ^ Security
 - ACL
 - QoS
 - Diagnostics
 - Management

Add IPv4 Interface

Interface	<input checked="" type="radio"/> VLAN <input type="radio"/> Loopback
Address Type	<input type="radio"/> Dynamic <input checked="" type="radio"/> Static
IP Address	<input type="text" value="192.168.1.168"/>
Mask	<input checked="" type="radio"/> Network Mask <input type="text" value="255.255.255.0"/> <input type="radio"/> Prefix Length <input type="text" value=""/> (8 - 30)
Roles	<input checked="" type="radio"/> primary <input type="radio"/> sub

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2

3 Configure management IP

3.7 Configure IPV6 management address for WEB configuration

Save Logout Reboot Chinese Debug

IP Configuration >> IPv6 Management and Routing >> IPv6 Addresses

IPv6 Address Table

Interface: VLAN 1

<input type="checkbox"/>	IPv6 Address Type	IPv6 Address	IPv6 Prefix Length	DAD Status
<input type="checkbox"/>	Link Local	fe80::7ad8:ff:fe25:335	64	Active
<input type="checkbox"/>	Multicast	ff02::1:ff25:335		
<input type="checkbox"/>	Multicast	ff02::1		
<input type="checkbox"/>	Multicast	ff01::1		

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3 Configure management IP

3.8 Configure IPV6 management address for WEB configuration

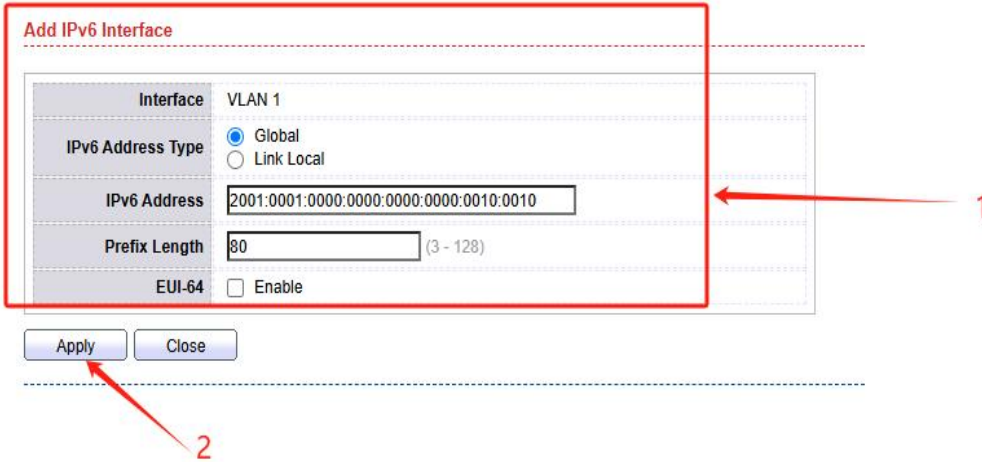
Save Logout Reboot Chinese Debu

IP Configuration >> IPv6 Management and Routing >> IPv6 Addresses

- ▲ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
 - DHCP
 - Multicast
- ▼ IP Configuration
 - ▲ IPv4 Management and Routing
 - IPv4 Interface
 - IPv4 Routes
 - ARP
 - ▲ IPv6 Management and Routing
 - IPv6 Interface
 - IPv6 Addresses**
 - IPv6 Routes
 - IPv6 Neighbors
- ▼ Security
 - ACL
 - QoS
 - Diagnostics
 - Management

Add IPv6 Interface

Interface	VLAN 1
IPv6 Address Type	<input checked="" type="radio"/> Global <input type="radio"/> Link Local
IPv6 Address	<input type="text" value="2001:0001:0000:0000:0000:0000:0010:0010"/>
Prefix Length	<input type="text" value="80"/> (3 - 128)
EUI-64	<input type="checkbox"/> Enable



4 User Management

4.1 Add username and password

SWITCH(config)#username admin123 password admin456 //Configure username as “admin123” and password as “admin456”

4.2 Delete username admin123

SWITCH(config)#no username admin123 //Configure to delete username admin123 account

4 User Management

4.3 Web configurate username

Save Logout Reboot Chinese Debug

Management >> User Account

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
 - DHCP
 - Multicast
- ^ IP Configuration
 - ^ IPv4 Management and Routing
 - IPv4 Interface
 - IPv4 Routes
 - ARP
 - ^ IPv6 Management and Routing
 - IPv6 Interface
 - IPv6 Addresses
 - IPv6 Routes
 - IPv6 Neighbors
- ^ Security
 - ACL
 - QoS
 - Diagnostics
- ^ **Management**
 - User Account**
 - Firmware
 - Configuration
 - SNMP
 - RMON

Add User Account

Username	<input type="text" value="admin123"/>
Password	<input type="password" value="*****"/>
Confirm Password	<input type="password" value="*****"/>
Privilege	<input checked="" type="radio"/> Admin <input type="radio"/> User

Apply Close

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5 Login Management

5.1 Enable HTTP access management

```
SWITCH(config)#ip http      //Enable HTTP manage switch  
SWITCH(config)#no ip http   //Close the HTTP manage switch
```

5.2 Enable HTTPS access management

```
SWITCH(config)#ip https     //Enable HTTPS manage switch  
SWITCH(config)#no ip https  //Turn off HTTPS manage switch
```

5.3 Enable Telnet access management

```
SWITCH(config)#ip telnet    //Enable Telnet manage switch  
SWITCH(config)#no ip telnet //Close Telnet manage switch
```

5.4 Enable SSH access management

```
SWITCH(config)#ip ssh       //Enable SSH manage switch  
SWITCH(config)#no ip ssh    //Close SSH manage switch
```

5 Login Management

5.5 WEB configurate service function

Save Logout Reboot Chinese Debug

Security >> Management Access >> Management Service

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
 - DHCP
 - Multicast
 - IP Configuration
- ^ **Security**
 - RADIUS
 - TACACS+
 - ^ AAA
 - ^ Management Access
 - Management Service**
 - Management ACL
 - Management ACE
 - ^ Authentication Manager
 - Port Security
 - Protected Port
 - Storm Control
 - ^ DoS
 - ^ Dynamic ARP Inspection
 - ^ DHCP Snooping
 - ^ IP Source Guard
- ^ ACL
- ^ QoS
- ^ Diagnostics
- ^ Management

Management Service	
Telnet	<input type="checkbox"/> Enable
SSH	<input type="checkbox"/> Enable
HTTP	<input checked="" type="checkbox"/> Enable
HTTPS	<input checked="" type="checkbox"/> Enable
SNMP	<input type="checkbox"/> Enable

Session Timeout	
Console	<input type="text" value="10"/> Min (0 - 65535, default 10)
Telnet	<input type="text" value="10"/> Min (0 - 65535, default 10)
SSH	<input type="text" value="10"/> Min (0 - 65535, default 10)
HTTP	<input type="text" value="10"/> Min (0 - 65535, default 10)
HTTPS	<input type="text" value="10"/> Min (0 - 65535, default 10)

Password Retry Count	
Console	<input type="text" value="3"/> (0 - 120, default 3)
Telnet	<input type="text" value="3"/> (0 - 120, default 3)
SSH	<input type="text" value="3"/> (0 - 120, default 3)

Silent Time	
Console	<input type="text" value="0"/> Sec (0 - 65535, default 0)
Telnet	<input type="text" value="0"/> Sec (0 - 65535, default 0)
SSH	<input type="text" value="0"/> Sec (0 - 65535, default 0)

Apply

1

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4

激活 Windows
转到“设置”以激活 Windows。

6 Port Mirror

6.1 Port Mirror

To facilitate network fault analysis, port mirroring can be configured. This allows a switch to mirror incoming and outgoing traffic from one port to another. The destination port is connected to a PC for capturing and analyzing abnormal reports.

