

Industrial Ethernet Switches

Command Configuration Manual

catalogue

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Pre configuration instructions

After connecting the PC to the device, open the terminal and set up the serial port.

Serial port settings:

Serial Port Baud Rate: 115200

Data bits: 8bit

Check digit: none

Stop bit: 1bit

flow control: none

Typing Enter on the terminal will prompt for a username and password. Default username: admin, password: admin. Enter the correct username and password to enter user mode;

give typical examples

Username: admin

Password:

User mode

configure terminal //Enter Configuration Mode Command

(config)# Entering configuration mode

(config)#exit //Exit Configuration Mode

copy running-config startup-config //Save configuration to startup and runtime configurations

1. System Information Configuration

1.1 Information configuration

order	switch(config)# snmp-server contact administrator
describe	Describe the contact information for configuring the system

order	switch(config)# hostname switch
describe	Configure System Name

order	switch(config)# snmp-server location telephone closet,3rd floor
describe	Configure System Location

1.2 IP configuration

order	switch(config)# interface vlan 10 switch(config)# no interface vlan 10
describe	Enter the IP interface of the created Vlan Delete the IP interface of Vlan

order	switch(config-if-vlan)# ip address 192.168.200.100 255.255.255.0 switch(config-if-vlan)# ipv6 address 64:64::5/64
describe	Configure IPv4 addresses and masks Configure IPv6 addresses and masks

order	switch(config-if-vlan)# ip address dhcp switch(config-if-vlan)# ip address dhcp client-id GigabitEthernet 1/3 switch(config-if-vlan)# ip address dhcp client-id ascii dhcp switch(config-if-vlan)# ip address dhcp client-id hex 1234ABCD
describe	Configure the IPv4 address and mask of the interface through the DHCPv4 protocol; The client ID is AUTO; Configure the IPv4 address and mask of the interface through the DHCPv4 protocol; Client ID is IF_ MAC; Configure the IPv4 address and mask of the interface through the DHCPv4 protocol; The client ID is ASCII; Configure the IPv4 address and mask of the interface through the DHCPv4 protocol; The client ID is HEX.

order	switch(config-if-vlan)# ip address dhcp fallback 192.168.200.100 255.255.255.0 timeout 10
describe	Configure the IPv4 address and mask of the interface through the DHCPv4 protocol, while also configuring the rollback address and rollback time.

order	switch(config-if-vlan)# ipv6 address dhcp switch(config-if-vlan)# ipv6 address dhcp rapid-commit
describe	Configure the IPv6 address of the interface through the DHCPv6 protocol Configure the IPv6 address of the interface through the DHCPv6 protocol and enable quick confirmation

order	switch(config)# ip route 1.1.1.0 255.255.255.0 192.168.1.1 switch(config)# no ip route 1.1.1.0 255.255.255.0 192.168.1.1
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describe	Configure IPv4 routing table entries while also configuring distance Delete IPv4 routing table entries
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order	switch# show interface vlan switch# show ipv6 route switch# show ip arp switch# show ipv6 neighbor
describe	View IP interfaces View IPv6 routing View IPv4 neighbor cache View IPv6 neighbor cache

1.3 NTP configuration

order	switch(config)# ntp switch(config)# no ntp
describe	Enable NTP Disabled NTP

order	switch(config)# ntp server 1 ip-address 120.25.115.20 switch(config)# ntp server 2 ip-address 1::1 switch(config)# no ntp server 1
describe	Configure the NTP server address to IPv4; Configure the NTP server address to IPv6; Remove the NTP server address

1.4 Time Configuration

order	switch(config)# clock timezone " 8 switch(config)# clock timezone china 8
describe	Configure the time zone; Configure the time zone and abbreviations

order	switch(config)# clock summer-time " recurring 1 3 3 03:04 4 1 4 07:06 123 switch(config)# clock summer-time " date 3 1 2014 03:04 4 1 2097 07:06 100
describe	Configure the start, end, and offset times of the cycle executed annually during daylight saving time; Configure the start, end date, time, and offset time of daylight saving time to only execute once.

1.5 Log Configuration

order	switch(config)# logging on switch(config)# no logging on
describe	Disabled on the log server; Disabled off the log server.

order	switch(config)# logging host 192.168.6.22 switch(config)# no logging host
describe	Configure the IPv4 address of the log server; Delete the IPv4 address of the log server.

order	switch# show logging switch# show logging 48
describe	View log information; View specific journal information.

