Quant

ELEVATING TECHNOLOGY

Switch Classic Case Configuration

Q-M-2800-16P-L2-4S	Q-M-2800-24P-L2-4S

January 10, 2023

Version: V1.0

WEB Revision History

Date	Version	Description
2023-01	V1.0	The first version

Introduction

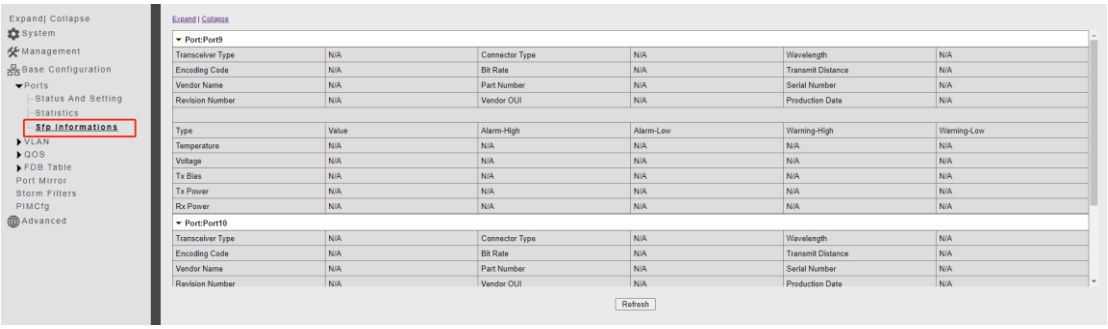
Readership

The manual is applicable to installers and system administrators who is responsible for installing, configuring, or maintaining the network, and assumes that the users understand all network usage of transmission and management protocols. The manual also assumes that the users are familiar with related to networking equipment, protocols and interfaces, theoretical principles, practical skills, and specific expertise. Meanwhile the users must also have work experience of operating graphical user interfaces, command line interfaces, simple network management protocols and Web browser.

Case 1. Read optical module information ddmi

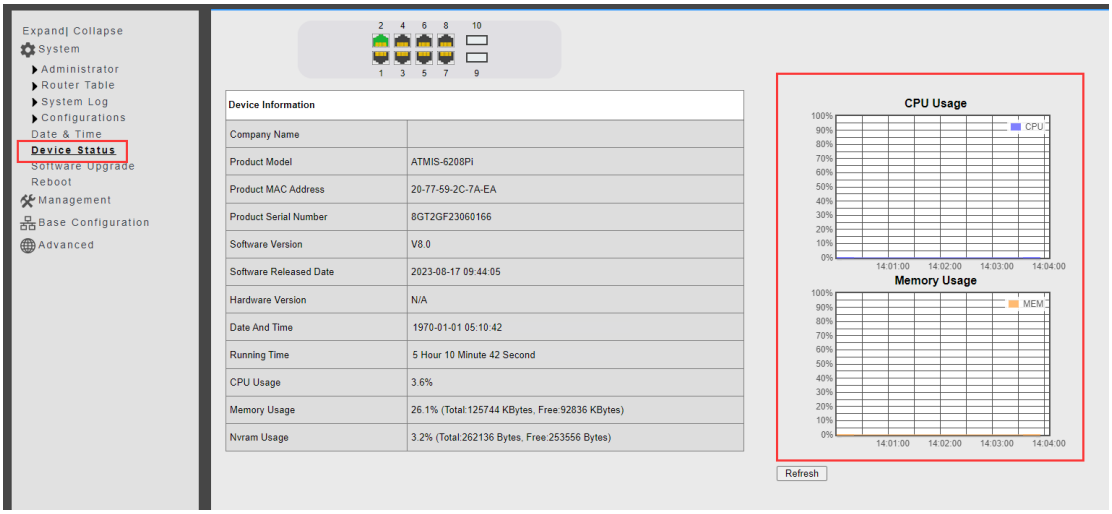
Diagnose line faults by reading optical module information.

1. Click "Basic Configuration - SFP Information" in the navigation tree.



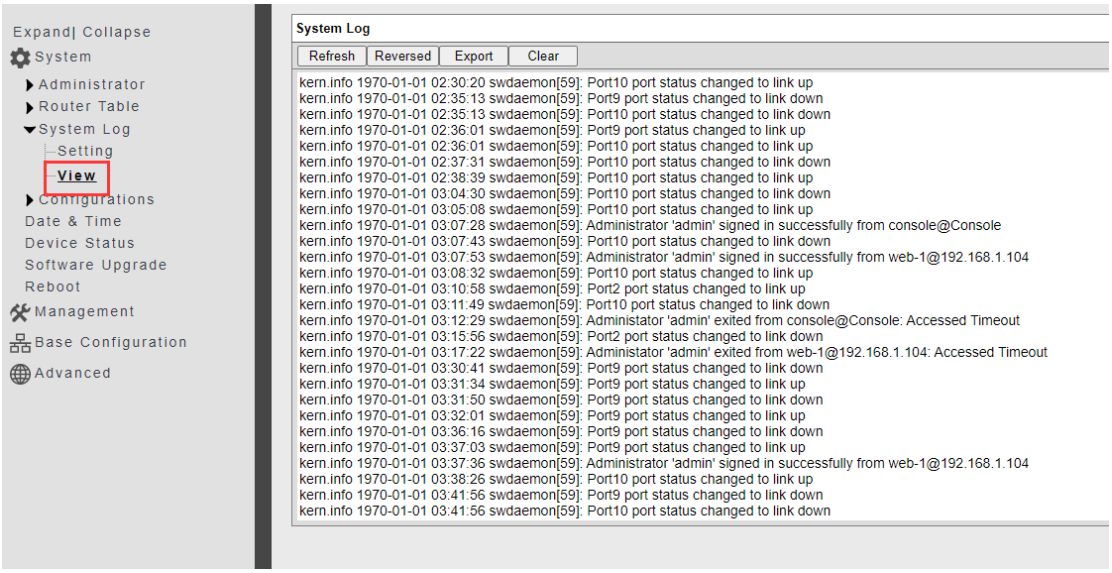
Case 2. Read CPU, memory usage and configuration usage

Judge the load of the switch by reading the switch CPU, memory usage and configuration usage.



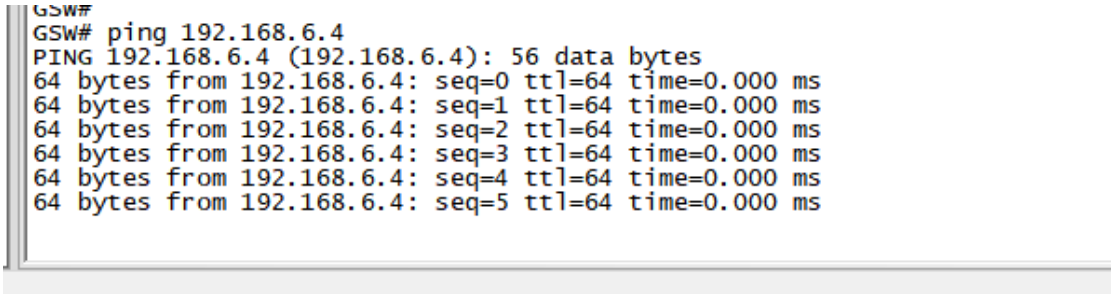
Case 3. Check the system log

Diagnose network faults by reading the system of the switch to judge the service abnormality of the switch.



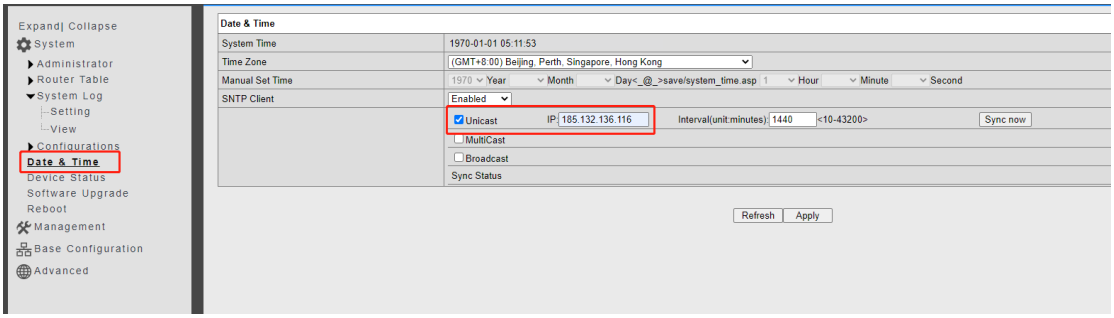
Case 4. Ping detection

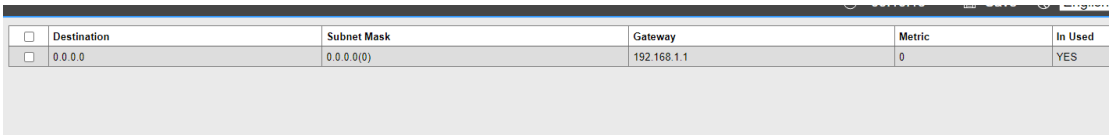
Execute the ping command on the command line to diagnose network connectivity.

