

# How do I configure port aggregation to double the port rate?

### I. Scenario

This solution applies to the scenario where the traffic on a single port is insufficient so we need to virtualize the multiple interfaces into one interface. This case describes a high-traffic scenario, such as offices and schools, to explain how to configure port aggregation to achieve the superposition of port transmission rates and effectively solve the problem of insufficient traffic on a single port.

# II. Topology



### **III. Network Planning**

- Configure EG LAN 4 and LAN 5 as the aggregation ports, and configure switch ports 9 and 10 as the aggregation ports.
- As a DHCP server, the EG assigns IP addresses to the wired (2)devices and the wireless users.
  - The wired LAN network segment is 10.10.10.0/24
  - Wireless user network segment: 192.168.2.0/24

Notice

### The port aggregation should be configured first and then the line connection is completed to avoid loops caused by incomplete aggregation configuration.



### EG Login and configuration:

(1) Log in to the EG: After the PC is directly connected to the EG MGMT port, the PC automatically obtains an IP address on the 192.168.1.x network segment. Open the browser and enter http://192.168.1.1 to log in to EG. The default account and password are admin (EG3250 is used as an example).





(2) Configure link aggregation, select Port LAN 4 and Port LAN 5 as the group members: choose Network > Interface
> Aggregate Port > Add to Add member ports GI0/0/4 and GI0/0/5, and select OK to save the configuration.

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### Model: EG3250 Web Version: 2022.03.04.15 Details

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Load Balance: Src IP + Dest IP v +Add						
Aggregate Port	Member Port	Action				
AggregatePort 1	Gi0/4,Gi0/5	Edit Delete				
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(3) Configure the IP address for the EG port: select Network > Interface > Basic Settings > Ag1 Set the IP address to 10.10.10.1, select Sub Interface to create a sub interface to encapsulate VLAN2, and set the IP address to 192.168.2.1.

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(4) Configure an EG DHCP address pool, select Net > Interface
 > DHCP > Settings > Add DHCP to create DHCP address pools for network segments 10.10.10.0 and 192.168.2.0.

$\equiv$ Edit DHCP			×
		~	^
Pool Name:	pool1	*	
Subnet:	10.10.10.0	* Format: 192.168.1.0	
Mask:	255.255.255.0	* Format: 255.255.255.0	
Default Gateway:	10.10.10.1	* Format: 192.168.1.1	
Lease Time:	⊖ Permanent ⊚ Lease Time 1	1 d 0 h 0 min*	
Preferred DNS Server:	8.8.8.8	* Format: 114.114.114.114	
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		^
Pool Name:	pool_vlan2 *	
Subnet:	192.168.2.0 * Format: 192.168.1.0	
Mask:	255.255.255.0 * Format: 255.255.255.0	
Default Gateway:	192.168.2.1 * Format: 192.168.1.1	
Lease Time:	○ Permanent	
Preferred DNS Server:	8.8.8.8 * Format: 114.114.114	
Secondary DNS Server:		
Option 43 <sup>-</sup>	2	~
	Save Cancel	

The default gateway IP address in the DHCP address pool must be the same as the IP address on the LAN port.

Notice

Layer-3 switch login and configuration:

Log in to the switch through the console cable. The configuration commands are as follows:

(1) Create an aggregation interface and associate ports 9 and 10 as group members:

SW1>enable SW1#configure terminal SW1(config)#interface range gigabitEthernet 0/9–10 //Enter port G0/9–10 configuration mode SW1(config-if-range)#port-group 1 //Set to AG1 SW1(config-if-range)#exit

(2) Configure the port type of the aggregation port as Trunk port and configure the port connected to Port Gi0/4 also as Trunk port. VLAN1 is configured as Native VLAN.

SW1(config)#interface aggregateport 1 //Enter AG1 port configuration mode SW1(config-if-AggregatePort 1)#switchport mode trunk //ConfigureAG1 port as Trunk port SW1(config-if-AggregatePort 1)#switchport trunk native vlan 1 //Configure VLAN1 as Native VLAN SW1(config-if-AggregatePort 1)switchport trunk allowed vlan 1, 2 //Allow the traffics of VLAN1 and VLAN2 pass through SW1(config-if-AggregatePort 1)#exit SW1(config)#aggregateport load-balance src-dst-ip //Change the traffic balancing algorithm to the source IP address

# mode. The default mode is source MAC address + destination MAC address.



SW1(config)#interface gi 0/4 //Enter G0/4 port configuration mode. SW1(config-if-GigabitEthernet 0/4)#switchport mode trunk //Configure port G0/4 as Trunk port. SW1(config-if-GigabitEthernet 0/4)#switchport trunk native vlan 1 //Configure VLAN1 as a native VLAN SW1(config-if-GigabitEthernet 0/4)switchport trunk allowed vlan 1,2 //Allow the traffics of VLAN1 and VLAN2 pass through SW1(config-if-GigabitEthernet 0/4)#exit

(3) Configure VLAN1 to obtain IP addresses dynamically.

SW1(config)#int vlan 1 S2910(config-if-VLAN 1)#ip address dhcp SW1(config)#exit SW1#wr

**3** Wireless configuration:

(1) Configure the SSID: Log in to Ruijie Cloud and select **CONFIGURATION > WIRELESS > Basic**, add the WLAN, set the WLAN name and password, then click **Save** to save the configuration.

7		MONITORING CONFIGURATION						6000
18	abcdetg@111. V	SSID						×
83	PROJECT	WLAN ID	1		Hidden	No	~	over Network
0	NETWORK-WIDE	SSID	test123	F	orward Mode 0	Bridge	~	
	Network	Encryption Mode	WPA/WPA2-PSK		VLAN ID	2		Note +
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	Roaming		0.0					· · · · · · · · · · · · · · · · · · ·
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	Network							Save More -
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÷	NetworkRoutingVLANWIRELESSBasicLayoutRadioWi-fi OptimizationRoamingBluetoothLoad BalancingAUTHENTICATION	Wireless Configuration         SSID         WLAN ID       SSID         1       test123         Radio         Radio1(2.4GHz)         ON/OFF	Encryption Mode wpa/wpa2- First	Hidden   Save succeeded   Previous Page 1<<0 of   Radio2(5GHz) 0N/OFF 0	Forward Mode	e Radio 1,2 Last Radio3	Auth Mode Auth Disabled	Save       More →         Action       ✓         Image: Act





## V. Verify the connectivity

Test whether the multi-interface data transmission is realized in the aggregation ports between EG and switch. As shown in Figure 1, the interface between EG and the core switch becomes AG1 (indicating that the aggregation interface is configured successfully).



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