2. port configuration

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port

order	switch(config-if)# speed auto switch(config-if)# duplex auto
describe	Configure automatic port rate and capability notifications for all supported capabilities; Configure port duplex automatic, capability announcement for all supported capabilities

order	switch(config-if)# speed auto 100 1000 switch(config-if)# speed 1000 switch(config-if)# duplex full
describe	Configure automatic port rate and support 100M/1000M capacity announcement; Force the port speed to 1000M; Configure port duplex to be forced to Full

order	switch(config-if)# flowcontrol on switch(config-if)# flowcontrol off
describe	Enable port flow control; Disabled off port flow control.

order	switch(config-if)# mtu 9600
describe	Configure the maximum frame size of the port

order	switch(config-if)# excessive-restart switch(config-if)# no excessive-restart
describe	Configure the port overflow conflict mode to Restart; Configure port overflow conflict mode to Discard.

order	switch# show interface * status switch# show interface GigabitEthernet 1/3 status
describe	View the status of all ports; View the status of the specified port

order	switch# show interface * statistics priority switch# show interface GigabitEthernet 1/3 statistics priority
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describe	View port queue message statistics; View queue message statistics for the specified port.
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order	switch# show interface * statistics switch# show interface GigabitEthernet 1/3 statistics
describe	View port queue message statistics; View queue message statistics for the specified port.

3. DHCP configuration

3.1 SNOOPING

order	switch(config)# ip dhcp snooping switch(config)# no ip dhcp snooping
describe	Enable global DHCP Snooping; Disabled off global DHCP Snooping.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter the configuration port.

order	switch(config-if)# ip dhcp snooping trust switch(config-if)# no ip dhcp snooping trust
describe	Configure the port as a DHCP Snooping trust port; Configure the port as a DHCP Snooping untrusted port.

order	switch# switch# show ip dhcp snooping table
describe	View the DHCP Snooping table.

3.2 CLIENT

order	switch# show ip dhcp detailed statistics snooping switch# show ip dhcp detailed GigabitEthernet 1/3
describe	View port DHCP Snooping statistics information; View DHCP Snooping statistics for the specified port.

order	switch# show ip dhcp detailed statistics client switch# show ip dhcp detailed GigabitEthernet 1/3
describe	View port DHCP client statistics; View DHCP client statistics for the specified port.

4. Port aggregation configuration

order	switch(config)# aggregation mode smac dmac ip port switch(config)# lacp system-priority 32768
describe	Configure aggregation port hash code combinations; Configure the priority of the aggregation port LACP system.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter the configuration port.

order	switch(config-if)# aggregation group 1 switch(config-if)# no aggregation group 1
describe	Configure the port as an aggregation port; Configure the port to exit the aggregation port.

order	switch(config-if)# lacp port-priority 32768 switch(config-if)# lacp timeout fast
describe	Configure port aggregation port LACP priority; Configure the port aggregation port LACP timeout mode.

order	switch# show aggregation switch# show aggregation mode
describe	Display the configuration and status of the aggregation port; Display the combination status of aggregation port hash codes.

order	switch# show lacp system-id switch# show lacp internal switch# show lacp neighbor switch# show lacp statistics
describe	Display the priority of the aggregation port LACP system; Display the internal status of the aggregation port LACP; Display the LACP neighbors and port status of the aggregation port; Display aggregation port LACP message statistics.

5. Loop protection configuration

order	switch(config)# loop-protect switch(config)# no loop-protect switch(config)# loop-protect transmit-time 5 switch(config)# loop-protect shutdown-time 180
describe	Configure open loop protection; Configure closed loop protection; Configure loop protection transmission time;

	Configure loop protection recovery time.
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order	switch(config)# interface GigabitEthernet 1/3
describe	Enter the configuration port.

order	switch(config-if)# loop-protect switch(config-if)# no loop-protect switch(config-if)# loop-protect action shutdown log switch(config-if)# loop-protect tx-mode switch(config-if)# no loop-protect tx-mode
describe	Configure the port to enable loop protection; Configure port closure loop protection; Configure port loop protection behavior; Configure the port to enable loop protection Tx mode; Configure port closure loop protection Tx mode.

order	switch# show loop-protect
describe	Display the loop protection configuration and status.

6. Spanning Tree Configuration

order	switch(config)# spanning-tree mode mstp switch(config)# spanning-tree mst 0 priority 32768 switch(config)# spanning-tree mst max-age 20 forward-time 15 switch(config)# spanning-tree mst max-hops 20 switch(config)# spanning-tree transmit hold-count 6
describe	Configure the Spanning Tree Protocol version; Configure the priority of the spanning tree CIST/MSTI; Configure the maximum duration and delay time of the spanning tree; Configure the maximum number of hops in the MST domain of the spanning tree; Configure the maximum number of BPDU messages sent by the spanning tree per second.