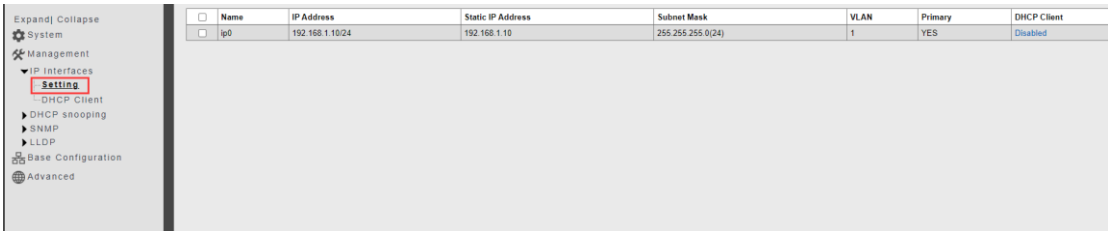


Case 5. SNTP

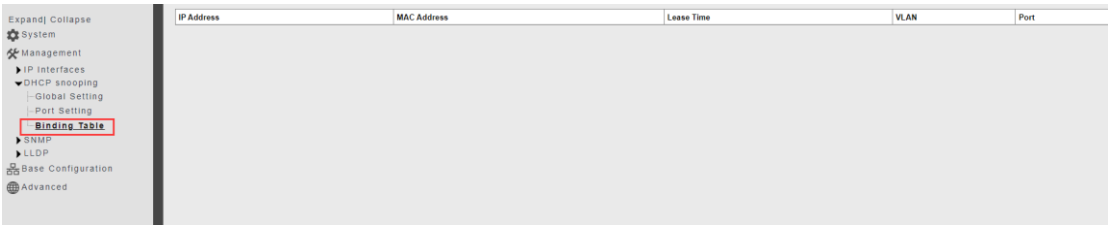
Enter the SNTP server address, and the synchronization is actually successful. Before that, the switch must be connected to the Internet.







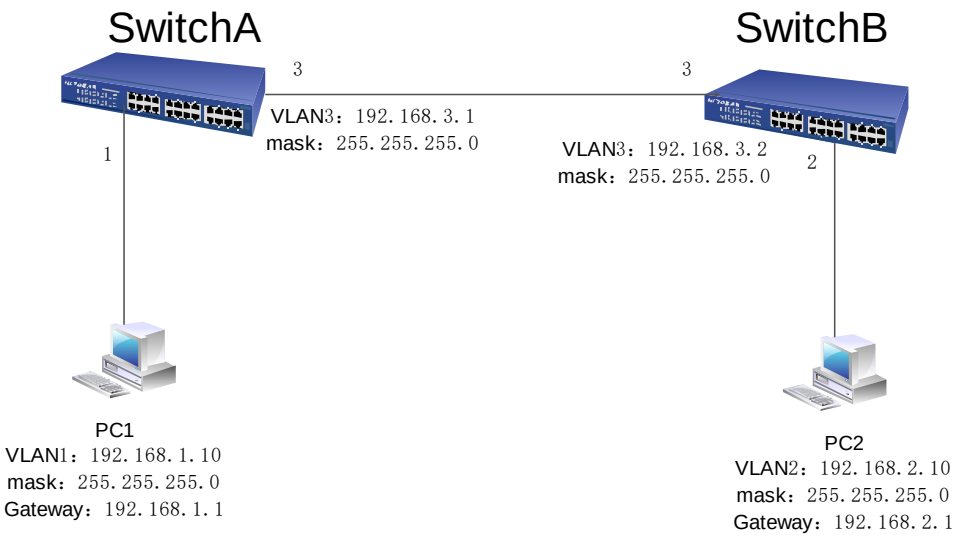
Case6.Quaternary binding (IP+MAC+VLAN+port)



Case 7. Static routing configuration

To implement communication between different network segments, you need to configure the static route or default route function of the Switch.

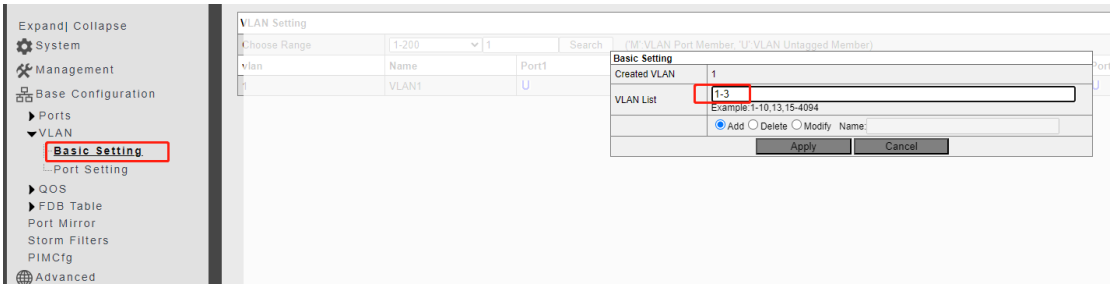
1. Network topology

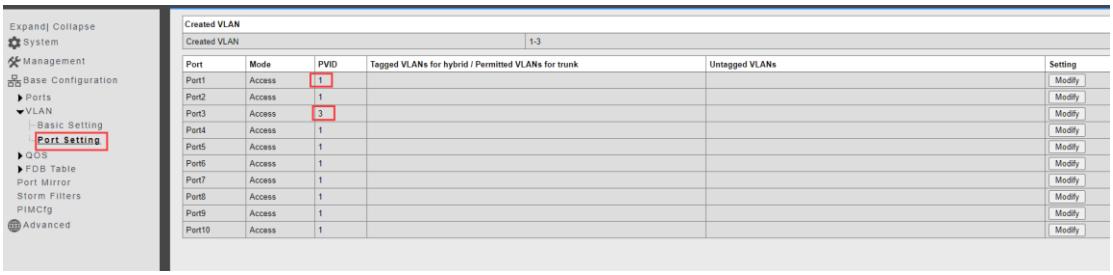


Second, the switch configuration steps

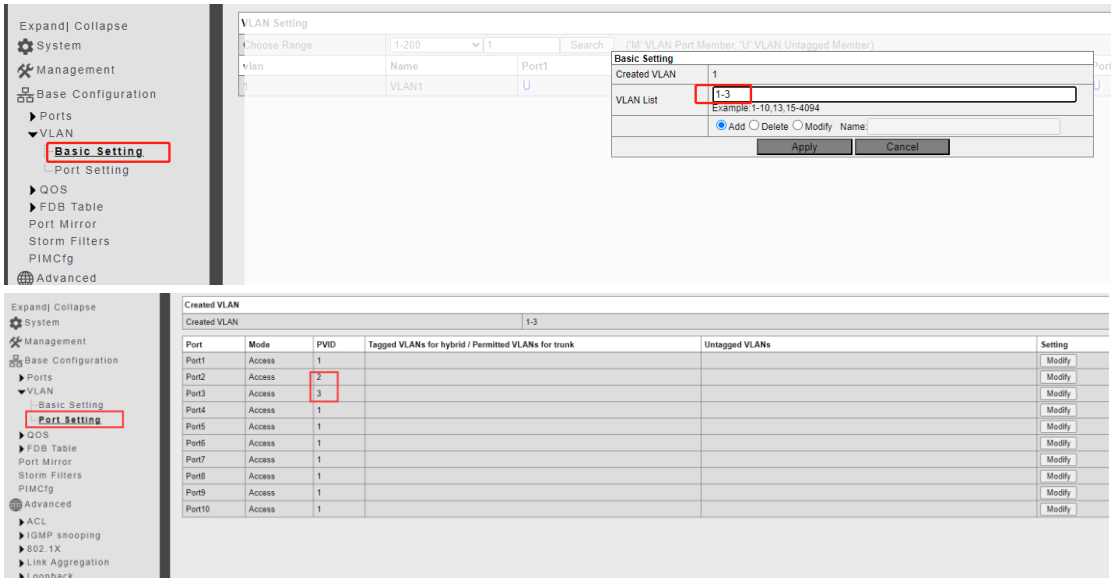
1. SwitchA creates VLAN 1-3, PORT1 and PORT3 set VLAN1 and VLAN3 respectively.

Click "Basic Configuration-vlan-Basic Configuration" in the navigation tree, enter the values, and click "Apply".