The configuration commands are as follow:

```
Switch(config)# mirror session 1 source interfaces GigabitEthernet 1
```

```
both Both
```

```
rx RX only
```

```
tx TX only
```

```
Switch(config)# mirror session 1 source interfaces GigabitEthernet 1 both //Configures the mirroring session 1, setting the source port to both directions
```

```
SWITCH(config-monitor)#mirror session 1 destination interface GigabitEthernet 2 allow-ingress //Configure mirror session entry 1, with the destination interface being port 2
```

6 Port mirroring

6.2 WEB mirror mirror function

Save Logout Reboot Chinese Debug

Diagnostics >> Mirroring

- ▼ Status
- ▼ Network
- ▼ Port
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ **Diagnostics**
- ▼ Logging
- Mirroring** ← 1
- Ping
- Traceroute
- Copper Test
- Fiber Module
- ▼ UDLD
- ▼ Management

Mirroring Table

Q

	Session ID	State	Monitor Port	Ingress Port	Egress Port
<input type="radio"/>	1	Disabled	---	---	---
<input type="radio"/>	2	Disabled	---	---	---
<input type="radio"/>	3	Disabled	---	---	---
<input type="radio"/>	4	Disabled	---	---	---

Edit

n Allow the monitor port to send or receive normal packets

6 Port mirroring

6.3 WEB configurate mirror function

Save Logout Reboot Chinese Debug

Diagnostics >> Mirroring

Filter and monitor port to send or receive normal packets

Edit Mirroring

Session ID	1	
State	<input checked="" type="checkbox"/> Enable	
Monitor Port	GE2	
	<input checked="" type="checkbox"/> Send or Receive Normal Packet	
Ingress Port	Available Port GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9	Selected Port GE1
	Egress Port	Available Port GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9

Apply Close

1

2

3

7 Port Isolation

7.1 Port Isolation

Used to restrict communication between different ports on the same switch, thereby improving network security and management flexibility. The configuration command are as follow:

```
SWITCH(config)#interface gigabitEthernet 0/1      // Enter port "1"  
Switch(config-if-GigabitEthernet1)# protected    // Enter port "1" and enable port isolation
```

7 Port isolation

7.2 WEB configurate port isolation

Save Logout Reboot Chinese Debug

Security » Protected Port

Protected Port Table

Q

<input type="checkbox"/>	Entry	Port	State
<input type="checkbox"/>	1	GE1	Unprotected
<input type="checkbox"/>	2	GE2	Unprotected
<input type="checkbox"/>	3	GE3	Unprotected
<input type="checkbox"/>	4	GE4	Unprotected
<input type="checkbox"/>	5	GE5	Unprotected
<input type="checkbox"/>	6	GE6	Unprotected
<input type="checkbox"/>	7	GE7	Unprotected
<input type="checkbox"/>	8	GE8	Unprotected
<input type="checkbox"/>	9	GE9	Unprotected
<input type="checkbox"/>	10	GE10	Unprotected
<input type="checkbox"/>	11	LAG1	Unprotected
<input type="checkbox"/>	12	LAG2	Unprotected
<input type="checkbox"/>	13	LAG3	Unprotected
<input type="checkbox"/>	14	LAG4	Unprotected
<input type="checkbox"/>	15	LAG5	Unprotected
<input type="checkbox"/>	16	LAG6	Unprotected
<input type="checkbox"/>	17	LAG7	Unprotected
<input type="checkbox"/>	18	LAG8	Unprotected

Edit

- ▼ Status
- ▼ Network
- ▼ Port
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ **Security**
- RADIUS
- TACACS+
- ▼ AAA
- ▼ Management Access
- ▼ Authentication Manager
- Port Security
- Protected Port**
- Storm Control
- ▼ DoS
- ▼ Dynamic ARP Inspection
- ▼ DHCP Snooping
- ▼ IP Source Guard
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

7 Port isolation

7.3 WEB configurate port isolation

Save Logout Reboot Chinese Debug

Security >> Protected Port

- ▼ Status
- ▼ Network
- ▼ Port
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
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 - Storm Control
 - ▼ DoS
 - ▼ Dynamic ARP Inspection
 - ▼ DHCP Snooping
 - ▼ IP Source Guard
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

Edit Protected Port

Port	GE1
State	<input checked="" type="checkbox"/> Protected

Apply Close

1

2

8 Link aggregation

8.1 Link aggregation

Link aggregation technology (also known as port aggregation) is the bundling of multiple physical ports into a logical port, forming a high bandwidth aggregation link with redundancy and load balancing capabilities. Its purpose is to "increase link bandwidth", "provide link redundancy, enhance network reliability", and "achieve traffic load balancing".

The configuration command are as follow:

```
Switch(config)# lag load-balance                //Configure load sharing method
src-dst-mac   LAG load balancing is based on source and destination MAC addresses.
src-dst-mac-ip LAG load balancing is based on source and destination of MAC and IP addresses.
SWITCH(config)#interface range GigabitEthernet 1-2 // Enter port "1-2"
SWITCH(config-if)#lag 1 mode ?                 // Select interface aggregation mode for configuration
active Enable LACP unconditionally             // Active
passive Enable LACP only if a LACP device is detected // Static
static Enable Static Only                      // Passive

SWITCH(config-if)#lag 1 mode active
```

Note:Selecting the interface as "active" means enabling the dynamic link aggregation "LACP protocol" method.
Selecting the interface as "manual" means enabling static link mode.

8 Link aggregation

8.2 WEB configurate link aggregation

Save Logout Reboot Chinese Debug

Port >> Link Aggregation >> Group

- ▲ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
 - ▼ Port **1**
 - Port Setting
 - Error Disabled
 - ▲ Link Aggregation
 - Group **2**
 - Port Setting
 - LACP
 - EEE
 - Jumbo Frame
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

Load Balance Algorithm

- MAC Address
 IP-MAC Address

Apply

Link Aggregation Table

Q

	LAG	Name	Type	Link Status	Active Member	Inactive Member
<input type="radio"/>	LAG 1		---	---		
<input type="radio"/>	LAG 2		---	---		
<input type="radio"/>	LAG 3		---	---		
<input type="radio"/>	LAG 4		---	---		
<input type="radio"/>	LAG 5		---	---		
<input type="radio"/>	LAG 6		---	---		
<input type="radio"/>	LAG 7		---	---		
<input type="radio"/>	LAG 8		---	---		

Edit

8 Link aggregation

8.3 WEB configurate link aggregation

Save Logout Reboot Chinese Debug

Port >> Link Aggregation >> Group

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
- ^ Port
 - Port Setting
 - Error Disabled
- ^ Link Aggregation
 - Group
 - Port Setting
 - LACP
 - EEE
 - Jumbo Frame
- ^ POE Setting
- ^ VLAN
- ^ MAC Address Table
- ^ Spanning Tree
- ^ ERPS
- ^ Loopback
- ^ Discovery
- ^ DHCP
- ^ Multicast
- ^ IP Configuration
- ^ Security
- ^ ACL
- ^ QoS
- ^ Diagnostics
- ^ Management

Load Balance Algorithm MAC Address IP-MAC Address

Apply

Link Aggregation Table

Q

LAG	Name	Type	Link Status	Active Member	Inactive Member
<input checked="" type="radio"/>	LAG 1	---	---		
<input type="radio"/>	LAG 2	---	---		
<input type="radio"/>	LAG 3	---	---		
<input type="radio"/>	LAG 4	---	---		
<input type="radio"/>	LAG 5	---	---		
<input type="radio"/>	LAG 6	---	---		
<input type="radio"/>	LAG 7	---	---		
<input type="radio"/>	LAG 8	---	---		

Edit

1

2

8 Link aggregation

8.4 WEB configurate link aggregation

Save Logout Reboot Chinese Debug

Port >> Link Aggregation >> Group

- ▲ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
- ▼ Port
 - Port Setting
 - Error Disabled
- ▲ Link Aggregation
 - Group
 - Port Setting
 - LACP
 - EEE
 - Jumbo Frame
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

Edit Link Aggregation Group

LAG	1
Name	<input type="text" value="1"/>
Type	<input checked="" type="radio"/> Static <input type="radio"/> LACP
Member	Available Port
	Selected Port
	GE3 GE4 GE5 GE6 GE7 GE8 GE9 GE10
	GE1 GE2

Apply Close

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9 PoE management

9.1 PoE management

The PoE management function allows network administrators to access, read, and view power supply information from PoE ports through switch management, and remotely restart PD devices.

