

FSOS
System IP Configuration

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1. IP Address Configuration

1.1 Layer2 Switch System IP Address

1.1.1 Overview for Layer2 Switch System IP Address

IP address is a unified address format provided by the IP protocol, assigning the logical address to each network and each host in order to shield the physical address differences. IP Address configures the IP for the device, which is easy to maintain and manage.

1.2 Layer3 Switch IP Address

1.2.1 Overview for Layer3 Switch IP Address

IP of L3 Switch can be used as management address or gateway. L3 Switch IP shall be configured at L3 interface, which is divided into VLAN interface and superVLAN interface. VLAN interface is to create an interface based on a certain VLAN, while superVLAN interface is based on superVLAN (superVlan is a virtual VLAN without any port). SuperVLAN includes multiple sub-VLANs (one sub-VLAN is a concrete VLAN).

1.2.2 Configure VLAN Interface

Configure VLAN Interface

Operation	Command	Remarks
Enter the global configuration mode	<code>configure terminal</code>	
Create VLAN	<code>vlan <i>vid</i></code>	optional
Add port into VLAN	<code>Switchport ethernet <i>port</i></code>	optional
Create interface VLAN	<code>interface vlan-interface <i>vid</i></code>	optional
Configure interface IP address	<code>ip address {<i>ipaddress</i> <i>primary</i>} <i>mask override</i></code>	optional
Delete interface IP address	<code>no ip address <i>ipaddress mask</i></code>	optional
Configure IP access range control	<code>ip address range <i>start ipaddress end ipaddress</i></code>	optional
Delete IP access range control	<code>no ip address range <i>start ipaddress end ipaddress</i></code>	optional

Note: Configure interface VLAN should be under L3 device. One interface can configure 32 IPs in different network.

IP access range control: every VLAN interface or superVLAN interface can be configured with up to eight access ranges. After the access range is configured, the user ARP must be within these ranges to learn, and thus limit the access of the user.

1.2.3 Configure SuperVLAN Interface

Configure SuperVLAN interface

Operation	Command	Remarks
Enter global configuration mode	configure terminal	
Create SuperVLAN interface	interface supervlan-interface id	optional
Add SuperVLAN sub-VLAN	Subvlan {vid VLAN list }	optional
Configure SuperVLAN interface IP	ip address {ipaddress primary } mask	optional
Delete SuperVLAN interface IP	no ip address {ipaddress primary} mask	optional
Configure IP access range control	ip address range start ipaddress end ipaddress	optional
Delete IP access range control	no ip address range start ipaddress end ipaddress	optional

Note: Configure interface superVLAN only under L3 device

1.2.4 Configure Override

When configuring the IP, add override command in the back, used to revise the ip in the same network segment.

Override configuration

Operation	Command	Remarks
Enter global configuration mode	configure terminal	
Enter the interface mode	interface vlan-interface vid /supervlan-interface id	optional
Configuration	ip address ipaddress mask overrid	optional

1.2.5 Configure Loopback Interface

VLAN interface and SuperVLAN interface connect the ports directly while loopback interface connects the ports through VLAN interface and SuperVLAN interface. In the case, loopback interface won't be influenced by the port status, but always in linkup state. It will benefit a lot if loopback interface IP as the routing ID or source IP of sending packet.

Configure Loopback Interface

Operation	Command	Remarks
Enter global configuration mode	configure terminal	
Create loopback-interface	interface loopback-interface <0-1>	optional
Configure interface IP	ip address <i>ipaddress mask</i>	optional

1.2.6 Configure Interface Parameter

Configure system IP under VLAN interface for L3 device.

Configure system IP address under L3 device

Operation	Command	Remarks
Enter global configuration mode	configure terminal	
Enable the ICMP address mask reply packet	ip icmp mask-reply	optional
Enter interface VLAN mode	interface vlan-interface <i>vid</i>	required
Enable the sending of icmp destination unreachable packets	ip icmp unreachable	optional
Configure IP interface description	Description <i>interface-name</i>	optional
Delete IP interface description	no description	optional

1.2.7 Interface shutdown

You cannot manage a device after the interface is shut down.

Configure Interface shutdown

Operation	Command	Remarks
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Enter global configuration mode	configure terminal	
Enter VLAN Interface	interface vlan-interface <i>vid</i>	required
Shutdown VLAN Interface	shutdown	optional
Enter SuperVLAN interface	interface supervlan-interface <i>vid</i>	required
Shutdown SuperVLAN interface	Shutdown	optional
Cancel shutdown interface	no shutdown	optional

1.2.8 IP Interface Display and Maintenance

After finishing the configuration above, you can use the following command to view the configuration.

Show IP Interface Configuration

Operation	Command	Remarks
Show IP interface configuration for L3 device	show ip interface {loopback-interface supervlan-interface vlan-interface }	In all modes