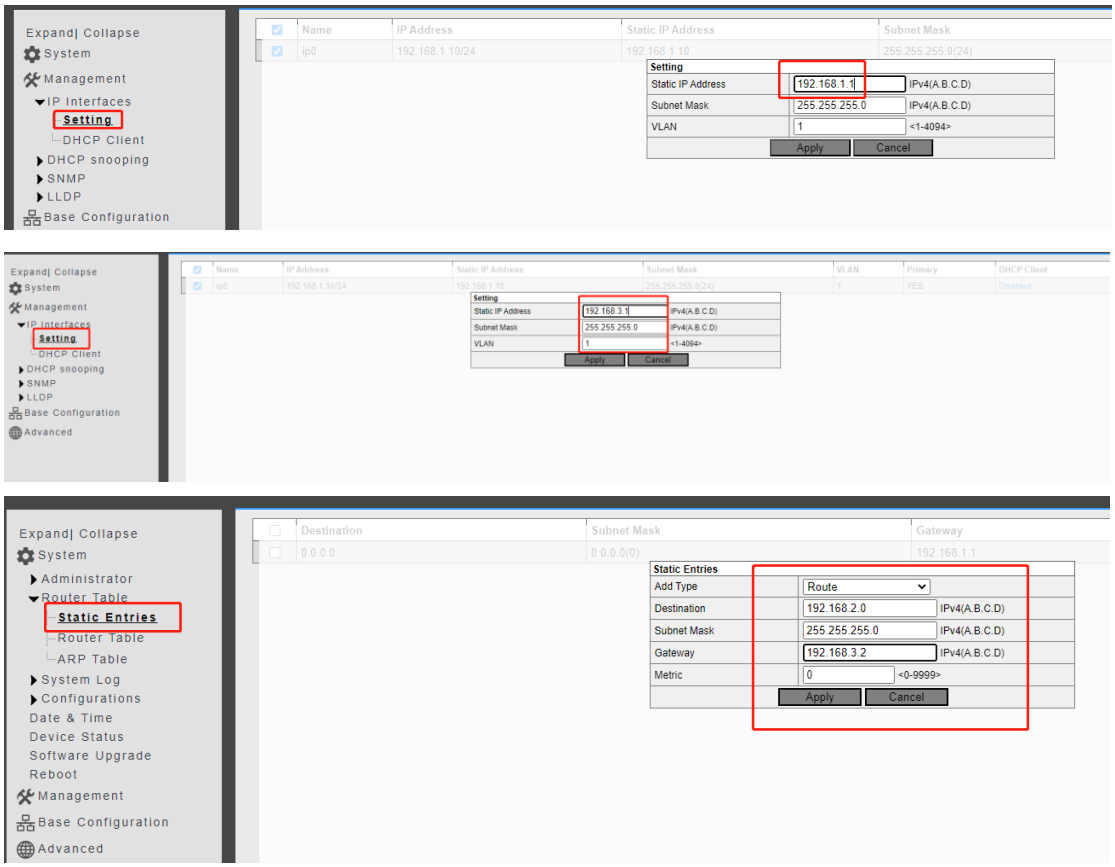


2, SwitchB creates VLAN 2 vlan3, PORT 2 PORT3 sets VLAN2 and VLAN3 respectively.



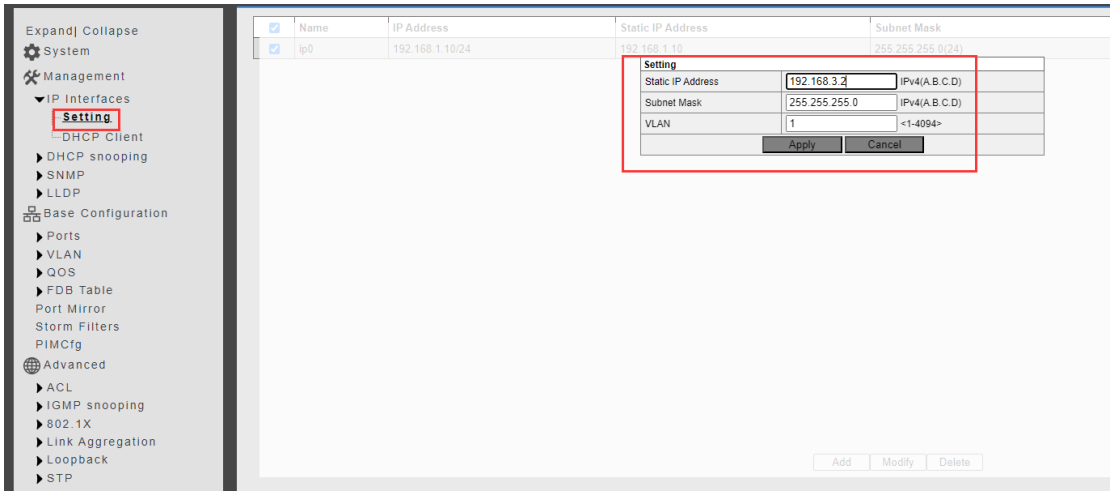
1. SwitchA creates a new IP, VLAN1: 192.168.1.1, VLAN3: 192.168.3.1

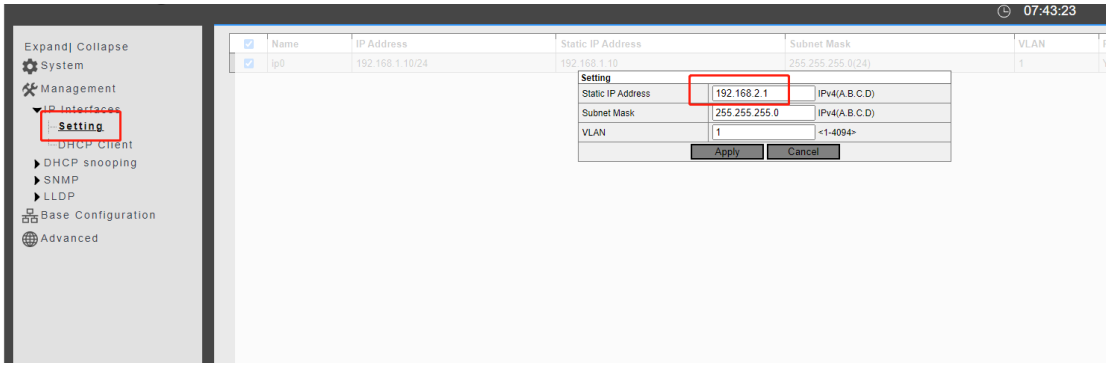
To configure static routing IP Routers, click the navigation tree "System Settings - Routing Table - Static Routing Table", enter the value, and click "Apply".

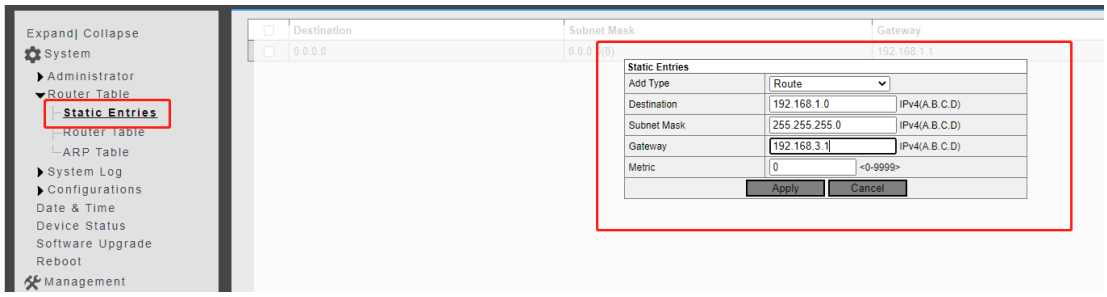


2. Create a new IP for SwitchB, VLAN1: 192.168.2.1, VLAN3: 192.168.3.2

To configure static routing IP Routers, click the navigation tree "System Settings - Routing Table - Static Routing Table", enter the value, and click "Apply".