The configuration commands are as follow:

```
SWITCH(config)#interface gigabitEthernet 1 //Enter port "1"  
SWITCH(config-if)#no poe // Turn off port "1" PoE power supply  
SWITCH(config-if)#poe // Enable port "1" PoE power supply  
SWITCH(config-if)#no poe watch-dog // Disable port "1" PoE watchdog function  
SWITCH(config-if)#poe watch-dog // Enable port "1" PoE watchdog function
```

9 PoE management

9.2 WEB-PoE management

Save Logout Reboot Chinese Debug

POE Setting >> POE Port Setting

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting**
 - POE Port Setting ← 1
 - POE Port Timer Setting
- ^ VLAN
- ^ MAC Address Table
- ^ Spanning Tree
- ^ ERPS
- ^ Loopback
- ^ Discovery
- ^ DHCP
- ^ Multicast
- ^ IP Configuration
- ^ Security
- ^ ACL
- ^ QoS
- ^ Diagnostics
- ^ Management

System info

System Power(W)	0
System Temperature(C)	28
Refresh Rate	<input type="radio"/> None <input type="radio"/> 5 sec <input checked="" type="radio"/> 10 sec <input type="radio"/> 30 sec

Port Setting Table

<input type="checkbox"/>	Entry	Port	PortEnable	Status	Type	Level	Actual Power(mW)	Voltage(V)	Current(mA)	WatchDog
<input type="checkbox"/>	1	GE1	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	2	GE2	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	3	GE3	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	4	GE4	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	5	GE5	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	6	GE6	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	7	GE7	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	8	GE8	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled

Edit

9 PoE management

9.3 WEB configurate PoE

Save Logout Reboot Chinese Deb

POE Setting >> POE Port Setting

System info

System Power(W)	0
System Temperature(C)	28
Refresh Rate	<input type="radio"/> None <input type="radio"/> 5 sec <input checked="" type="radio"/> 10 sec <input type="radio"/> 30 sec

Port Setting Table

<input type="checkbox"/>	Entry	Port	PortEnable	Status	Type	Level	Actual Power(mW)	Voltage(V)	Current(mA)	WatchDog
<input checked="" type="checkbox"/>	1	GE1	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	2	GE2	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	3	GE3	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	4	GE4	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	5	GE5	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	6	GE6	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	7	GE7	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled
<input type="checkbox"/>	8	GE8	Enabled	Off	N/A	N/A	N/A	N/A	N/A	Disabled

Edit

- Status
 - System Information
 - Logging Message
- Port
 - Link Aggregation
 - MAC Address Table
- Network
- Port
- POE Setting**
 - POE Port Setting
 - POE Port Timer Setting
- VLAN
- MAC Address Table
- Spanning Tree
- ERPS
- Loopback
- Discovery
- DHCP
- Multicast
- IP Configuration
- Security
- ACL
- QoS
- Diagnostics
- Management



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9 PoE management

9.4 WEB configurate PoE management

Save Logout Reboot Chinese Debug

POE Setting » POE Port Setting

- ^ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
- ▼ Port
- ▼ **POE Setting**
 - POE Port Setting
 - POE Port Timer Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

Edit Port Setting

Port	GE1
PortEnable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
WatchDog	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

Apply Close

2

1

10.1 VLAN

The core function of VLAN is to divide a physical network into multiple logical broadcast domains. The broadcast traffic within each VLAN only propagates within its own VLAN and does not spread to other VLANs, effectively reducing broadcast storms and improving network performance.

The configuration commands are as follow:

```
SWITCH(config)#vlan 2-10          // Create VLAN 2-10 ID
Switch(config-vlan)#              // Exit VLAN configuration node
SWITCH(config)#interface gigabitEthernet 1 // Enter port "1"
SWITCH(config-if)#switchport mode access // Configure port mode to access mode
  access Access port              // The access mode indicates that the port belongs only to one VLAN and only sends and receives unlabeled Ethernet frames
  hybrid Hybrid port              // The mixed mode indicates that the port can choose either a VLAN as the untag mode or a VLAN as the tag mode,Can accept
both unlabeled and labeled Ethernet frames
  trunk Trunk port                // Relay mode indicates that the port is connected to other switches and can send and receive labeled Ethernet frames

SWITCH(config-if)#switchport access vlan 10 // Configure the port as an access type with a vlanID of "10"
```

Note: The default trunk port mode rejects all VLANs from passing through. If other VLAN IDs need to pass through, they need to be added separately.

10.2 WEB configurate VLAN

Save Logout Reboot Chinese Debug

VLAN >> VLAN >> Create VLAN

Available VLAN

- VLAN 11
- VLAN 12
- VLAN 13
- VLAN 14
- VLAN 15
- VLAN 16
- VLAN 17
- VLAN 18

Created VLAN

- VLAN 1
- VLAN 2
- VLAN 3
- VLAN 4
- VLAN 5
- VLAN 6
- VLAN 7
- VLAN 8

1

Apply

2

VLAN Table

Showing All entries

Showing 1 to 10 of 10 entries

Q

<input type="checkbox"/>	VLAN	Name	Type	VLAN Interface State
<input type="checkbox"/>	1	default	Default	Enabled
<input type="checkbox"/>	2	VLAN0002	Static	Disabled
<input type="checkbox"/>	3	VLAN0003	Static	Disabled
<input type="checkbox"/>	4	VLAN0004	Static	Disabled
<input type="checkbox"/>	5	VLAN0005	Static	Disabled
<input type="checkbox"/>	6	VLAN0006	Static	Disabled
<input type="checkbox"/>	7	VLAN0007	Static	Disabled
<input type="checkbox"/>	8	VLAN0008	Static	Disabled
<input type="checkbox"/>	9	VLAN0009	Static	Disabled
<input type="checkbox"/>	10	VLAN0010	Static	Disabled

First Previous 1 Next Last

Edit

Delete

10.3 WEB configurate VLAN

Save Logout Reboot Chinese Debug

VLAN >> VLAN >> Port Setting

Port Setting Table

<input type="checkbox"/>	Entry	Port	Mode	PVID	Accept Frame Type	Ingress Filtering	Uplink	TPID
<input checked="" type="checkbox"/>	1	GE1	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	2	GE2	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	3	GE3	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	4	GE4	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	5	GE5	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	6	GE6	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	7	GE7	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	8	GE8	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	9	GE9	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	10	GE10	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	11	LAG1	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	12	LAG2	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	13	LAG3	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	14	LAG4	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	15	LAG5	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	16	LAG6	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	17	LAG7	Trunk	1	All	Enabled	Disabled	0x8100
<input type="checkbox"/>	18	LAG8	Trunk	1	All	Enabled	Disabled	0x8100

Edit

10.4 WEB configurate VLAN

Save Logout Reboot Chinese Debug

VLAN >> VLAN >> Port Setting

- ^ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
 - ▼ Port
 - ▼ POE Setting
 - ▼ VLAN
 - ^ VLAN
 - Create VLAN
 - VLAN Configuration
 - Membership
 - Port Setting**
 - ▼ Voice VLAN
 - ▼ Protocol VLAN
 - ▼ MAC VLAN
 - ▼ Surveillance VLAN
 - ▼ GVRP
 - ▼ QINQ
 - ▼ MAC Address Table
 - ▼ Spanning Tree
 - ▼ ERPS
 - ▼ Loopback
 - ▼ Discovery
 - ▼ DHCP
 - ▼ Multicast
 - ▼ IP Configuration
 - ▼ Security
 - ▼ ACL
 - ▼ QoS
 - ▼ Diagnostics
 - ▼ Management

Edit Port Setting

Port	GE1
Mode	<input type="radio"/> Hybrid <input type="radio"/> Access <input checked="" type="radio"/> Trunk <input type="radio"/> Tunnel
PVID	<input type="text" value="1"/> (1 - 4094)
Accept Frame Type	<input checked="" type="radio"/> All <input type="radio"/> Tag Only <input type="radio"/> Untag Only
Ingress Filtering	<input checked="" type="checkbox"/> Enable
Uplink	<input type="checkbox"/> Enable
TPID	0x8100

Apply Close

1

2

11.1 RSTP

In order to solve the loop problem in the second layer network while ensuring network stability and redundancy, blocking certain links is used to avoid the generation of loops. When a normal working link is disconnected due to a fault, the blocked link is immediately activated and quickly switched to a backup link for data forwarding, thereby ensuring the normal operation of the network.