order	switch(config)# spanning-tree edge bpdu-filter switch(config)# no spanning-tree edge bpdu-filter switch(config)# spanning-tree edge bpdu-guard switch(config)# no spanning-tree edge bpdu-guard switch(config)# spanning-tree recovery interval 33 switch(config)# no spanning-tree recovery interval
describe	Configure the spanning tree to enable edge port BPDU filtering; Configure the spanning tree to Disabled off edge port BPDU filtering; Configure the spanning tree to enable edge port BPDU protection; Configure the spanning tree to Disabled off edge port BPDU protection; Configure the spanning tree to enable port error recovery and recovery timeout time; Configure spanning tree shutdown port error recovery.

order	switch(config)# spanning-tree mst name global revision 0
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	<pre>switch(config)# spanning-tree mst 3 vlan 1-10 switch(config)# spanning-tree edge bpdu-guard switch(config)# no spanning-tree edge bpdu-guard switch(config)# spanning-tree recovery interval 33 switch(config)# no spanning-tree recovery interval</pre>
describe	<p>Configure the name and version of the MSTI domain configuration for the spanning tree;</p> <p>Configure spanning tree MSTI VLAN mapping.</p>

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter the configuration port.

order	<pre>switch(config-if)# spanning-tree switch(config-if)# no spanning-tree switch(config-if)# spanning-tree mst 0 cost auto switch(config-if)# spanning-tree mst 1 port-priority 32 switch(config-if)# spanning-tree edge switch(config-if)# no spanning-tree edge switch(config-if)# spanning-tree auto-edge switch(config-if)# no spanning-tree auto-edge switch(config-if)# spanning-tree restricted-role switch(config-if)# no spanning-tree restricted-role switch(config-if)# spanning-tree restricted-tcn switch(config-if)# no spanning-tree restricted-tcn switch(config-if)# spanning-tree bpdu-guard switch(config-if)# no spanning-tree bpdu-guard switch(config-if)# spanning-tree link-type point-to-point</pre>
describe	<p>Configure the port to enable the spanning tree;</p> <p>Configure port closure spanning tree;</p> <p>Configure port spanning tree CIST/MSI path overhead;</p> <p>Configure port spanning tree CIST/MSI priority;</p> <p>Configure ports to enable spanning tree forced edges;</p> <p>Configure port closure spanning tree to force edges;</p> <p>Configure the port to enable automatic edge generation of the spanning tree;</p> <p>Configure the port to Disabled off the automatic edge of the spanning tree;</p> <p>Configure ports to enable spanning tree restricted roles;</p> <p>Configure port closure spanning tree restricted roles;</p> <p>Configure the port to enable spanning tree restricted TCN;</p> <p>Configure port closure spanning tree restricted TCN;</p> <p>Configure the port to enable spanning tree BPDU protection;</p> <p>Configure port shutdown spanning tree BPDU protection;</p> <p>Configure port configuration spanning tree link mode.</p>

order	<pre>switch# show spanning-tree active switch# show spanning-tree interface GigabitEthernet 1/3 switch# show spanning-tree detail</pre>
describe	<p>Display the status of the spanning tree bridge;</p> <p>Display the status of the spanning tree port;</p> <p>Display spanning tree port statistics.</p>

7. Multicast Configuration

7.1 Multicast Configuration Table

order	switch(config)# ipmc profile switch(config)# no ipmc profile
describe	Enable the multicast configuration table globally; Configure multicast configuration table global shutdown.

order	switch(config)# ipmc range config1 224.1.1.1 224.1.1.10 switch(config)# no ipmc range config2
describe	Configure multicast add address table; Configure multicast deletion address table.

order	switch(config)# ipmc profile table1 switch(config-ipmc-profile)#description description1 switch(config-ipmc-profile)#range config1 deny log switch(config-ipmc-profile)#range config2 permit next config1 switch(config-ipmc-profile)#no range config2
describe	Create/enter configuration table; Configure the multicast configuration table describe; Add address table rule config1 to the multicast configuration table, with the behavior of 'deny' and logging enabled; Add the address table rule config2 to the multicast configuration table, with the behavior of 'allow' and the priority after config1; Configure multicast configuration table to delete address table rules.

order	switch# show ipmc profile switch# show ipmc range
describe	Display the status of the multicast configuration table; Display the status of the multicast address table.