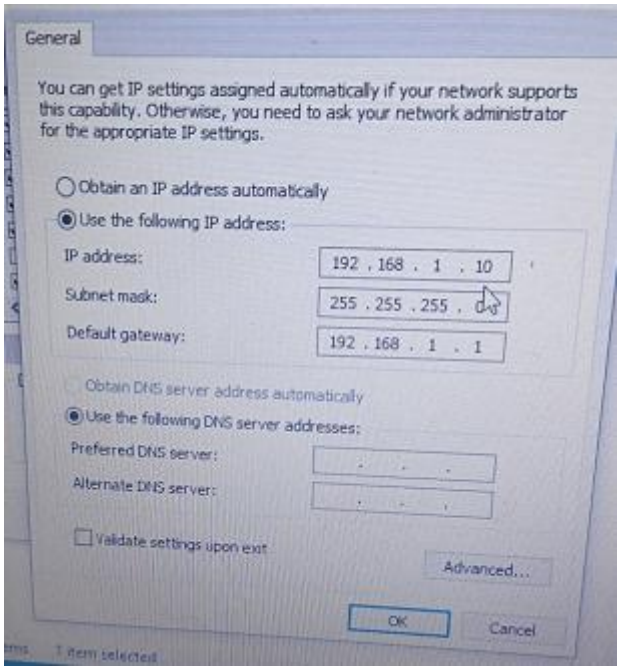






3. Set the IP address of PC1, mask, gateway, and PC2 in the same way.

Click "Local Area Connection-Properties-TCP/IPV4-Properties-OK"

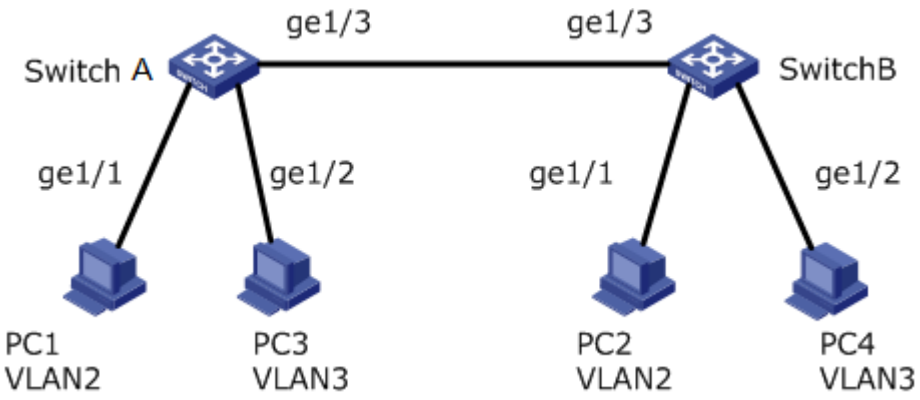


4, Test results, PC1 and PC2 can communicate with each other.

Case 8. VLAN configuration

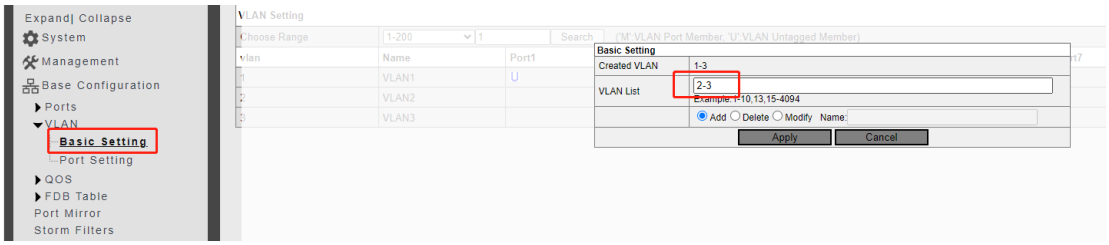
To enable the link between SwitchA and SwitchB to support both user communication in VLAN2 and user communication in VLAN3, you need to configure the connection interface to join two VLANs at the same time. That is, Ethernet interface ge1/3 of SwitchA and Ethernet interface ge1/3 of SwitchB should be added to VLAN2 and VLAN3 at the same time.

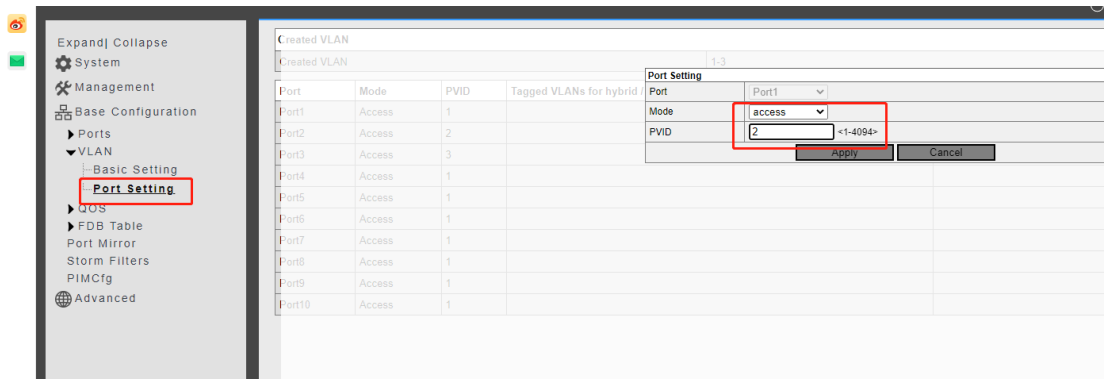
1. Network topology

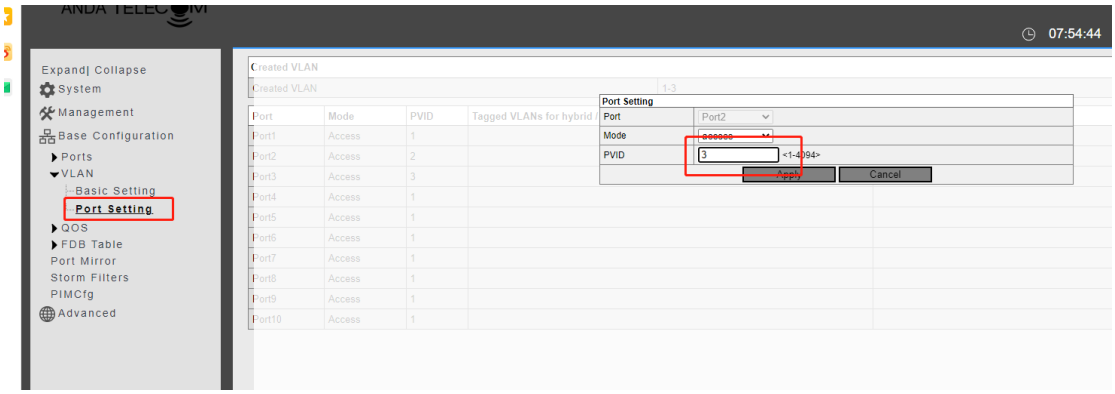


2. Switch configuration steps

1. Create VLAN2 and VLAN3 on SwitchA, and add the interfaces connecting users to VLANs respectively, and set ge1/3 to work in trunk mode. The configuration of SwitchB is similar to that of SwitchA.







2, Verify the configuration results

Configure PC1 and PC2 on the same network segment, such as 192.168.100.0/24; configure PC3 and PC4 on the same network segment, such as 192.168.200.0/24.

PC1 and PC2 can ping each other successfully, but neither PC3 nor PC4 can ping successfully.

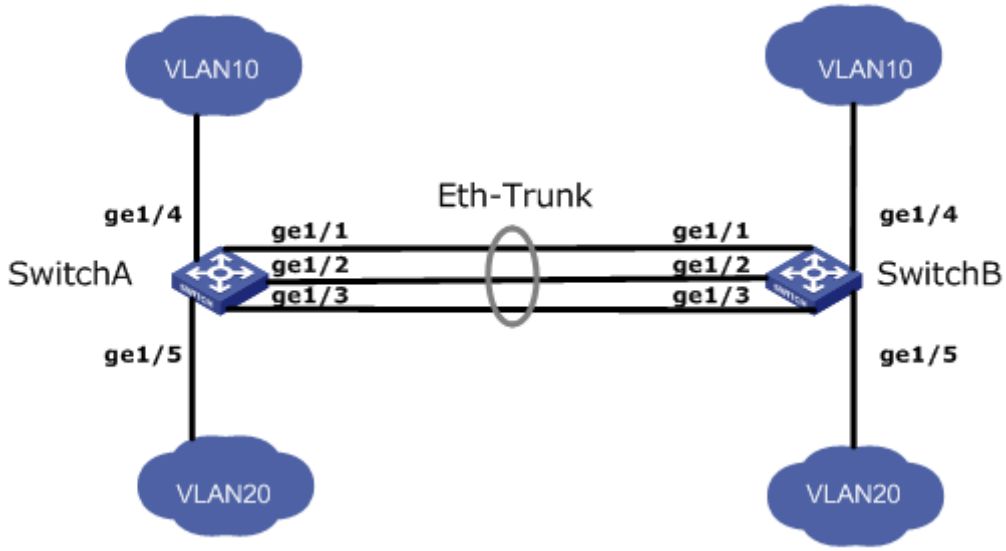
PC3 and PC4 can ping each other successfully, but neither PC1 nor PC2 can ping successfully.

Case 9. Static Aggregation

SwitchA and SwitchB are connected to the networks of VLAN 10 and VLAN 20 respectively through Ethernet links, and there is heavy data traffic between SwitchA and SwitchB.