The configuration commands are as follow:

```
SWITCH(config)#spanning-tree mode rstp      //The configuration mode is RSTP mode
mstp Configure IEEE 802.1S Multiple Spanning Tree Protocol
rstp Configure IEEE 802.1W Rapid Spanning Tree Protocol
stp Configure IEEE 802.1D Spanning Tree Protocol
SWITCH(config)#spanning-tree                // Enable global RSTP protocol
SWITCH(config)#interface gigabitEthernet 0/1 // Enter port "1"
SWITCH(config-if)#spanning-tree             // Enable port "1" RSTP protocol
SWITCH(config-if)#no spanning-tree         // Enable port "1" RSTP protocol
```

注明：默认生成树协议模式为“RSTP”。

11 RSTP Ring Network Protocol

11.2 WEB configurate RSTP

Save Logout Reboot Chinese Debug

Spanning Tree >> Property

State	<input checked="" type="checkbox"/> Enable	← 1
Operation Mode	<input type="radio"/> STP <input checked="" type="radio"/> RSTP <input type="radio"/> MSTP	
Path Cost	<input checked="" type="radio"/> Long <input type="radio"/> Short	
BPDU Handling	<input type="radio"/> Filtering <input checked="" type="radio"/> Flooding	
Priority	<input type="text" value="32768"/> (0 - 61440, default 32768)	
Hello Time	<input type="text" value="2"/> Sec (1 - 10, default 2)	
Max Age	<input type="text" value="20"/> Sec (6 - 40, default 20)	
Forward Delay	<input type="text" value="15"/> Sec (4 - 30, default 15)	
Tx Hold Count	<input type="text" value="6"/> (1 - 10, default 6)	
Region Name	<input type="text" value="78.D8.00.25.03.35"/>	
Revision	<input type="text" value="0"/> (0 - 65535, default 0)	
Max Hop	<input type="text" value="20"/> (1 - 40, default 20)	
Operational Status		
Bridge Identifier	32768-78.D8.00.25.03.35	
Designated Root Bridge	0-00.00.00.00.00.00	
Root Port	N/A	
Root Path Cost	0	
Topology Change Count	0	
Last Topology Change	0D/0H/0M/0S	

Apply ← 2

11 RSTP Ring Network Protocol

11.3 WEB configurate RSTP

Save Logout Reboot Chinese Debug

Spanning Tree >> Port Setting

Port Setting Table

<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	1	GE1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-1	20000
<input type="checkbox"/>	2	GE2	Disabled	20000	128	Disabled	Disabled	Disabled	Enabled	Disabled	Disabled	0-00:00:00:00:00:00	128-2	20000
<input type="checkbox"/>	3	GE3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-3	20000
<input type="checkbox"/>	4	GE4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-4	20000
<input type="checkbox"/>	5	GE5	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-5	20000
<input type="checkbox"/>	6	GE6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-6	20000
<input type="checkbox"/>	7	GE7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-7	20000
<input type="checkbox"/>	8	GE8	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-8	20000
<input type="checkbox"/>	9	GE9	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-9	20000
<input type="checkbox"/>	10	GE10	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-10	20000
<input type="checkbox"/>	11	LAG1	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-11	20000
<input type="checkbox"/>	12	LAG2	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-12	20000
<input type="checkbox"/>	13	LAG3	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-13	20000
<input type="checkbox"/>	14	LAG4	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-14	20000
<input type="checkbox"/>	15	LAG5	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-15	20000
<input type="checkbox"/>	16	LAG6	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-16	20000
<input type="checkbox"/>	17	LAG7	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-17	20000
<input type="checkbox"/>	18	LAG8	Disabled	20000	128	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0-00:00:00:00:00:00	128-18	20000

Edit

Protocol Migration Check

11 RSTP Ring Network Protocol

11.4 WEB configurate RSTP

Save Logout Reboot Chinese Debug

Spanning Tree >> Port Setting

- Status
- Network
- Port
- POE Setting
- VLAN
- MAC Address Table

Spanning Tree

- Property
- Port Setting
- MST Instance
- MST Port Setting
- Statistics

- ERPS
- Loopback
- Discovery
- DHCP
- Multicast
- IP Configuration
- Security
- ACL
- QoS
- Diagnostics
- Management

Edit Port Setting

Port	GE1
State	<input checked="" type="checkbox"/> Enable ← 1
Path Cost	<input type="text" value="0"/> (0 - 200000000) (0 = Auto)
Priority	128 ▾
Edge Port	<input type="radio"/> Auto <input type="radio"/> Enable <input checked="" type="radio"/> Disable
BPDU Filter	<input type="checkbox"/> Enable
BPDU Guard	<input type="checkbox"/> Enable
Point-to-Point	<input checked="" type="radio"/> Auto <input type="radio"/> Enable <input type="radio"/> Disable
Port State	Disabled
Designated Bridge	0-00:00:00:00:00:00
Designated Port ID	128-1
Designated Cost	20000
Operational Edge	False
Operational Point-to-Point	False

Apply Close

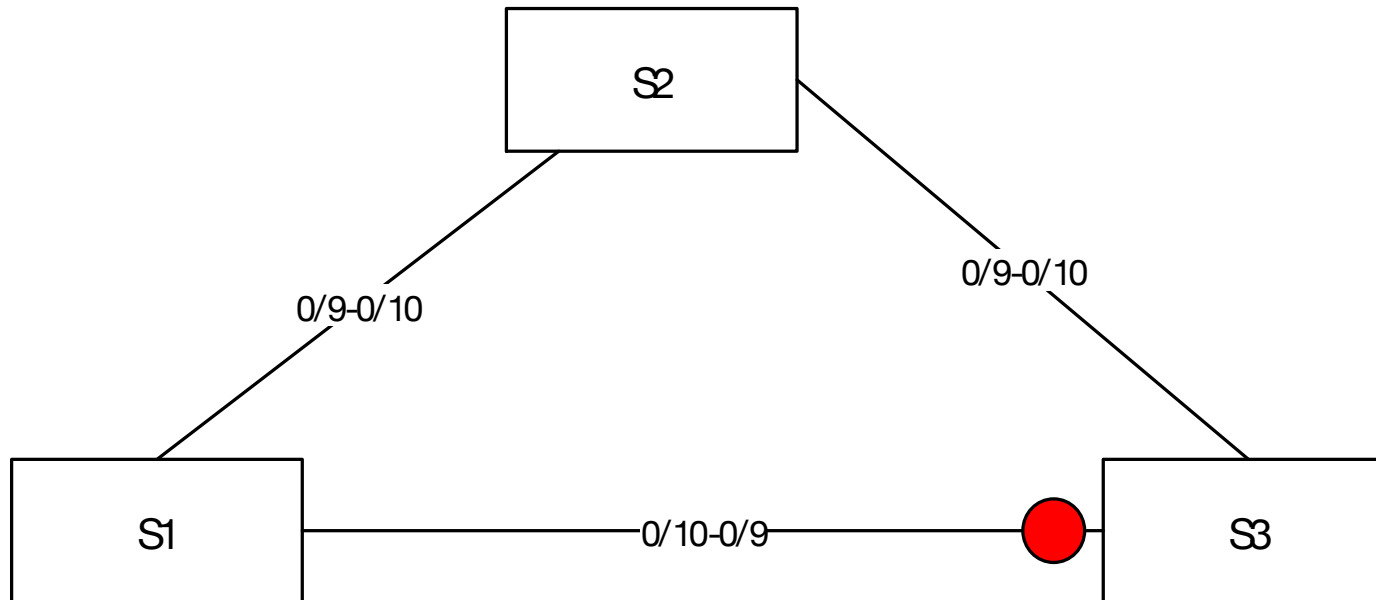
← 2

12 ERPS Ring Network Protocol

12.1 ERPS

ERPS, as an efficient layer 2 ring network protection protocol, significantly improves the reliability and performance of the network through functions such as fast convergence, ring protection, and multi ring networking support, while maintaining good compatibility and flexibility, supporting interoperability between devices from different vendors. This makes ERPS more compatible in multi vendor environments and advantageous compared to proprietary protocols such as RRPP and RERP.

Topology Case:



12 ERPS Ring Network Protocol

12.2 ERPS

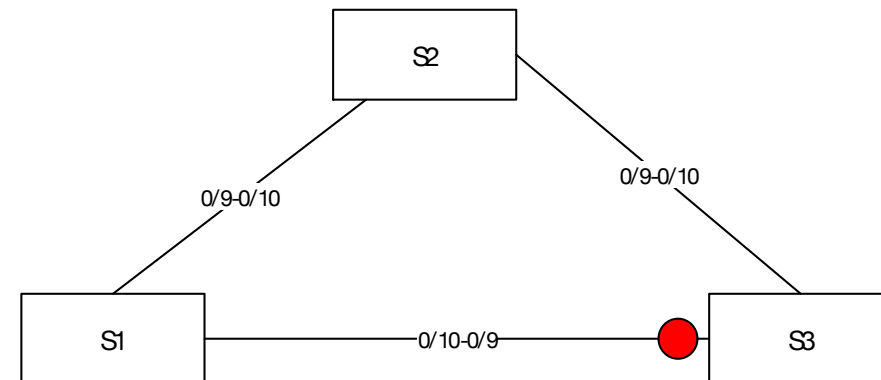
The configuration commands are as follows:

S1:

Enter global configuration mode, create ERPS and set relevant parameters.