7.2 IGMP SNOOPING

order	switch(config)# ip igmp snooping switch(config)# no ip igmp snooping switch(config)# ip igmp unknown-flooding switch(config)# no ip igmp unknown-flooding switch(config)# ip igmp ssm-range 232.0.0.0 8 switch(config)# ip igmp host-proxy switch(config)# no ip igmp host-proxy switch(config)# ip igmp host-proxy leave-proxy switch(config)# no ip igmp host-proxy leave-proxy
describe	Configure IGMP Snooping to enable; Configure IGMP Snooping to Disabled off; Configure IGMP unregistered IPMCV4 message flooding to enable; Configure IGMP unregistered IPMCV4 message flooding shutdown; Configure IGMP SSM range; Configure IGMP proxy activation; Configure IGMP proxy shutdown; Configure IGMP departure agent to enable; Configure IGMP leave agent shutdown.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	switch(config-if)# ip igmp snooping mrouter switch(config-if)# no ip igmp snooping mrouter switch(config-if)# ip igmp snooping immediate-leave switch(config-if)# no ip igmp snooping immediate-leave switch(config-if)# ip igmp snooping max-groups 4 switch(config-if)# ip igmp snooping filter table1
describe	Configure the port to enable the IGMP Snooping router port; Configure the port to close the IGMP Snooping router port; Configure the port to enable IGMP Snooping for quick exit; Configure port shutdown IGMP Snooping to quickly leave; Configure port IGMP Snooping multicast limit; Configure the IGMP Snooping port filtering function (associated with the multicast configuration table).

order	switch (config)# ip igmp snooping vlan 10 switch(config)# interface vlan 10
describe	Enter the IP interface of Vlan.

order	switch(config-if-vlan)# ip igmp snooping switch(config-if-vlan)# no ip igmp snooping switch(config-if-vlan)# ip igmp snooping querier election switch(config-if-vlan)# no ip igmp snooping querier election switch(config-if-vlan)# ip igmp snooping querier address 192.168.1.1 switch(config-if-vlan)# ip igmp snooping compatibility auto switch(config-if-vlan)# ip igmp snooping priority 1 switch(config-if-vlan)# ip igmp snooping robustness-variable 2 switch(config-if-vlan)# ip igmp snooping query-interval 125 switch(config-if-vlan)# ip igmp snooping query-max-response-time 100 switch(config-if-vlan)# ip igmp snooping last-member-query-interval 10 switch(config-if-vlan)# ip igmp snooping unsolicited-report-interval 1
describe	Configure SVI to enable IGMP Snooping; Configure SVI to Disabled off IGMP Snooping; Configure SVI to enable IGMP Snooping Querier campaign; Configure SVI to disable IGMP Snooping Querier campaign; Configure the SVI IGMP Snooping Querier address; Configure SVI IGMP Snooping compatible version; Configure SVI IGMP Snooping to control frame priority; Configure SVI IGMP Snooping robustness variables; Configure SVI IGMP Snooping query interval; Configure SVI IGMP Snooping query response interval; Configure the query interval for the last member of SVI IGMP Snooping; Configure an unsolicited reporting interval for SVI IGMP Snooping.

order	switch# show ip igmp snooping detail switch# show ip igmp snooping group-database detail switch# show ip igmp snooping group-database sfm-information
describe	Display IGMP Snooping status; Display IGMP Snooping group members;

	Display IGMP Snooping source filtering multicast.
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7.3 MLD SNOOPING

order	<pre>switch(config)# ipv6 mld snooping switch(config)# no ipv6 mld snooping switch(config)# ipv6 mld unknown-flooding switch(config)# no ipv6 mld unknown-flooding switch(config)# ipv6 mld ssm-range ff3e:: 96 switch(config)# no ipv6 mld ssm-range switch(config)# ipv6 mld host-proxy switch(config)# no ipv6 mld host-proxy switch(config)# ipv6 mld host-proxy leave-proxy switch(config)# no ipv6 mld host-proxy leave-proxy</pre>
describe	<p>Configure MLD Snooping to enable; Configure MLD Snooping shutdown. Configure MLD unregistered IPMCV6 message flooding to enable; Configure MLD unregistered IPMCV6 message flooding shutdown; Configure MLD SSM range; Cancel MLD SSM range configuration; Configure MLD proxy activation; Configure MLD proxy shutdown; Configure MLD departure agent to enable; Configure MLD leave agent shutdown.</p>

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	<pre>switch(config-if)# ipv6 mld snooping mrouter switch(config-if)# no ipv6 mld snooping mrouter switch(config-if)# ipv6 mld snooping immediate-leave switch(config-if)# no ipv6 mld snooping immediate-leave switch(config-if)# ipv6 mld snooping max-groups 4 switch(config-if)# ipv6 mld snooping filter table1</pre>
describe	<p>Configure the port to enable the MLD Snooping router port; Configure the port to close the MLD Snooping router port; Configure the port to enable MLD Snooping for quick exit; Configure the port to close MLD Snooping for quick exit; Configure port MLD Snooping multicast limit; Configure the MLD Snooping port filtering function (associated with the multicast configuration table).</p>

order	switch(config)# interface vlan 10
describe	Enter the IP interface of Vlan.

order	<pre>switch# show ipv6 mld snooping detail switch# show ipv6 mld snooping group-database detail switch# show ipv6 mld snooping group-database sfm-information</pre>
describe	<p>Display MLD Snooping status; Display MLD Snooping group members; Display MLD Snooping source filtering multicast.</p>