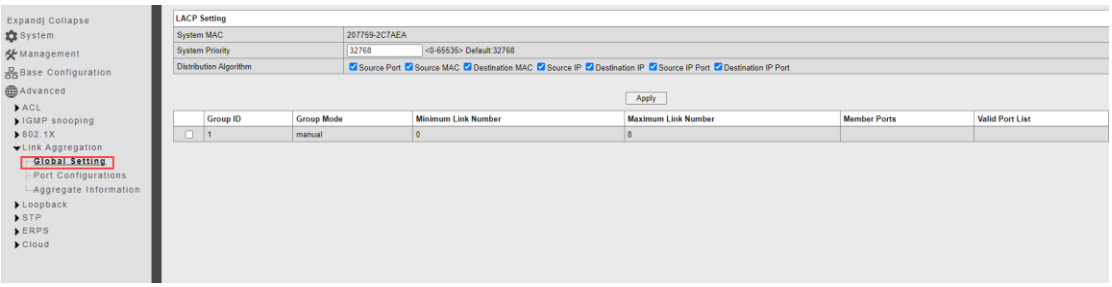
The user hopes that a large link bandwidth can be provided between SwitchA and SwitchB so that the same VLAN can communicate with each other. At the same time, users also hope to provide a certain degree of redundancy to ensure the reliability of data transmission and links.

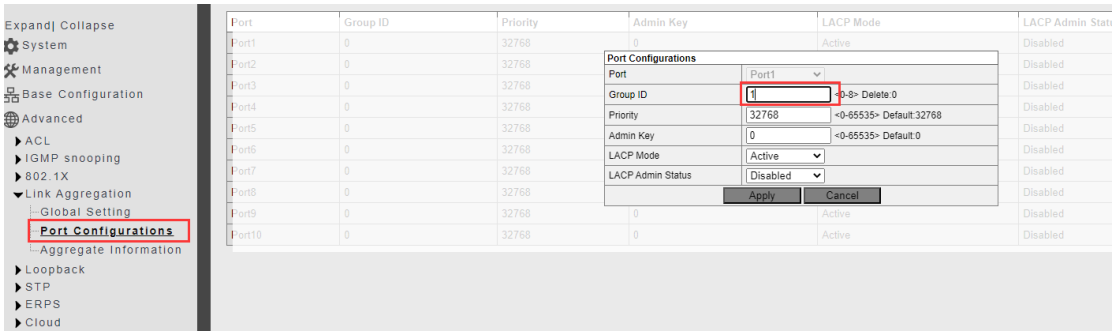
1. Network topology

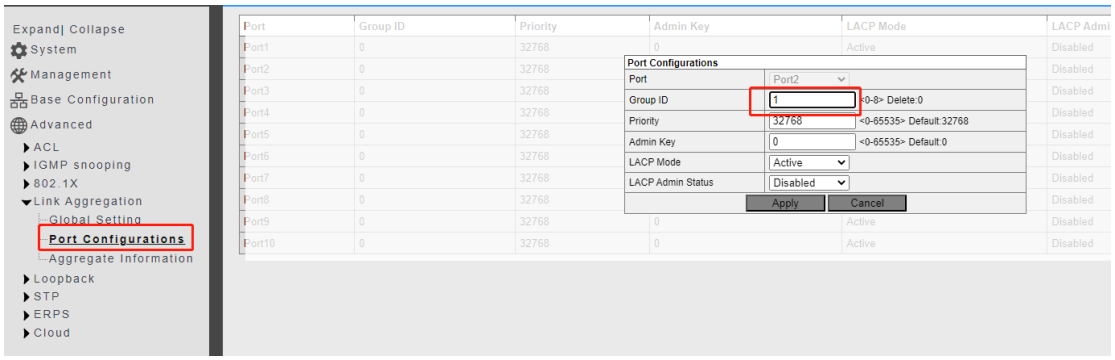


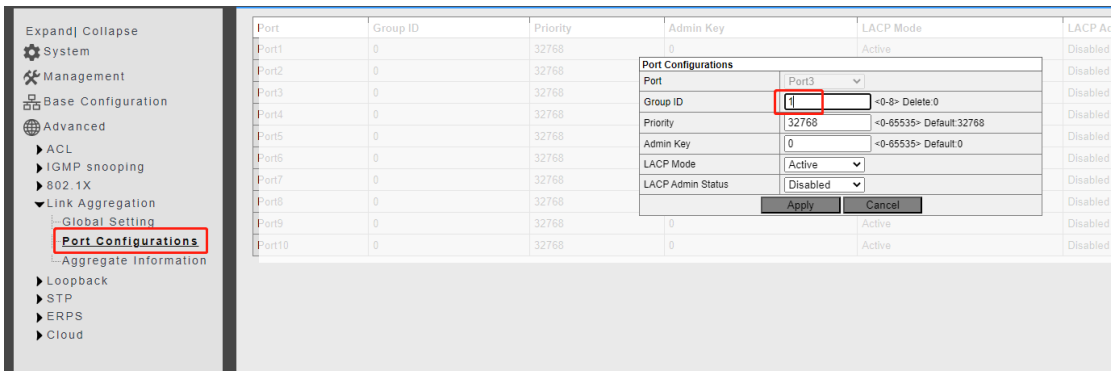
2, the switch configuration

1. Create an Eth-Trunk interface on SwitchA and add a member interface to increase the link bandwidth. The configuration of SwitchB is similar to that of SwitchA.









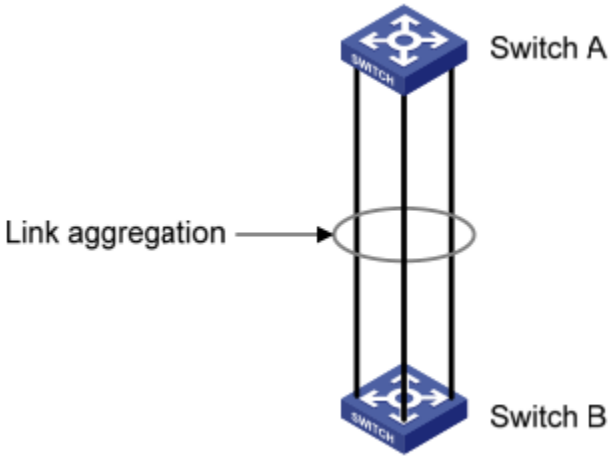
2. Refer to Case 7 for VLAN configuration.

Case 10. LACP configuration

The Ethernet switch Switch A uses 3 ports (GE1~GE3) to aggregate and connect to the Ethernet switch Switch B to realize load sharing of traffic among member ports.

In the following actual configurations, the dynamic aggregation mode will be used as examples.