The command reference list is as follows:

```
SWITCH(config)#vlan 1000 // Create a Loop Management VLAN
SWITCH(config)#interface range gigabitEthernet 9-10 //Enter the ring interface
SWITCH(config-if)#switchport mode trunk // Configure the ring interface as the 'trunk' mode to allow the corresponding VLAN to pass through
SWITCH(config)#erps // Enable global ERPS
SWITCH(config)#erps instance 1 // Create ring instance "1"
SWITCH(config-erps-inst)#port0 GigabitEthernet 9 // /Create ring interface "9" as a normal port
SWITCH(config-erps-inst)#port1 GigabitEthernet 10 owner // Create ring interface "10" as the master port
SWITCH(config-erps-inst)#control-vlan 1000 // Configure the ring management VLAN to "1000"
SWITCH(config-erps-inst)# protected-instance 0 // Configure the ring protection instance to "0"
SWITCH(config-erps-inst)# ring 1 // Configure the ring ID to "1"
SWITCH(config-erps-inst)# ring enable // Enable the state of ring "1"
```



12 ERPS Ring Network Protocol

12.3 ERPS

S2: The configuration command is as follows:

```
SWITCH(config)#vlan 1000           // Create the ring management VLAN
SWITCH(config)#interface range gigabitEthernet 9-10 // Enter the ring interfaces
SWITCH(config-if)#switchport mode trunk //Configure the ring interfaces as "trunk" mode to allow the corresponding VLAN to pass through
SWITCH(config)#erps                // Enable global ERPS
SWITCH(config)#erps instance 1     // Create ring instance "1"
SWITCH(config-erps-inst)#port0 GigabitEthernet 9 // Create ring interface "9" as a normal port
SWITCH(config-erps-inst)#port1 GigabitEthernet 10 // Create ring interface "10" as a normal port
SWITCH(config-erps-inst)#control-vlan 1000 // Configure the ring management VLAN to "1000"
SWITCH(config-erps-inst)#protected-instance 0 // Configure the ring protection instance to "0"
SWITCH(config-erps-inst)# ring 1 // Configure the ring ID to "1"
SWITCH(config-erps-inst)# ring enable // Enable the state of ring "1"
```

S3: Configuration Commands are as follow:

```
SWITCH(config)#vlan 1000           // Create the ring management VLAN
SWITCH(config)#interface range gigabitEthernet 9-10 // Enter the ring interfaces
SWITCH(config-if)#switchport mode trunk // Configure the ring interfaces as trunk mode to allow the corresponding VLAN to pass through
SWITCH(config)#erps                // Enable global ERPS
SWITCH(config)#erps instance 1     // Create ring instance "1"
SWITCH(config-erps-inst)#port0 GigabitEthernet 9 neighbour // Create ring interface "9" as a neighbour port
SWITCH(config-erps-inst)#port1 GigabitEthernet 10 // Create ring interface "10" as a normal port
SWITCH(config-erps-inst)#control-vlan 1000 // Configure the ring management VLAN to "1000"
SWITCH(config-erps-inst)# ring 1 // Configure the ring ID to "1"
SWITCH(config-erps-inst)# ring enable // Enable the state of ring "1"
```

Note:

An ERPS ring has only one RPL owner port, which is determined by user configuration. Blocking the RPL owner port prevents loops in the ERPS ring by blocking user traffic forwarding.

12 ERPS Ring Network Protocol

12.4 WEB interface configurate ERPS, S1-S3 have the same configuration

Save Logout Reboot Chinese Debug

ERPS >> Propety

- Status
 - System Information
 - Logging Message
- Port
 - Link Aggregation
 - MAC Address Table
- Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
- ERPS**
 - Propety
 - ERPS Instance
- Loopback
- Discovery
- DHCP
- Multicast
- IP Configuration
- Security
- ACL
- QoS
- Diagnostics
- Management

Erps Status Disable Enable

Apply

1

2

12 ERPS Ring Network Protocol

12.5 The ERPS configuration for the web interface and S1 configuration are as follows

Save Logout Reboot Chinese Debug

ERPS >> ERPS Instance

Erps Instance (0 - 15)

Apply

ERPS Instance Setting

Q

<input type="checkbox"/>	Instance	Ring Status	Mel	Control Vlan	WTR Time	Guard Time	Work Mode	Ring ID	Ring Type	Protected Instance	Port0	Port Role	Port Status	Port1	Port Role	Port Status	Node Status
<input type="checkbox"/>	Ins0	---					---										
<input type="checkbox"/>	Ins1	Enabled	0	1000	5	500	revertive	1	0	0	gi9	rpl	disabled	gi10	owner	disabled	protection
<input type="checkbox"/>	Ins2	---					---										
<input type="checkbox"/>	Ins3	---					---										
<input type="checkbox"/>	Ins4	---					---										
<input type="checkbox"/>	Ins5	---					---										
<input type="checkbox"/>	Ins6	---					---										
<input type="checkbox"/>	Ins7	---					---										
<input type="checkbox"/>	Ins8	---					---										
<input type="checkbox"/>	Ins9	---					---										
<input type="checkbox"/>	Ins10	---					---										
<input type="checkbox"/>	Ins11	---					---										
<input type="checkbox"/>	Ins12	---					---										
<input type="checkbox"/>	Ins13	---					---										
<input type="checkbox"/>	Ins14	---					---										
<input type="checkbox"/>	Ins15	---					---										

Edit

Delete

12 ERPS Ring Network Protocol

12.6 The ERPS configuration for the web interface and S2 configuration are as follows

Save Logout Reboot Chinese Debug

ERPS >> ERPS Instance

Erps Instance (0 - 15)

Apply

ERPS Instance Setting



<input type="checkbox"/>	Instance	Ring Status	Mel	Control Vlan	WTR Time	Guard Time	Work Mode	Ring ID	Ring Type	Protected Instance	Port0	Port Role	Port Status	Port1	Port Role	Port Status	Node Status
<input type="checkbox"/>	Ins0	--					--										
<input type="checkbox"/>	Ins1	Enabled	0	1000	5	500	revertive	1	0	0	gi9	rpl	disabled	gi10	rpl	disabled	protection
<input type="checkbox"/>	Ins2	--					--										
<input type="checkbox"/>	Ins3	--					--										
<input type="checkbox"/>	Ins4	--					--										
<input type="checkbox"/>	Ins5	--					--										
<input type="checkbox"/>	Ins6	--					--										
<input type="checkbox"/>	Ins7	--					--										
<input type="checkbox"/>	Ins8	--					--										
<input type="checkbox"/>	Ins9	--					--										
<input type="checkbox"/>	Ins10	--					--										
<input type="checkbox"/>	Ins11	--					--										
<input type="checkbox"/>	Ins12	--					--										
<input type="checkbox"/>	Ins13	--					--										
<input type="checkbox"/>	Ins14	--					--										
<input type="checkbox"/>	Ins15	--					--										

Edit

Delete

12 ERPS Ring Network Protocol

12.7 The ERPS configuration for the web interface and S3 configuration are as follows

Save Logout Reboot Chinese Debug

ERPS >> ERPS Instance

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
- ^ Port
- ^ POE Setting
- ^ VLAN
- ^ MAC Address Table
- ^ Spanning Tree
- ^ **ERPS**
 - Propety
 - ERPS Instance**
- ^ Loopback
- ^ Discovery
- ^ DHCP
- ^ Multicast
- ^ IP Configuration
- ^ Security
- ^ ACL
- ^ QoS
- ^ Diagnostics
- ^ Management

Erps Instance (0 - 15)

Apply

ERPS Instance Setting

Q

<input type="checkbox"/>	Instance	Ring Status	Mel	Control Vlan	WTR Time	Guard Time	Work Mode	Ring ID	Ring Type	Protected Instance	Port0	Port Role	Port Status	Port1	Port Role	Port Status	Node Status
<input type="checkbox"/>	Ins0	---					---										
<input checked="" type="checkbox"/>	Ins1	Enabled	0	1000	5	500	revertive	1	0	0	gi9	neighbour	disabled	gi10	rpl	disabled	protection
<input type="checkbox"/>	Ins2	---					---										
<input type="checkbox"/>	Ins3	---					---										
<input type="checkbox"/>	Ins4	---					---										
<input type="checkbox"/>	Ins5	---					---										
<input type="checkbox"/>	Ins6	---					---										
<input type="checkbox"/>	Ins7	---					---										
<input type="checkbox"/>	Ins8	---					---										
<input type="checkbox"/>	Ins9	---					---										
<input type="checkbox"/>	Ins10	---					---										
<input type="checkbox"/>	Ins11	---					---										
<input type="checkbox"/>	Ins12	---					---										
<input type="checkbox"/>	Ins13	---					---										
<input type="checkbox"/>	Ins14	---					---										
<input type="checkbox"/>	Ins15	---					---										

