Smart Architecture of Esfahan

CLI Configuration User Manual for *SAE-PE8900F-DGM* and *SAE-PE242400F-QGSFPM* Content

“WE GUARANTEE THAT THESE INSTRUCTIONS DIDN’T CHANGE EVEN A CHARACTER FROM VITESSE DOCUMEN”

Chapter 1 System Status Command

1.1 System Information

1.1.1 show version

Command Description

For version Information(Device Name, Version of hardware and software, MAC & Compilation Time etc.

N/A

Default

N/A

Command Mode

Privilege Mode Example

N/A

1.1.2 show clock

Command Description

For current time setting of the system

N/A

Default

N/A

Command Mode

Privilege Mode Example

N/A

1.2 System Log

1.2.1 show logging

Command Description

For current system Log information of the switch

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show logging

1.3 Port Statistics

1.3.1 show interface

Command Description

For Port statistics reports

Parameter

show interface [Port type PORT_LIST] statistics Port type：GigabitEthernet //gigabit Port

XGigabitEthernet //10 gigabit port

PORT_LIST：Port list, supporting different mode, such as 1/1-48、1/1、1/1-2,3,5-8 etc；
Default

N/A

Command Mode

Privilege Mode

Example

Switch#show interface GigabitEthernet 1/1 statistics

Switch#show interface GigabitEthernet 1/1-3,28-32statistics

//For No.1 and 28 port statistics report

1.4 LACP Status

1.4.1 show lacp neighbor

Command Description

For LACP Status

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show lacp neighbor

1.5 STP Status

1.5.1 show spanning-tree

Command Description

For the Spanning Tree Bridge Status

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode Uses the Command Mode

N/A

Example

Switch#show spanning-tree active 1.5.2 show spanning-tree interface

Command Description

For the Spanning Tree port status

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show spanning-tree interface GigabitEthernet 1/45

1.6 LLDP Status

1.6.1 show lldp neighbors

Command Description

For LLDP neighbors information

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show lldp neighbors

1.7 Layer 2 Forwarding List

1.7.1 show mac address-table

For Layer 2 Forwarding List

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show mac address-table

Switch#show mac address-table static

Switch#show mac address-table count

Switch#show mac address-table learning

Switch#show mac address-table interface Gigabit Ethernet 1/45

Switch#show mac address-table vlan 1

1.8 Loop-Protect Status

1.8.1show loop-protect

Command Description

For Loop-Protect Status

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show loop-protect status

Chapter 2 System Settings

2.1 IP Configuration

IP Configuration Command：

ip address ip address dhcp

show ip interface brief

2.1.1 Ip address

Command Description

Ip address, Switch Port Configuration for managing IP

no ip address A.B.C.D, indicates deleting Port ip A.B.C.D

Parameter

N/A

Default

Enable

Command Mode

Vlan Port Configuration Mode

Example

Switch(config)# interface vlan 1

Switch(config-if-vlan)# ip address 192.168.255.200 255.255.255.0

2.1.2 ip address dhcp

Command Description

ip address dhcp, Switch Configuration to manage ip（vlan1）automatic access (DHCP Sever will allot a dynamic IP for vlan 1 of the switch）

no ip address dhcp, indicating that disable management for IP DHCP allocation. (Static Manual Configuration Mode)

Parameter

N/A

Default

Enable

Command Mode

vlan Configuration Mode

Example

Switch(config) interface vlan 1

Switch(config-if-vlan)#ip address dhcp

S5300(config-if-vlan)#no ip address dhcp

2.1.3 show ip interface

Command Description

For IP configuration of the port

Parameter

N/A

Default

Enable

Command Mode Privilege Mode

Example

Switch#show interface brief

Switch#show interface vlanif1

2.2 System log Configuration

Log Configuration Command：

logging on logging host 2.2.2.2

logging level warning

2.2.1logging on

Command Description

logging on, enable log server mode

No logging on, disable logging Server mode

Parameter

N/A

Default

N/A

Command Mode

Global Mode

Example

Switch(config)#logging on

Switch(config)#no logging on

2.2.2 logging host

Command Description

Log Server IP Address Configuration

Parameter

Hostname //Log Server Realm Name or IP address

Default

N/A

Command Mode

Global Mode

Example

Switch(config)#logging host 192.168.0.1

2.2.3 logging level

Command Description

Configuration of Log Level for the uploading server；

Parameter

Error | warning | info

Default

N/A

Command Mode

Global Mode

Example

Switch(config)#logging level error

2.3 User Configuration

User Configuration Command：

username name

show user

Note：name，indicating the account name，support max 18 characters；password，support max 18 characters；

2.3.1 username name

Command Description

username name privilege level password none|encrypted|unencrypted

password

For add user / modify the password of an existed user / modify the administration authority of an existed user / modify the password and administration authority of an existed user

Level, the user account authority level, valid level(1 is the lowest administration authority, 15 is the highest administration authority)； no username name， deleting a existed account

Parameter

N/A

Default

N/A

Command Mode

Global mode

Example

Switch(config)# username test privilege 15 password encrypted test

//New account：test，Password：test，Authority：the highest administration authority；Password Type： ciphertext

Switch(config)#no username test

2.3.2 show users

Command Description

For all users configuration information of the switch

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch#show users

Switch#show running-config // This command could also be used for checking all user account