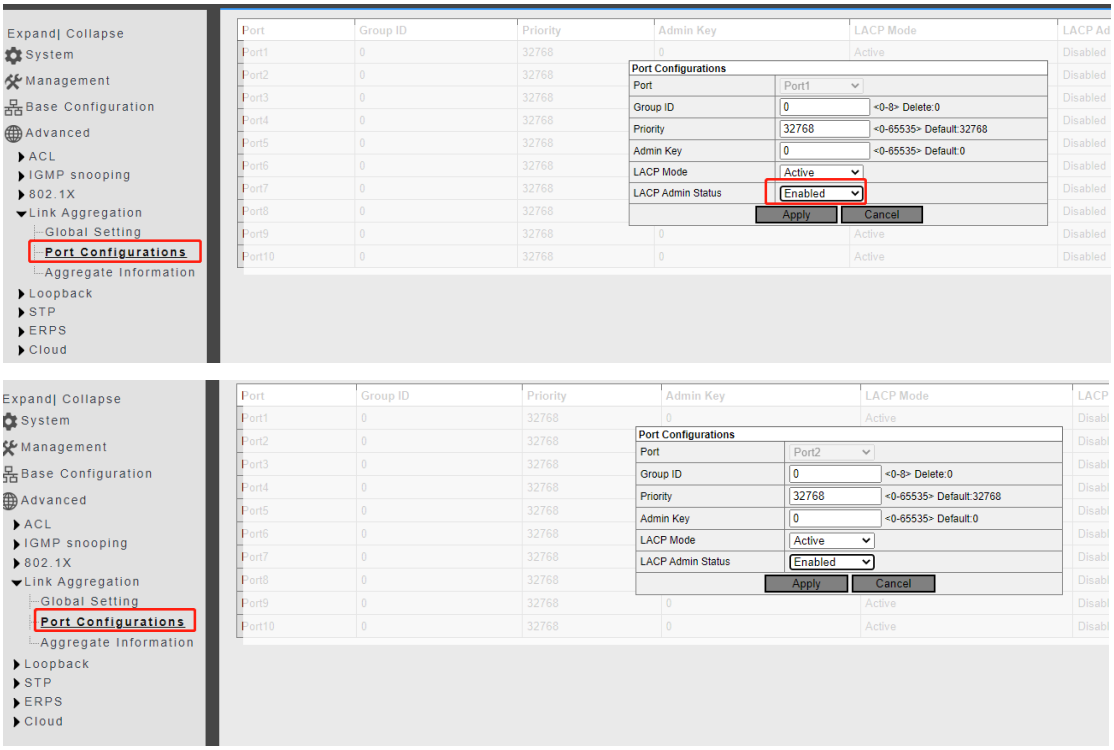
1. Network topology

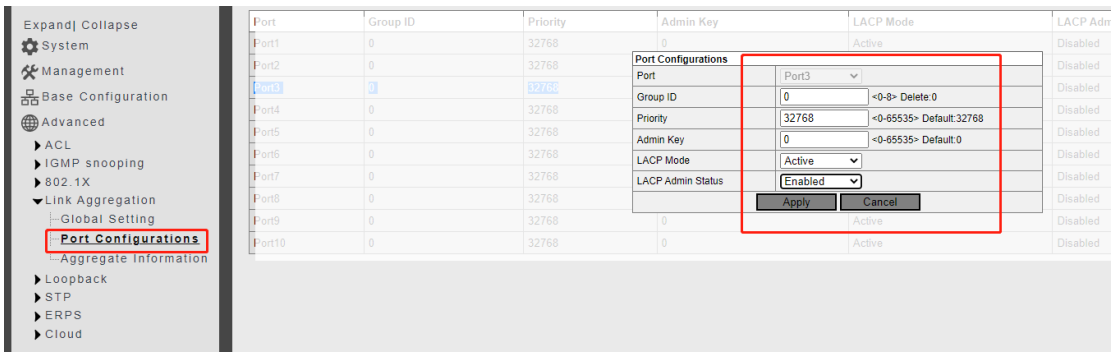


2, the switch configuration steps

1. Create an Eth-Trunk on SwitchA and configure it in LACP mode. Set the system priority on SwitchA to 100 to make it the LACP active end.

2. The configuration process of SwitchB is similar to that of SwitchA. The default priority is 32768, making it the LACP passive end. Click the "Port Configure > Aggregation > LACP" menu to enter "LACP" to complete the configuration.

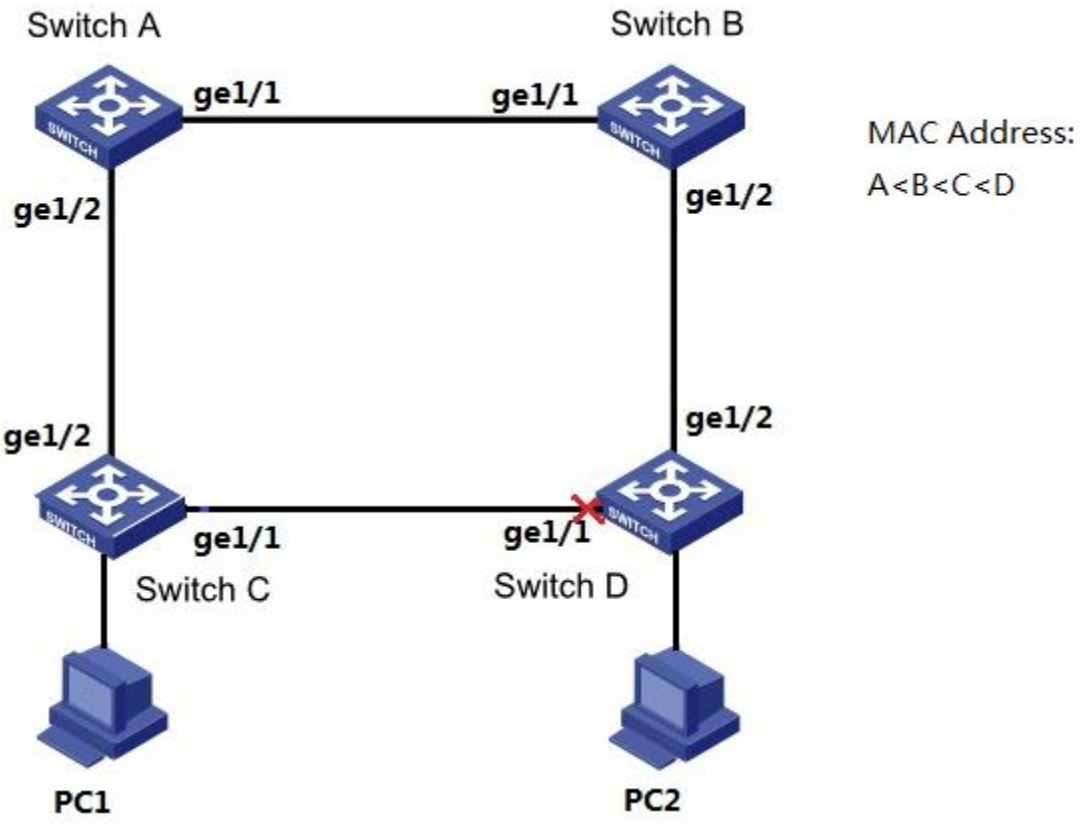




Case 11. RSTP configuration

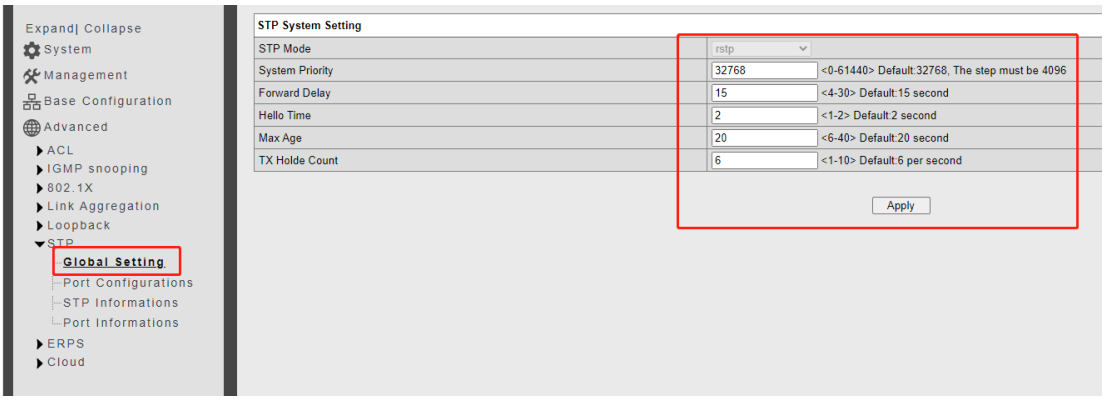
The Spanning Tree Protocol (STP) is designed to reduce link failures on the network and provide protection against loops. Unintentional loop broadcast storms are easy to occur in complex structured networks. The MSTP function of the switch is enabled by default. The switch supports three versions of the spanning tree protocol: STP, RSTP, MSTP. In the figure below, four switches form a ring, and the priorities of the four switches are the same, all of which are 32768. Enable the spanning tree protocol to block a port, making the ring into a tree structure.

1. Network topology

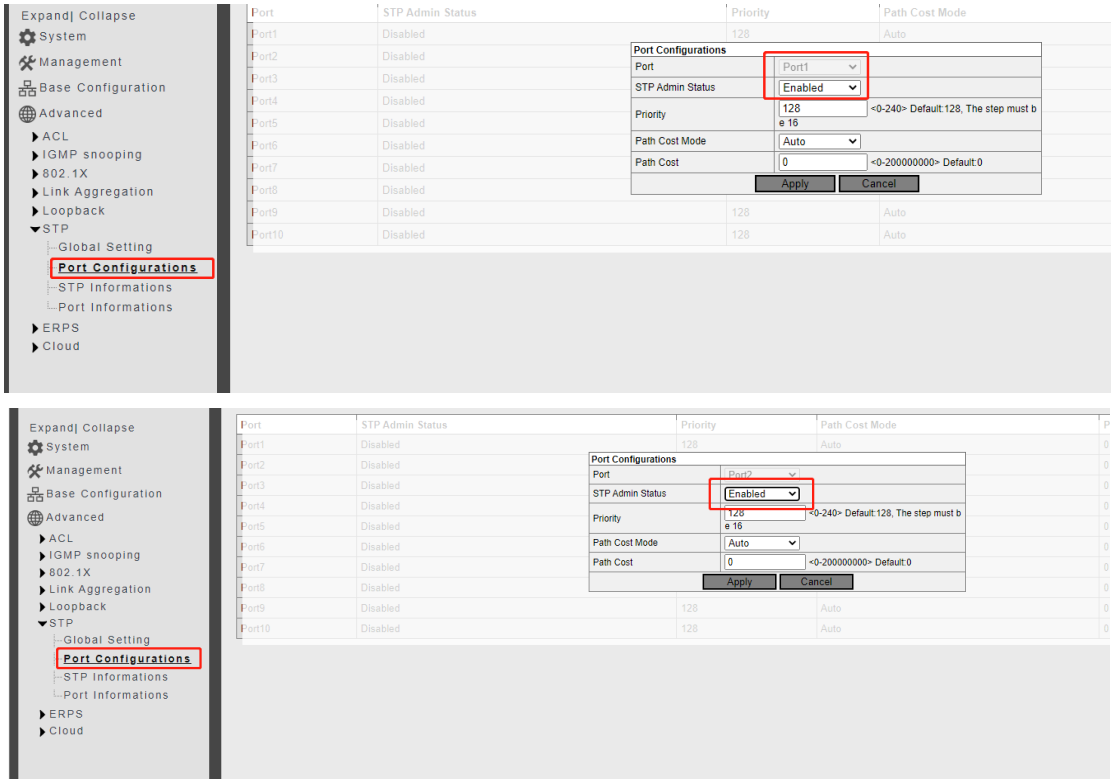


2, the switch configuration

1. The spanning tree function is enabled on SwitchA in global mode, and the configuration process of SwitchB, SwitchC, and SwitchD is similar to that of SwitchA.