Edit

Delete

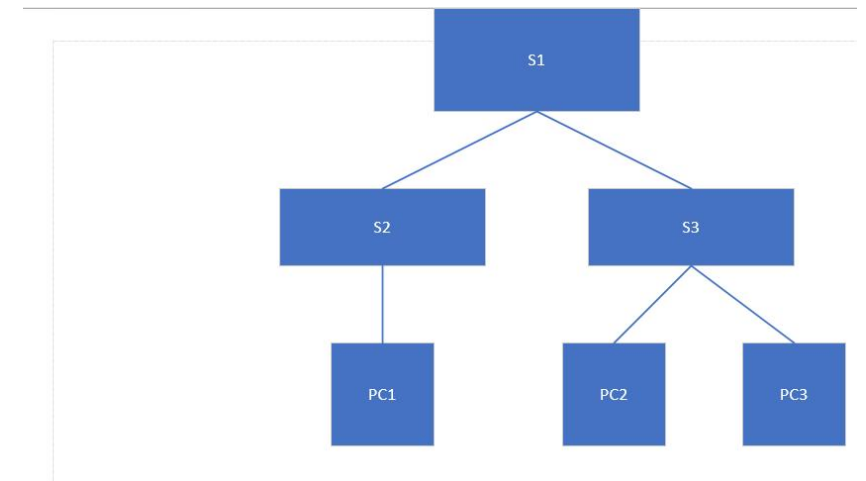
13 DHCP server

13.1 DHCP

The DHCP Server (Dynamic Host Configuration Protocol Server) is an important feature in network management. It greatly simplifies network management tasks and enhances the flexibility and security of the network through automatic IP address allocation, address pool management, lease control, static binding, and security features. It is suitable for various network environments, especially those that require dynamic IP address allocation and centralized management.

Configuration Commands:

```
SWITCH(config)# interface vlan1           // Enter the VLAN 1 interface
SWITCH(config-if-vlan1)#dhcp-server group 168 // Configure the DHCP-server group name for the corresponding VLAN interface
SWITCH(config)# dhcp-server              // Enable the global DHCP-server service
Switch(config)# dhcp-server group 100 ip 192.168.110.1 //Configure the IP address for the DHCP group name
Switch(config)# ip pool 100              // Create the DHCP address pool group name
Switch(config-ip-pool-100)# gateway 192.168.110.1/24 // Configure the DHCP server gateway address
Switch(config-ip-pool-100)# lease 0:0:59 // Configure the DHCP server lease time
Switch(config-ip-pool-100)# section 1 192.168.110.10 192.168.110.20 //Configure the DHCP server address pool range
SWITCH(config-dhcp-subnet)#exit
SWITCH(config)# dhcpcp-client 00:0E:C6:C1:38:41 192.168.110.11 1 admin //Bind IP address allocation using MAC address
SWITCH(config)#ip dhcp-server option domain-name-servers 114.114.114.114 //Configure the global DNS resolution address
```



S1: Layer 3 Switch

VLAN 100: 192.168.110.1/24, directly connected to S2

S2, S3: Layer 2 Switches

PC1, PC2, PC3: All obtain IP addresses automatically

Expected Configuration:

PC1 and PC2: Should be able to obtain IP addresses randomly and be able to ping each other.

PC3: Should only be allocated the IP address 192.168.110.11

13 DHCP server

13.2 WEB configurate DHCP server

Save Logout Reboot Chinese Debug

DHCP >> Property

State Enable

Static Binding First Enable

Apply

DHCP Port Setting Table

Entry	Port	State
<input checked="" type="checkbox"/>	1 GE1	Enabled
<input type="checkbox"/>	2 GE2	Disabled
<input type="checkbox"/>	3 GE3	Disabled
<input type="checkbox"/>	4 GE4	Disabled
<input type="checkbox"/>	5 GE5	Disabled
<input type="checkbox"/>	6 GE6	Disabled
<input type="checkbox"/>	7 GE7	Disabled
<input type="checkbox"/>	8 GE8	Disabled
<input type="checkbox"/>	9 GE9	Disabled
<input type="checkbox"/>	10 GE10	Disabled
<input type="checkbox"/>	11 LAG1	Disabled
<input type="checkbox"/>	12 LAG2	Disabled
<input type="checkbox"/>	13 LAG3	Disabled
<input type="checkbox"/>	14 LAG4	Disabled
<input type="checkbox"/>	15 LAG5	Disabled
<input type="checkbox"/>	16 LAG6	Disabled
<input type="checkbox"/>	17 LAG7	Disabled
<input type="checkbox"/>	18 LAG8	Disabled

Edit

13 DHCP server

13.3 WEB configurate DHCP server

Save Logout Reboot Chinese Debug

DHCP >> IP Pool Setting

- ^ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
 - Discovery
- ▼ DHCP
 - Property
 - IP Pool Setting**
 - VLAN IF Address Group Setting
 - Client List
 - Client Static Binding Table
 - Client Static Port Binding Table
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

IP Pool Table

Showing All entries

Showing 1 to 1 of 1 entries



	Pool	Section			Gateway	Mask	Router ip	DNS Primary Server	DNS Second Server	option 43		Lease time
		Section	Start Address	End Address						Address	Format	
<input checked="" type="checkbox"/>	100	1	192.168.110.10	192.168.110.20	192.168.110.1	255.255.255.0	0.0.0.0	0.0.0.0	0.0.0.0	ascii		0:0:59

Add Edit Delete

First Previous 1 Next Last



13 DHCP server

13.4 WEB configurate DHCP server

Save Logout Reboot Chinese Debug

DHCP >> VLAN IF Address Group Setting

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - ^ Port
 - ^ POE Setting
 - ^ VLAN
 - ^ MAC Address Table
 - ^ Spanning Tree
 - ^ ERPS
 - ^ Loopback
 - ^ Discovery
 - ^ **DHCP**
 - Property
 - IP Pool Setting
 - VLAN IF Address Group Setting**
 - Client List
 - Client Static Binding Table
 - Client Static Port Binding Table
 - ^ Multicast
 - ^ IP Configuration
 - ^ Security
 - ^ ACL
 - ^ QoS
 - ^ Diagnostics
 - ^ Management

Vlan Interface Address Pool Table

Interface

DHCP Server Group

Apply

DHCP Server Group Table

Q

	Group ID	Group IP Address	Bind VLAN Interface
<input type="radio"/>	100	192.168.110.1	vlan 1

Add Edit Delete

13 DHCP server

13.5 WEB configurate DHCP server

Save Logout Reboot Chinese Debug

DHCP » Client Static Binding Table

Static Binding Table

Showing entries

Showing 1 to 1 of 1 entries

Q

<input type="checkbox"/>	MAC Address Table	IPv4 Address	VLAN	User Name
<input type="checkbox"/>	00:0E:C6:C1:38:41	192.168.110.11	1	admin

- ^ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
- ▼ Port
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ Loopback
- ▼ Discovery
- ▼ DHCP
 - Property
 - IP Pool Setting
 - VLAN IF Address Group Setting
 - Client List
 - Client Static Binding Table**
 - Client Static Port Binding Table
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

14.1 LLDP

LLDP (Link Layer Discovery Protocol) is a Layer 2 protocol based on the IEEE 802.1ab standard. It is used to automatically discover devices within a network and exchange connection information between devices as well as local identity information. By exchanging information such as interface identification, system description, and management addresses, LLDP helps network administrators quickly understand the physical structure of the network.

Configuration Commands:

```
Switch(config)# lldp // Enable LLDP globally
Switch(config)# interface GigabitEthernet 1 // Enter port "1"
Switch(config-if-GigabitEthernet1)# lldp tlv-select // Configure the information carried in the LLDP packet for port "1"
TLV LLDP optional TLV, pick from: port-desc, sys-name, sys-desc, sys-ca
p, mac-phy, lag, max-frame-size, management-addr
pvid Specify to advertise the PVID of interface
vlan-name Add/remove VLAN for advertisement
```

Note:
By default, the global LLDP switch is enabled. LLDP learning only sends the neighbor port number and the MAC address of the neighbor device.