7.4 MVR configuration

order	<pre> switch(config)#mvr switch(config)#mvr vlan 10 name meeting switch(config)#mvr name meeting igmp-address 192.168.1.30 switch(config)#no mvr name meeting igmp-address switch(config)#mvr name meeting mode compatible switch(config)#mvr name meeting mode dynamic switch(config)#mvr name meeting frame priority 3 switch(config)#no mvr name meeting frame priority switch(config)#mvr name meeting frame tagged switch(config)#no mvr name meeting frame tagged switch(config)#mvr name meeting last-member-query-interval 30 switch(config)#no mvr name meeting last-member-query-interval switch(config)#no mvr vlan 10 </pre>
describe	<p>Configure global MVR activation; Create MVR VLAN 10 and set the name to meeting; Configure the IGMP address of MVR VLAN meeting (i.e. VLAN 10) to 192.168.1.30; Cancel the IGMP address configuration for MVR VLAN meeting (i.e. VLAN 10); Configure MVR VLAN meeting (i.e. VLAN 10) as compatibility mode; Configure MVR VLAN meeting (i.e. VLAN 10) as dynamic mode; The priority of configuring MVR VLAN meeting (i.e. VLAN 10) is 3; Cancel the priority configuration of MVR VLAN meeting (i.e. VLAN 10); Configure IGMP/MLD message sending in tagged mode for MVR VLAN meeting (i.e. VLAN 10); Configure IGMP/MLD message sending in untagged mode for MVR VLAN meeting (i.e. VLAN 10); Configure the LLQI of MVR VLAN meeting (i.e. VLAN 10) to 30 (i.e. 3S); Cancel LLQI configuration for MVR VLAN meeting (i.e. VLAN 10); Remove MVR VLAN 10.</p>

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	<pre> switch(config-if)#mvr name meeting type source switch(config-if)#mvr name meeting type receiver switch(config-if)#no mvr name meeting type switch(config-if)#mvr immediate-leave switch(config-if)#no mvr immediate-leave </pre>
describe	<p>Configure MVR VLAN meeting (i.e. VLAN 10) with port 1/3 as the source port; Configure MVR VLAN meeting (i.e. VLAN 10) with corresponding port 1/3 as the receiving port; Configure MVR VLAN meeting (i.e. VLAN 10) corresponding port 1/3 as invalid port; Configure the corresponding port 1/3 to enable fast live; Configure the corresponding port 1/3 to Disabled off fast live.</p>

order	<pre> switch# show mvr switch# show mvr detail switch# show mvr group-database switch# show mvr group-database detail switch# show mvr group-database sfm-inform </pre>
describe	<p>Display overview information of MVR; Display detailed information of MVR; Display the group information overview of MVR; Display group details of MVR;</p>

Display source filtering multicast for MVR.

8. LLDP configuration

order	<pre>switch(config)# lldp timer 20 switch(config)# lldp holdtime 5 switch(config)# lldp transmission-delay 3 switch(config)# lldp reinit 4 switch(config)# no lldp timer switch(config)# no lldp holdtime switch(config)# no lldp transmission-delay switch(config)# no lldp reinit</pre>
describe	<p>Configure the LLDP transmission interval to be 20 seconds; Configure LLDP to send and hold 5 times; Configure LLDP transmission delay to 3 seconds; Configure LLDP to send a reinitialization time of 4 seconds; The recovery LLDP transmission interval is the default value of 30 seconds; Restore LLDP sending and holding times to the default value of 4 times; Restore LLDP sending delay to the default value of 2 seconds; The reset time for LLDP sending is the default value of 2 seconds.</p>

order	<pre>switch(config)# interface GigabitEthernet 1/1 switch(config-if)# lldp receive switch(config-if)# lldp transmit switch(config-if)# no lldp receive switch(config-if)# no lldp transmit</pre>
describe	<p>Enable LLDP message reception; Default on) Enable LLDP message sending; Default on) Disabled off LLDP message reception; Disabled off LLDP message sending.</p>

order	<pre>switch(config)# interface GigabitEthernet 1/1 switch(config-if)# lldp tlv-select port-description switch(config-if)# lldp tlv-select system-name switch(config-if)# lldp tlv-select system-description switch(config-if)# lldp tlv-select system-capabilities switch(config-if)# lldp tlv-select management-address switch(config-if)# no lldp tlv-select port-description switch(config-if)# no lldp tlv-select system-name switch(config-if)# no lldp tlv-select system-description switch(config-if)# no lldp tlv-select system-capabilities switch(config-if)# no lldp tlv-select management-address</pre>
describe	<p>Enable LLDP optional TLV "Port describe"; (default on) Enable LLDP optional TLV "System Name"; (default on) Enable LLDP optional TLV "system describe"; (default on) Enable LLDP optional TLV "system capability"; (default on) Enable LLDP optional TLV "management address"; (default on) Disabled off LLDP optional TLV "port describe"; Disabled off LLDP optional TLV 'System Name'; Disabled off LLDP optional TLV "system describe"; Disabled off LLDP optional TLV "system capability"; Disabled off LLDP optional TLV 'Management Address'.</p>

order	switch(config)# lldp med fast 5 switch(config)# no lldp med fast
describe	Configure LLDP-MED to have 5 quick start repetitions; Restore LLDP-MED to the default value of 4 quick start repetitions.