2. Enable the stp function of PORT1 and PORT2 on SwitchA. The configuration process of SwitchB, SwitchC, and SwitchD is similar to that of SwitchA.

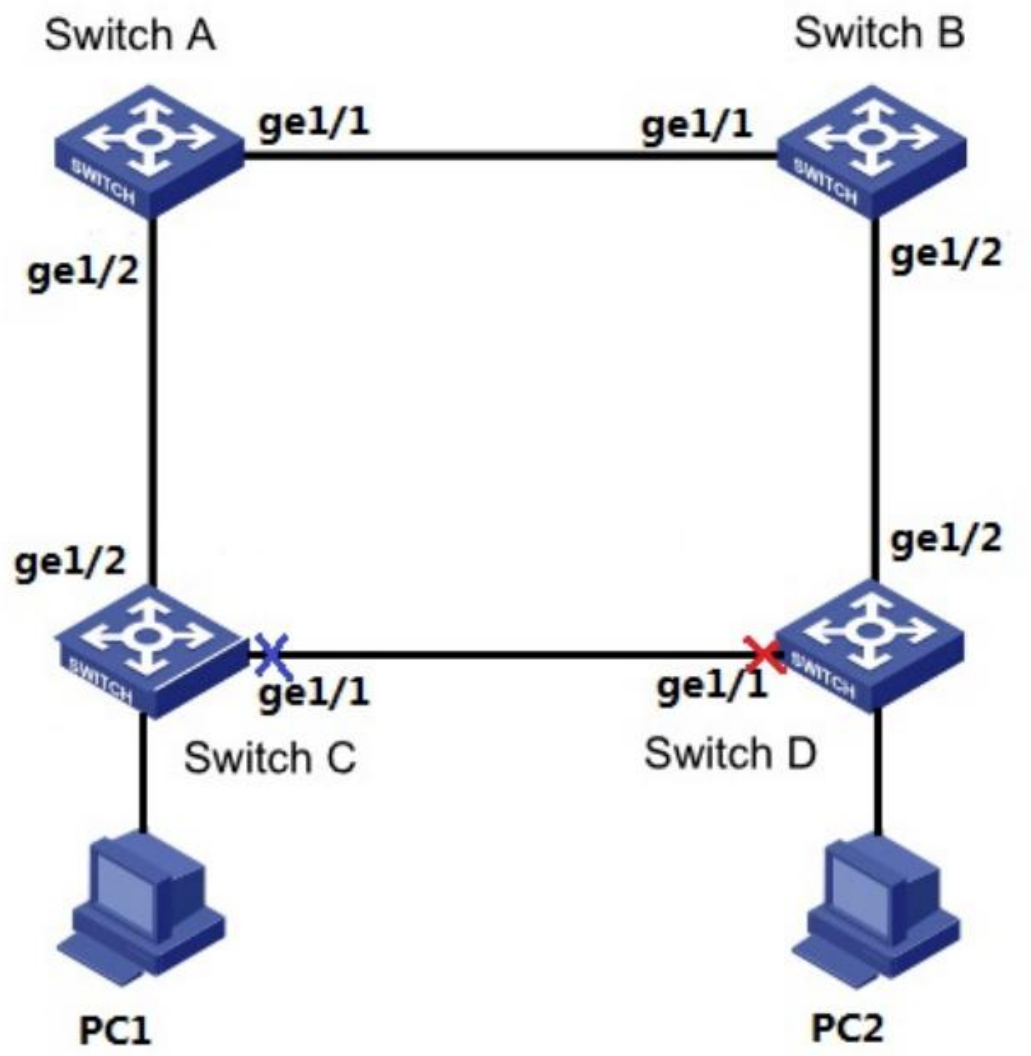


3. The results verify that PORT1 of SwitchD is a blocked port, and the network is pruned into a tree to eliminate loops.

Case 12. ERPS configuration

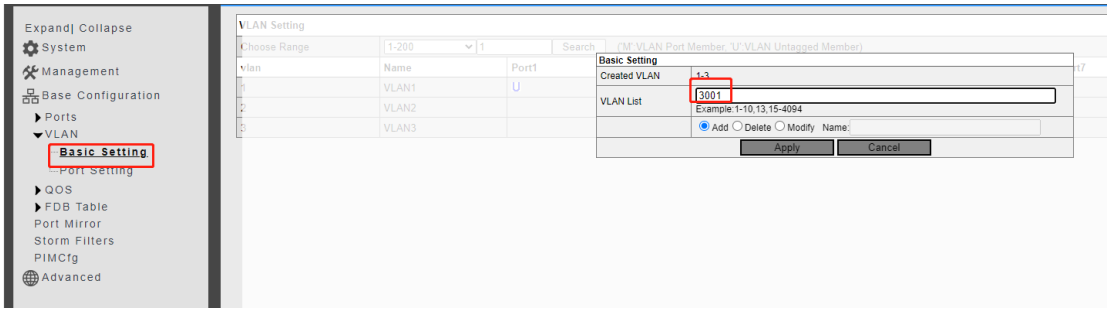
SwitchA, SwitchB, SwitchC, and SwitchD all run ERPS. Through the ERPS loop solution, the switching time is fast and the number of switches is not limited.

1. Network topology

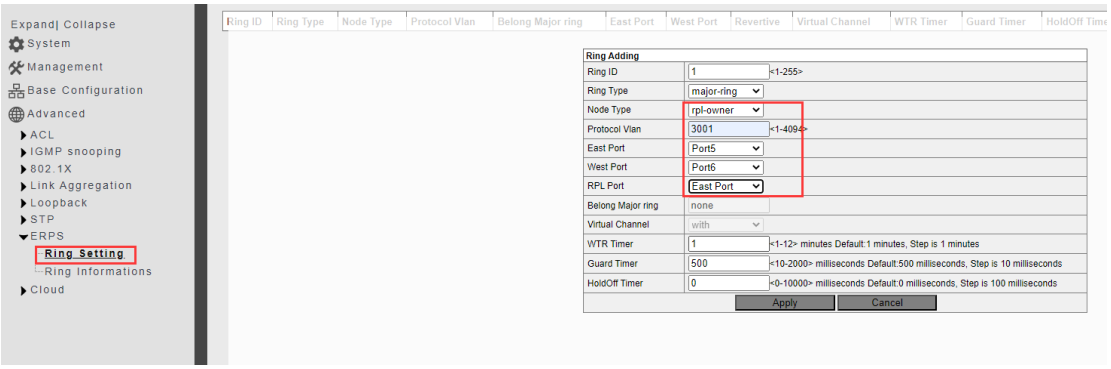


2. the switch configuration

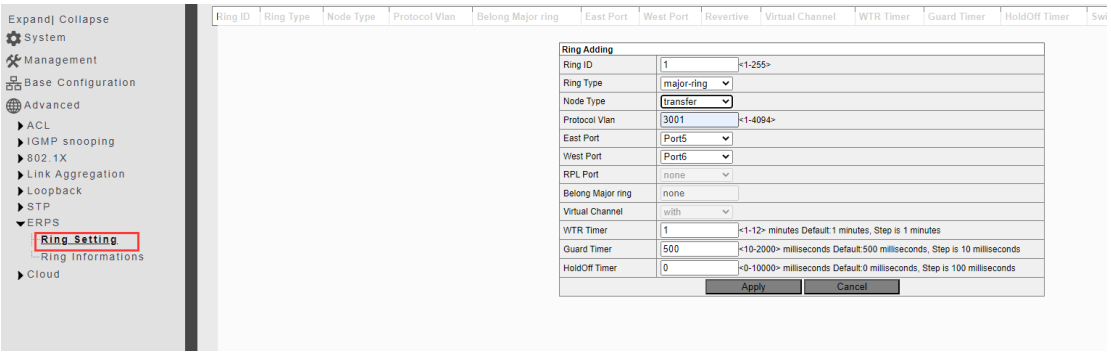
1. Create control vlan3001.



2. Configure RPL-OWNER nodes on SwitchA.



3. Configure the tranfer node on SwitchB. The configuration process on SwitchC and SwitchD is similar to that on SwitchB.