14.2 WEB configurate LLDP

Save Logout Reboot Chinese Debug

Discovery >> LLDP >> Property

- ^ Status
 - System Information
 - Logging Message
- ^ Port
 - Link Aggregation
 - MAC Address Table
- ^ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
- ^ **Discovery** ← 1
 - ^ LLDP
 - Property** ← 2
 - Port Setting
 - MED Network Policy
 - MED Port Setting
 - Packet View
 - Local Information
 - Neighbor
 - Statistics
- ^ DHCP
- ^ Multicast
- ^ IP Configuration
- ^ Security
- ^ ACL
- ^ QoS
- ^ Diagnostics
- ^ Management

LLDP	
State	<input checked="" type="checkbox"/> Enable ← 3
LLDP Handling	<input type="radio"/> Filtering <input type="radio"/> Bridging <input checked="" type="radio"/> Flooding
TLV Advertise Interval	<input type="text" value="30"/> Sec (5 - 32767, default 30)
Hold Multiplier	<input type="text" value="4"/> (2 - 10, default 4)
Reinitializing Delay	<input type="text" value="2"/> Sec (1 - 10, default 2)
Transmit Delay	<input type="text" value="2"/> Sec (1 - 8191, default 2)

LLDP-MED	
Fast Start Repeat Count	<input type="text" value="3"/> (1 - 10, default 3)

Apply ← 4

14.3 WEB configurate LLDP

Discovery >> LLDP >> Port Setting

- ▲ Status
 - System Information
 - Logging Message
- ▼ Port
 - Link Aggregation
 - MAC Address Table
- ▼ Network
 - Port
 - POE Setting
 - VLAN
 - MAC Address Table
 - Spanning Tree
 - ERPS
 - Loopback
- ▼ **Discovery**
 - ▲ LLDP
 - Property
 - Port Setting**
 - MED Network Policy
 - MED Port Setting
 - Packet View
 - Local Information
 - Neighbor
 - Statistics
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ Management

Edit Port Setting

Port	GE1	
Mode	<input type="radio"/> Transmit <input type="radio"/> Receive <input checked="" type="radio"/> Normal <input type="radio"/> Disable	
Optional TLV	Available TLV	Selected TLV
	Port Description System Name System Description System Capabilities 802.3 MAC-PHY	802.1 PVID
802.1 VLAN Name	Available VLAN	Selected VLAN
	VLAN 1 VLAN 2 VLAN 3 VLAN 4 VLAN 5	

Apply Close

14.1 SNMP

SNMP (Simple Network Management Protocol) is an important feature in network management, used for monitoring and managing the status, performance, and configuration of network devices. SNMP allows network administrators to remotely monitor and manage switches through a network management platform, enabling functions such as information queries, configuration modifications, and troubleshooting, thereby improving management efficiency.

Configuration Commands:

```
SWITCH(config)#snmp                // Enable the SNMP feature public
SWITCH(config)#snmp community public // Configure the SNMP community string
SWITCH(config)#snmp host 192.168.5.9 version 2c public // Configure the SNMP reporting host address
```

Note:

By default, the SNMP service is disabled. The default SNMP community string is "public" with read-write permissions.

14 SNMP

14.2 WEB configure SNMP

Save Logout Reboot Chinese Debug

Management >> SNMP >> Community

Community Table

Showing All entries

Showing 1 to 1 of 1 entries

<input type="checkbox"/>	Community	Group	View	Access
<input type="checkbox"/>	public		all	Read-Only

First Previous 1 Next Last

The access right of a community is defined by a group under advanced mode.
Configure [SNMP Group](#) to associate a group with a community.

Add Edit Delete

- Status
- Network
- Port
- POE Setting
- VLAN
- MAC Address Table
- Spanning Tree
- ERPS
- undefined
- Discovery
- DHCP
- Multicast
- IP Configuration
- Security
- ACL
- QoS
- Diagnostics
- Management**
- User Account
- Firmware
- Configuration
- SNMP
- View
- Group
- Community**
- User
- Engine ID
- Trap Event
- Notification
- RMON

1

2

4

3

14.3 WEB configure SNMP

Management >> SNMP >> Notification

- ▼ Status
- ▼ Network
- ▼ Port
- ▼ POE Setting
- ▼ VLAN
- ▼ MAC Address Table
- ▼ Spanning Tree
- ▼ ERPS
- ▼ undefined
- ▼ Discovery
- ▼ DHCP
- ▼ Multicast
- ▼ IP Configuration
- ▼ Security
- ▼ ACL
- ▼ QoS
- ▼ Diagnostics
- ▼ **Management**
 - User Account
- ▼ Firmware
- ▼ Configuration
 - SNMP
 - View
 - Group
 - Community
 - User
 - Engine ID
 - Trap Event
 - Notification**
- ▼ RMON

Add Notification

Address Type	<input type="radio"/> Hostname <input checked="" type="radio"/> IPv4 <input type="radio"/> IPv6
Server Address	<input type="text" value="192.168.5.9"/>
Version	<input type="radio"/> SNMPv1 <input checked="" type="radio"/> SNMPv2 <input type="radio"/> SNMPv3
Type	<input checked="" type="radio"/> Trap <input type="radio"/> Inform
Community / User	<input type="text" value="public"/>
Security Level	<input checked="" type="radio"/> No Security <input type="radio"/> Authentication <input type="radio"/> Authentication and Privacy
Server Port	<input checked="" type="checkbox"/> Use Default <input type="text" value="162"/> (1 - 65535, default 162)
Timeout	<input checked="" type="checkbox"/> Use Default <input type="text" value="15"/> Sec (1 - 300, default 15)
Retry	<input checked="" type="checkbox"/> Use Default <input type="text" value="3"/> (1 - 255, default 3)

1

3

2

15 IPv4 Routes

15.1 router

A static route is manually configured routing information. It is suitable for small-scale networks or scenarios where administrators need to clearly specify routing paths. On a switch, a default static route can be configured to point to an egress router, or it can be used for communication between different network segments, among other purposes.

The configuration commands are as follows:

```
SWITCH(config)#vlan 2125                // Create VLAN ID
Switch(config)# interface vlan2125      // Enter the VLANIF interface of VLAN 2125
Switch(config-if-vlan2125)# ip address 11.11.25.1/24 // Configure the management IP address for VLAN 2125
Switch(config)# ip route 0.0.0.0/0 11.11.25.254 // Configure the default route gateway IP address of the switch
```

Note: The IP address under the switch's VLANIF can be used as the management IP address for the switch's corresponding VLAN ID interface. The switch has no default gateway IP address. If a gateway is required, you need to manually configure the gateway IP address. For reference, use the command: `ip route 0.0.0.0/0 11.11.25.1`.

15 IPv4 Routes

15.2.1 Create vlanID from Web

Save Logout Reboot Chinese Debug

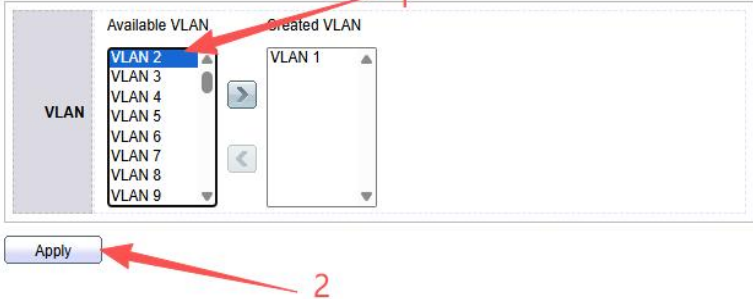
VLAN >> VLAN >> Create VLAN

▲ Status
System Information
Logging Message
▼ Port
Link Aggregation
MAC Address Table
▼ Network
▼ Port
▼ **VLAN**
▲ VLAN
Create VLAN
VLAN Configuration
Membership
...