order	switch(config)# lldp med location-tlv latitude north 33.2507 switch(config)# lldp med location-tlv longitude east 105.2371 switch(config)# lldp med location-tlv altitude meters 300.5
describe	Configure LLDP-MED coordinate position dimension: 33.2507 degrees north latitude; Configure LLDP-MED coordinate position - accuracy: 105.2371 degrees east longitude;

order	switch(config)# lldp med datum nad83-navd88 switch(config)# no lldp med datum
describe	Configure LLDP-MED coordinate position data as "NAD80-NAVD88"; Cancel the LLDP-MED coordinate position data configuration and default to "WGS84".

order	switch(config)# lldp med media-vlan-policy 1 voice tagged 100 l2-priority 7 dscp 56 switch(config)# no lldp med media-vlan-policy 1
describe	Add a new LLDP-MED policy with policy ID 1. Delete LLDP-MED policy with ID 1.

order	switch(config)# interface GigabitEthernet 1/1 switch(config-if)# lldp med transmit-tlv capabilities switch(config-if)# lldp med transmit-tlv location switch(config-if)# no lldp med transmit-tlv capabilities switch(config-if)# no lldp med transmit-tlv location
describe	Enable LLDP-MED optional TLV "capability"; (default on) Enable LLDP-MED optional TLV "position"; (default on) Disabled off LLDP-MED optional TLV "capability"; Disabled off LLDP-MED optional TLV "position";

order	switch# show lldp neighbor interface GigabitEthernet 1/1 switch# show lldp neighbor interface * switch# show lldp neighbor
describe	Display LLDP neighbor information for interface 1/1; Display LLDP neighbor information for all interfaces; Display all LLDP neighbor information.

order	switch# show lldp med remote-device interface GigabitEthernet 1/1 switch# show lldp med remote-device interface * switch# show lldp med remote-device
describe	Display LLDP-MED neighbor information for interface 1/1; Display LLDP-MED neighbor information for all interfaces; Display all LLDP-MED neighbor information.

order	switch# show lldp med media-vlan-policy 1 switch# show lldp med media-vlan-policy
describe	Display LLDP-MED policy information with ID 1; Display all LLDP-MED policy information.

order	switch# show lldp statistics interface GigabitEthernet 1/1 switch# show lldp statistics interface * switch# show lldp statistics
describe	Display LLDP statistics for interface 1/1; Display LLDP statistics for all interfaces; Display all LLDP statistics.

9. POE configuration

order	switch(config)# poe supply 200 switch(config)# no poe supply
describe	Configure the rated power of the POE power supply; Restore the rated power of the POE power supply to the default value.

order	switch(config)# poe management mode allocation-consumption switch(config)# poe management mode allocation-reserved-power switch(config)# poe management mode class-consumption switch(config)# poe management mode class-reserved-power switch(config)# poe management mode lldp-consumption switch(config)# poe management mode lldp-reserved-power switch(config)# no poe management mode
describe	Configure the combination of POE reserved power mode and power management mode; Restore the POE reserved power mode and power management mode to the default values (class consumption).

order	switch(config)# interface GigabitEthernet 1/1 switch(config-if)# poe mode standard switch(config-if)# poe mode plus switch(config-if)# no poe mode
describe	Configure the POE mode of interface 1/1 to POE (802.3AF); Configure the POE mode of interface 1/1 as POE+(802.3AT); Disabled off the POE power supply for interface 1/1. The default is POE+mode.

order	switch(config)# interface GigabitEthernet 1/1 switch(config-if)# poe power limit 27.8 switch(config-if)# no poe power limit
describe	The maximum power of POE with interface 1/1 configured is 27.8W; Delete the POE maximum power configuration for interface 1/1, which defaults to 0W.

order	switch(config)# interface GigabitEthernet 1/1 switch(config-if)# poe priority critical
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	switch(config-if)# poe priority high switch(config-if)# poe priority low switch(config-if)# no poe priority
describe	Configure POE priority for interface 1/1; Configure the POE priority of interface 1/1 as the default value, which is low.

order	switch# show poe interface GigabitEthernet 1/1 switch# show poe interface * switch# show poe
describe	Display POE information for interface 1/1; Display POE information for all interfaces; Display all POE information.