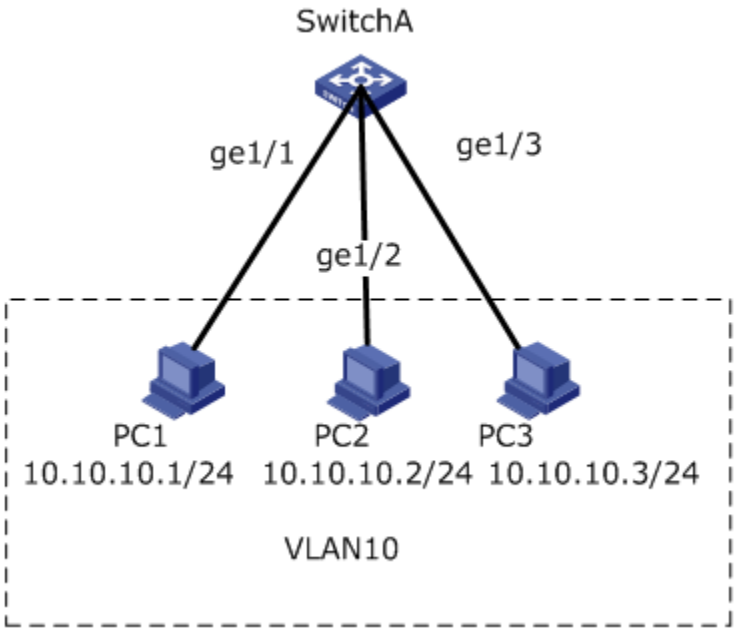


4. After the above configuration, prune the network into a tree shape to eliminate loops.

Case 13. igmp-snooping configuration

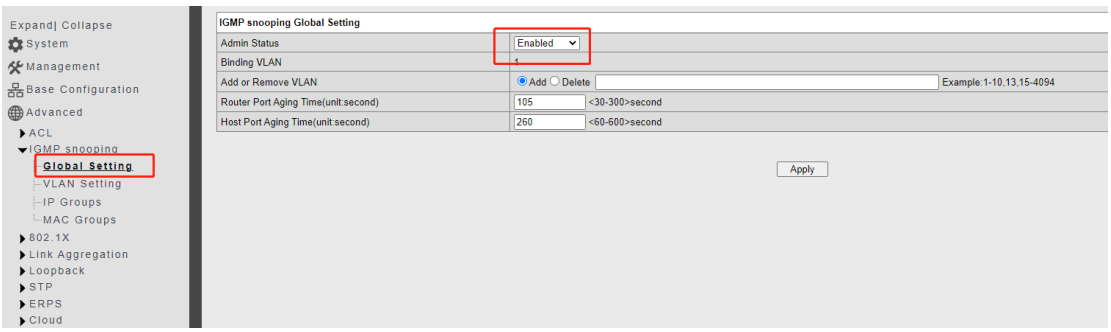
PC1, PC2 and PC3 belong to VLAN10. The user wants PC1 to simulate the video of the multicast source (239.0.0.1). When PC2 plays the video of the multicast source, it will automatically join the group and receive the multicast stream. Group video, do not receive multicast streams, realize automatic registration of multicast members by configuring igmp-snooping.

1. Network topology

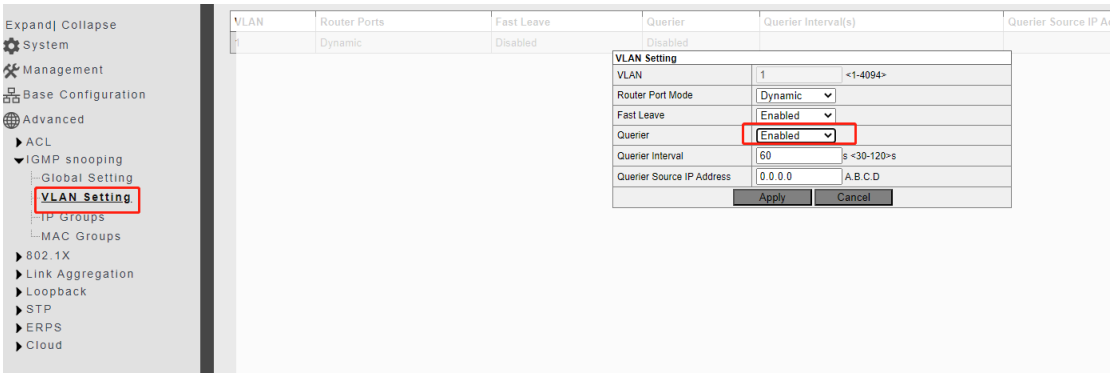


2, the switch configuration steps

1. Enable igmp-snooping globally.



2. Enable igmp-snooping in VLAN10.



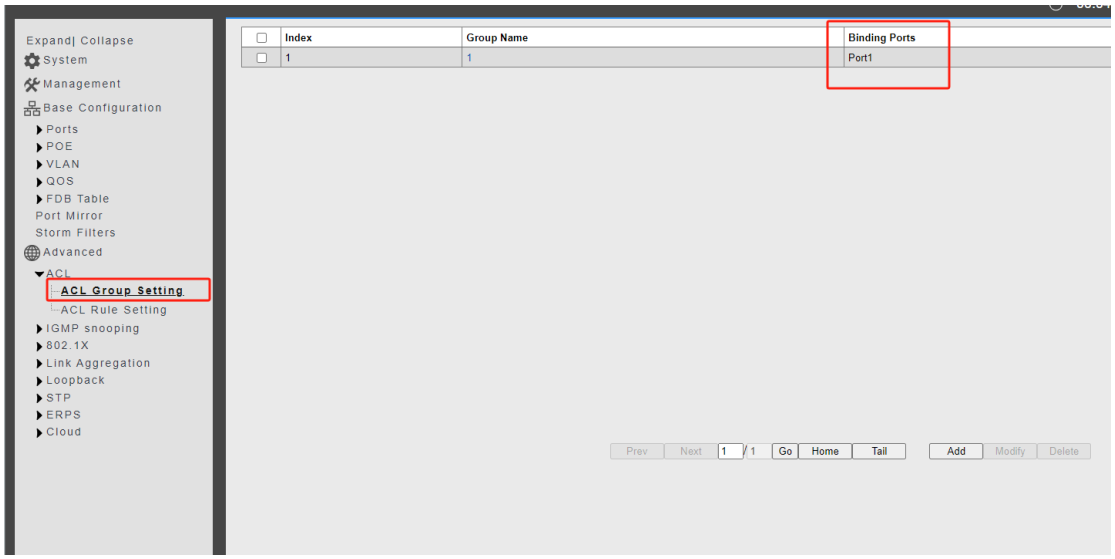
Case 14. Cloud platform configuration

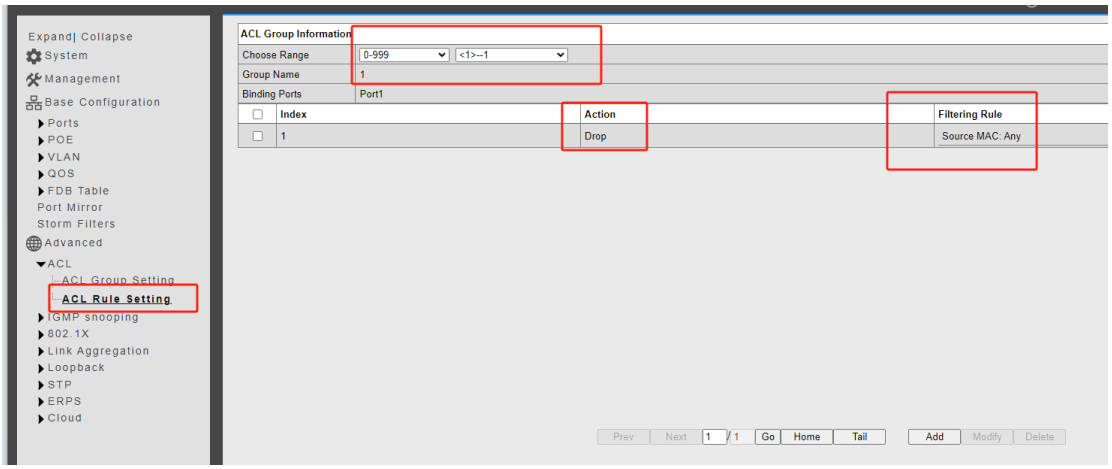
The switch can be configured with cloud management. Before that, the switch needs to be connected to the Internet. The switch configuration is as follows.

Log in to the cloud platform http://120.78.135.69:8755/login, enter the username and password (customer customization is supported), and scan the network topology.

Case 15. ACL configuration

Switch port 1 discards all source MAC traffic





Switch port 1 discards all source IP traffic