Available VLAN
VLAN 2
VLAN 3
VLAN 4
VLAN 5
VLAN 6
VLAN 7
VLAN 8
VLAN 9

Created VLAN
VLAN 1

Apply



Save Logout Reboot Chinese Debug

VLAN >> VLAN >> Create VLAN

▲ Status
System Information
Logging Message
▼ Port
Link Aggregation
MAC Address Table
▼ Network
▼ Port
▼ **VLAN**
▲ VLAN
Create VLAN
VLAN Configuration
Membership
Port Setting
Voice VLAN
Protocol VLAN
MAC VLAN
Surveillance VLAN
GVRP
MAC Address Table
Spanning Tree
ERPS
Discovery
DHCP
Multicast
IP Configuration
Security
ACL
QoS
Diagnostics
Management

Available VLAN
VLAN 3
VLAN 4
VLAN 5
VLAN 6
VLAN 7
VLAN 8
VLAN 9
VLAN 10

Created VLAN
VLAN 1
VLAN 2

Apply

VLAN Table

Showing entries Showing 1 to 2 of 2 entries

<input type="checkbox"/>	VLAN	Name	Type	VLAN Interface State
<input type="checkbox"/>	1	default	Default	Enabled
<input type="checkbox"/>	2	VLAN0002	Static	Disabled

Edit Delete First Previous 1 Next Last



15 IPv4 Routes

15.2.2 Add VLANIF IP address

Save Logout Reboot Chinese Debug

IP Configuration >> IPv4 Management and Routing >> IPv4 Interface

IPv4 Interface Table

<input type="checkbox"/>	Interface	IP Address Type	IP Address	Mask	Status	Roles
<input type="checkbox"/>	VLAN 1	DHCP	192.168.168.13	255.255.255.0	Valid	primary

1

2

15 IPv4 Routes

15.2.3 Create VLAN IP address under VLANIF

Save Logout Reboot Chinese Debug

IP Configuration >> IPv4 Management and Routing >> IPv4 Interface

Add IPv4 Interface

Interface: VLAN 2

Address Type: Dynamic Static

IP Address: 11.11.25.1

Mask: Network Mask 24 Prefix Length 24 (8 - 30)

Roles: primary sub

Apply Close

- 1
- 2
- 3
- 4
- 5

Step 2 – Select Static Mode

Step 3 – Configure the IP Address

Step 4 – Configure the IP Address Subnet Mask

Step 5 – Click "Apply"

15 IPv4 Routes

15.2.4 Configure the switch's gateway IP address

Save Logout Reboot Chinese Debug

IP Configuration >> IPv4 Management and Routing >> IPv4 Routes

IPv4 Routing Table

<input type="checkbox"/>	Destination IP Prefix	Prefix Length	Route Type	Next Hop Router IP Address	Metric	Administrative Distance	Outgoing Interface
<input type="checkbox"/>	0.0.0.0	0	Default	192.168.5.1	1	1	VLAN 100*
<input type="checkbox"/>	192.168.5.0	24	Directly Connected				VLAN 100*
<input type="checkbox"/>	192.168.168.0	24	Directly Connected				VLAN 1*

1

2

15 IPv4 Routes

15.2.5 Configure the switch's gateway IP address

The screenshot shows a network configuration interface with a sidebar on the left and a main content area. The sidebar is expanded to 'IP Configuration' > 'IPv4 Management and Routing' > 'IPv4 Routes'. The main content area displays the 'Add IPv4 Static Route' dialog box. The dialog box contains the following fields:

- IP Address:** 0.0.0.0 (indicated by red arrow 1)
- Mask:** Network Mask (unselected) and Prefix Length 0 (selected, indicated by red arrow 2)
- Next Hop Router IP Address:** 11.11.25.254 (indicated by red arrow 3)
- Metric:** 1 (1 - 255, default 1)

Below the fields are 'Apply' and 'Close' buttons. A red arrow points to the 'Apply' button, labeled 4.

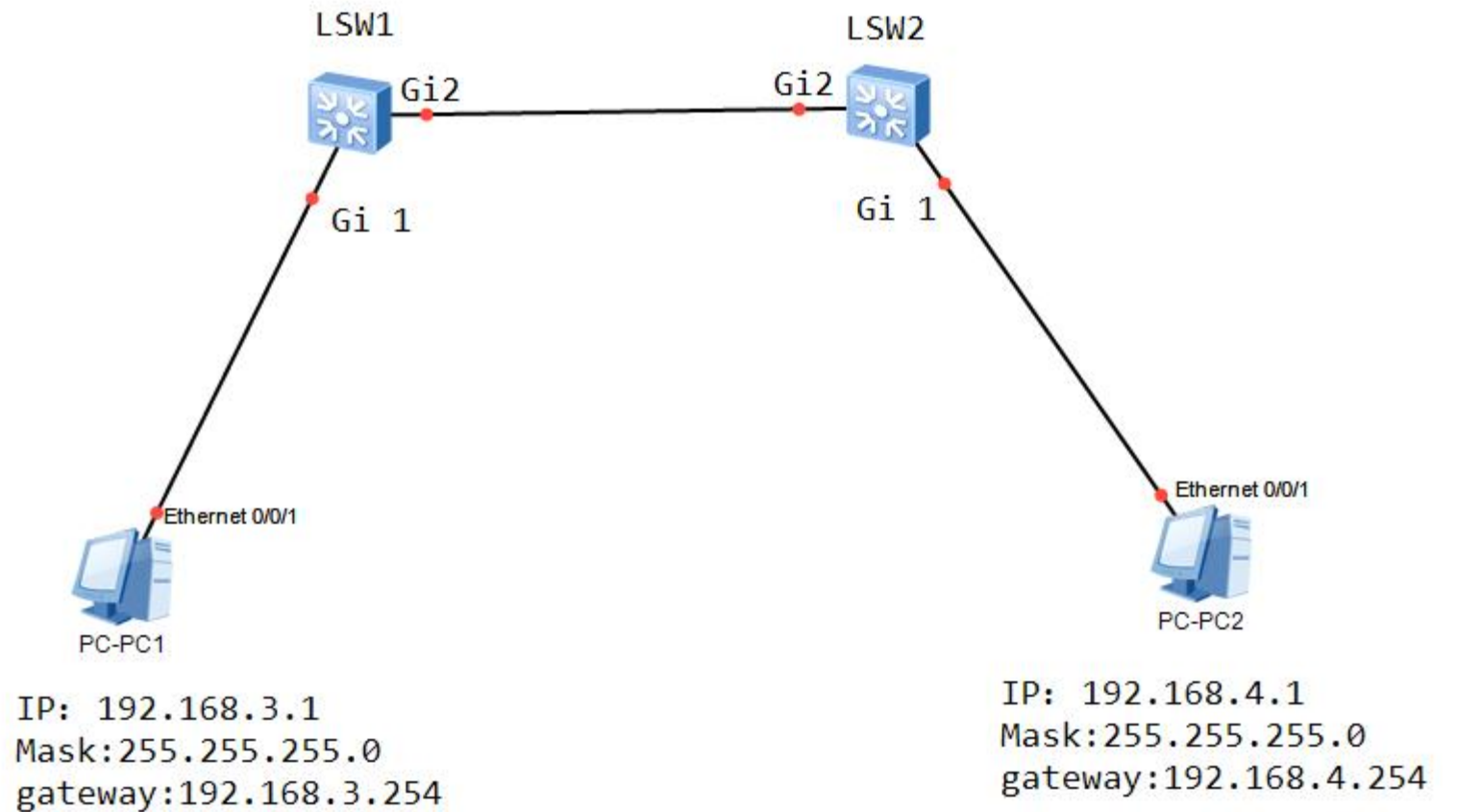
Instructions:

- Step 1 – Configure the corresponding destination IP address
- Step 2 – Configure the matching subnet mask
- Step 3 – Configure the next-hop IP address
- Step 4 – Click "Apply"

15 IPv4 Routes

15.3.1 Static Routing Example

Requirement: Enable mutual ping connectivity between PC-PC1 and PC-PC2



15 IPv4 Routes

15.3.2 Static Routing Example

The configuration of LSW1 is as follows:

```
LSW1# con
LSW1(config)# vlan 2-3
LSW2(config)# interface GigabitEthernet 1
LSW2(config-if-GigabitEthernet1)# switchport mode access
LSW2(config-if-GigabitEthernet1)# switchport access vlan 3
LSW2(config)# interface GigabitEthernet 2
LSW2(config-if-GigabitEthernet1)# switchport mode access
LSW2(config-if-GigabitEthernet1)# switchport access vlan 2
LSW1(config)# interface vlan2
LSW1(config-if-vlan2)# ip address 192.168.2.1/30
LSW1(config-if-vlan2)# interface vlan3
LSW1(config-if-vlan3)# ip address 192.168.3.254/24
LSW1(config)# ip route 192.168.4.0/24 192.168.2.2
```

The configuration of LSW2 is as follows:

```
LSW2# con
LSW2(config)# vlan 2,4
LSW2(config)# interface GigabitEthernet 1
LSW2(config-if-GigabitEthernet1)# switchport mode access
LSW2(config-if-GigabitEthernet1)# switchport access vlan 4
LSW2(config)# interface GigabitEthernet 2
LSW2(config-if-GigabitEthernet1)# switchport mode access
LSW2(config-if-GigabitEthernet1)# switchport access vlan 2
LSW2(config)# interface vlan2
LSW2(config-if-vlan2)# ip address 192.168.2.2/30
LSW2(config-if-vlan2)# interface vlan4
LSW2(config-if-vlan3)# ip address 192.168.4.254/24
LSW2(config)# ip route 192.168.3.0/24 192.168.2.1
```