10. ERPS configuration

order	switch(config)# mep 7 down domain port flow 7 level 0 interface GigabitEthernet 1/7 switch(config)# no mep 7 switch(config)# mep 7 vid 100 switch(config)# mep 7 aps 0 raps octet 1 switch(config)# no mep 7 aps
describe	Configure MEP creation instances; Configure MEP to delete instances; Configure MEP instance Tagged VID; Configure MEP instances to enable RAPS and configure the last byte; Configure MEP instances to Disabled off RAPS.

order	switch(config)# erps 1 major port0 interface GigabitEthernet 1/7 port1 interface GigabitEthernet 1/8 switch(config)# no erps 1 switch(config)# erps 1 rpl owner port0 switch(config)# erps 1 mep port0 sf 7 aps 7 port1 sf 8 aps 8 switch(config)# no erps 1 rpl switch(config)# erps 1 vlan 1,2,3,100
describe	Configure the ERPS protection group to create and set the ring type, as well as port 0 and port 1; Configure ERPS protection group deletion; Configure the RPL role and corresponding port of the ERPS protection group; Configure the MEP associated with SF and APS for ERPS protection group port 0 and port 1; Configure the ERPS protection group to delete RPL roles; Configure ERPS protection group VLAN configuration.

order	switch# show mep 7 detail switch# show erps 1 detail switch# show erps 1 statistics
describe	Display MEP node status; Display the status of the ERPS protection group; Display ERPS protection group message statistics.

11. MAC Address Table Configuration

order	switch(config)# mac address-table aging-time 300 switch(config)# mac address-table static 00:00:12:34:56:78 vlan 1 interface GigabitEthernet 1/2
describe	Configure MAC address table aging time; Configure MAC address table static addresses.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	switch(config-if)# mac address-table learning switch(config-if)# mac address-table learning secure switch(config-if)# no mac address-table learning
describe	Configure the port MAC address learning mode to automatic; Configure the port MAC address learning mode to secure; Configure the port MAC address learning mode to disable.

order	switch# show mac address-table
describe	Display the status of the MAC address table.

12 VLAN. configuration

order	switch(config)# vlan 1,20,30,1000 switch(config)# no vlan 1000 switch(config)# vlan ethertype s-custom-port 0x88a8
describe	Configure and add VLANs; Configure and delete VLANs; Configure the Ethernet type for custom S-ports.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	switch(config-if)# switchport mode hybrid
describe	Configure port VLAN mode.

order	switch(config-if)# switchport access vlan 1000
describe	Configure Port Access Mode Port VLAN.

order	switch(config-if)# switchport trunk native vlan 20 switch(config-if)# switchport trunk vlan tag native switch(config-if)# no switchport trunk vlan tag switch(config-if)# switchport trunk allowed vlan 1,1000
describe	Configure port Trunk mode port VLAN; Configure the Trunk mode of the port to exit the Tagging mode as Tag All; Configure the Trunk mode of the port to allow the Tagging mode to be set to Untag Port VLAN; Configure VLANs allowed in Port Trunk mode.

order	switch(config-if)# switchport hybrid native vlan 30 switch(config-if)# switchport hybrid port-type s-port switch(config-if)# switchport hybrid ingress-filtering switch(config-if)# no switchport hybrid ingress-filtering switch(config-if)# switchport hybrid acceptable-frame-type tagged switch(config-if)# switchport hybrid egress-tag all switch(config-if)# switchport hybrid egress-tag none switch(config-if)# no switchport hybrid egress-tag switch(config-if)# switchport hybrid allowed vlan 20-23
describe	Configure port Hybrid mode port VLAN; Configure port Hybrid mode port type; Configure port Hybrid mode to enable admission filtering; Configure port Hybrid mode to disable admission filtering; Configure port Hybrid mode access acceptance mode; Configure the Port Hybrid mode to allow the Tagging mode to be set to Tag All; Configure the port's Hybrid mode to exit the Tagging mode as Untag All. Configure the Port Hybrid mode to exit the Tagging mode and set it to Untag Port VLAN; Configure the VLANs allowed in Port Hybrid mode.

order	switch(config-if)# switchport forbidden vlan add 20 switch(config-if)# switchport forbidden vlan remove 20
describe	Configure port addition to prohibit VLANs; Configure port deletion to prohibit VLANs.

order	switch# show vlan brief switch# show vlan status
describe	Display VLAN membership relationships; Display VLAN ports.

13. Private VLAN configuration

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port;

order	switch(config-if)# pvlan 2
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	switch(config-if)# no pvlan 2 switch(config-if)# pvlan isolation switch(config-if)# no pvlan isolation
describe	Configure the port to join PVLAN (automatically created when PVLAN is associated with the first port); Configure port exit from PVLAN (automatically deleted when PVLAN does not have an associated port); Configure ports to enable PVLAN port isolation; Configure port to disable PVLAN port isolation;

14. VCL configuration

order	switch(config)# vlan protocol eth2 0x833 group test switch(config)# no vlan protocol eth2 0x833 group test
describe	Configure a protocol to group mapping table entry (based on protocol). The Ethernet message with etype 0x833 belongs to Group test; Delete protocol to group mapping table entries (based on protocol).

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port

order	switch(config-if)# switchport vlan protocol group test vlan 10 switch(config-if)# no switchport vlan protocol group test vlan 10 switch(config-if)# switchport vlan mac 0c-33-22-00-00-00 vlan 10 switch(config-if)# no switchport vlan mac 0c-33-22-00-00-00 vlan 10
describe	Configure protocol based group to VLAN mapping and add the current port as a member port; Exit the current port from the member port in the group to VLAN mapping table. If there are no other member ports, delete the mapping Shooting table term; Exit the current port from the member port of the MAC address based VLAN mapping table. If there are no other member ports, Then delete the mapping table entry.

order	switch# show vlan mac switch# show vlan protocol switch# show vlan ip-subnet
describe	Display the relevant configuration of MAC based VLANs. Display the relevant configurations of protocol based VLANs. Display the relevant configurations of VLANs based on IP subnets.

15. Voice VLAN configuration

order	switch(config)# voice vlan switch(config)# no voice vlan switch(config)# voice vlan vid 1000 switch(config)# no voice vlan vid switch(config)# voice vlan aging-time 10000
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	switch(config)# no voice vlan aging-time switch(config)# voice vlan class 6 switch(config)# no voice vlan class
describe	Enable voice VLAN globally; Disabled off voice VLAN globally; Configure a voice VLAN with a VID of 1000; Cancel the configuration of VID for voice VLANs; Configure the aging time of voice VLAN to 10000 seconds; Restore the aging time of the voice VLAN to the default value; Configure the traffic classification of the voice VLAN to 6; Restore the traffic classification of voice VLANs to default values.

order	switch(config)# voice vlan oui 00-01-E3 description Siemens AG phones switch(config)# no voice vlan oui 00-01-E3
describe	Add OUI table entries for voice VLANs; Delete table entries with OUI of 00-01-E3 for voice VLANs.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	switch(config-if)# switchport voice vlan mode auto switch(config-if)# switchport voice vlan mode force switch(config-if)# switchport voice vlan mode disable switch(config-if)# no switchport voice vlan mode switch(config-if)# switchport voice vlan security switch(config-if)# no switchport voice vlan security switch(config-if)# switchport voice vlan discovery-protocol oui switch(config-if)# switchport voice vlan discovery-protocol lldp switch(config-if)# switchport voice vlan discovery-protocol both switch(config-if)# no switchport voice vlan discovery-protocol
describe	Configure the port mode to automatic; Configure the port mode to mandatory; Configure the port mode to disable; Restore port mode to default (disabled); Enable port security mode; Disable the security mode of the port; Configure the discovery protocol of the port as OUI; Configure the discovery protocol of the port as LLDP; Configure the discovery protocol of the port as Both; The discovery protocol for the recovery port is the default (OUI).

order	switch# show voice vlan
describe	View the relevant configurations of voice VLANs.

16. GVRP configuration

order	switch(config)# gvrp switch(config)# no gvrp
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	switch(config)# gvrp time join-time 20 leave-time 60 leave-all-time 1000 switch(config)# gvrp max-vlans 20
describe	Configure GVRP activation; Configure GVRP shutdown; Configure GVRP join timeout, leave timeout, and all leave timeout times; Configure the maximum number of VLANs for GVRP.

order	switch(config)# interface GigabitEthernet 1/3
describe	Enter configuration port.

order	switch(config-if)# gvrp switch(config-if)# no gvrp
describe	Configure port GVRP enable; Configure port GVRP shutdown.

17. maintain

order	switch# reload cold
describe	Restart the device.

order	switch# reload defaults
describe	Restore factory configuration.

order	switch# firmware upgrade http://192.168.6.183/is2500-release.mfi
describe	Software upgrade.

order	switch# copy running-config startup-config switch# copy running-config tftp://192.168.6.183/running-config switch# copy flash:backup-config tftp://192.168.6.183/backup-config switch# copy tftp://192.168.6.183/running-config running-config switch# copy tftp://192.168.6.183/backup-config flash:backup-config switch# copy startup-config running-config switch# copy flash:backup-config running-config switch# delete flash:startup-config
describe	Configuration saving; Configuration download; Configure and download custom files; Configuration upload; Configure uploading custom files; Configuration activation; Configure and activate custom files; Configuration deletion.