2.4 NTP Configuration

ntp Configuration Command：

ntp ntp server show ntp status

2.4.1 ntp

Command Description

ntp， Enable the NTP；

No ntp， Disable the NTP；

Parameter

N/A

Default

N/A

Command Mode

Global Mode

Example

Switch(config)# ntp

Switch(config)# no ntp

2.4.2 ntp server

Command Description

ntp server <index_var> ip-address { <ipv4_var> | <ipv6_var> | <name_var> }

NTP Server address or realm name configuration

index_var 1-5, Support 5 NTP servers

no ntp server index_var , Delete a NTP address

Parameter

N/A

Default

N/A

Command Mode

Global Mode

Example

Switch(config)# ntp server 1 ip-address 200.194.203.55 Switch(config)# no ntp server 1 ip-address

2.4.3 show ntp status

Command Description

For NTP Server Configuration Information

Parameter

N/A

Default

N/A

Command Mode Privilege Mode

Example

Switch(config)#show ntp status

Chapter 3 Port Configuration Command

3.1 Port Configuration

Port configuration command：

duplex speed

flowcontrol

shutdown

3.1.1 duplex

Command Description

duplex {auto | full | half }

no duplex

Setting the duplex mode for the port. Noted: If there isn't any special requirement, please do not change the rate mode of the port. Or it will influence the port proper working.

Parameter

Parameter	Parameter Command Mode
auto	Automatic
full	Full duplex
half	Half duplex

Default

All port is auto. The mode of optical port is fixed full duplex

Command Mode

Port configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1

Switch(config-if)# duplex full

Switch(config-if)# no duplex full

3.1.2 speed

Command Description

speed {10 | 100 | 1000 | 10000 | auto }, Setting port rate no speed

Parameter

Parameter	Parameter Command Mode
10 | 100 | 1000 | 10000	Port rate: 10M、100M、1000M、10000Mbps
Auto	Automatically setting port rate

Default

Electrical port is automatic as default, gigabit optical port is adaptive, 10 gigabit port is forced to 10000M ;

Command Mode

Port Configuration Mode

Note: Optical port rate is forced to 1000M and 10000M. Electrical port could be set to Auto, 10M, 100, and 1000M.

Example

Switch(config)# interface GigabitEthernet 1/1

Switch(config-if)# speed 1000

3.1.3 flowcontrol

Command Description

flowcontrol on/off, Enable and disable flow control function

Parameter

N/A

Default

Disable, gigabit optical port can not support flow control

Command Mode

Port Configuration Mode

Example

Switch(config-if)# flowcontrol on

Switch(config-if)# flowcontrol off

3.1.4 shutdown

Command Description

shutdown, disable the port

no shutdown, enable the port

Parameter

N/A

Default

Enable

Command Mode

Port Configuration Mode

Example

Switch(config-if)# no shutdown

3.2 Port Isolation

3.2.1 pvlan isolation

Command Description

Port Isolation Configuration. Forbid the connection between ports under same vlan

Parameter

N/A

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1-5

Switch(config-if)# pvlan isolation //Isolate port 1~5

Switch(config-if)# no pvlan isolation //cancel the isolation for the port 1~5

3.3 Port Monitor

3.3.1 Monitor destination

Command Description

monitor destination, Enable the monitor destination port

no monitor destination, Disable the monitor destination port

Parameter

N/A

Default

N/A

Command Mode

Global Mode

Example

Switch(config)# monitor destination interface GigabitEthernet 1/1

Switch(config)# no monitor destination

3.3.2 Monitor source

Command Description

monitor source, Enable the monitor source port

no monitor source interface GigabitEthernet 1/2. Disable the monitor source port

Parameter

monitor source { { interface (<port_type> [<v_port_type_list>]) } | { { both | rx | tx }

port_type：GigabitEthernet or XGigabitEthernet；

Both/rx/tx：Mirror direction, indicating ingress and Egress/ ingress/ egress data of mirror monitor port.

Default

N/A

Command Mode

Global Mode

Example

Switch(config)# monitor source interface GigabitEthernet 1/2 both

Switch(config)# no monitor source interface GigabitEthernet 1/2

3.4 Port Security

3.4.1 access-list ace

Command Description

access-list ace,

Port Security Policy Entry Configuration

Parameter

N/A

Default

N/A

Command Mode

Global Mode

Example

Switch(config)# access-list ace 2 action deny frame-type ipv4 ip-protocol any

logging shutdown

3.5 Port Policy

3.5.1 access-list rate-limiter

Command Description

access-list rate-limiter, ACL Band width Limit Policy Configuration

Parameter

<RateLimiterList : 1~16> pps <PpsRate : 0-131071>

Default N/A

Command Mode Global Mode

Example

Switch(config)# access-list rate-limiter 4 pps 100000

//Limit for ACL Policy ID4 configuration: 1000000 pps

Chapter 4 Advanced Configuration Command

4.1 Link Aggregation

Static Aggregation Configuration Command：

aggregation mode aggregation group

Dynamic Aggregation Configuration Command：

lacp lacp key lacp port-priority lacp role lacp timeout

4.1.1 aggregation mode

Command Description

aggregation mode {ip | smac | dmac | smac dmac | port }, aggregation load-balancing algorithm configuration no aggregation mode, aggregation load-balancing algorithm configuration to default

Parameter

Parameter	ParameterCommand Mode
ip	load-balancing based on ip address
smac	load-balancing based on source mac address
dmac	load-balancing based on destination mac address
smac dmac	load-balancing based on source & destination mac address
port	load-balancing based on tcp / udp port number

Default

load-balancing based on ip address

Command Mode

Global Mode

Example

Switch(config)# aggregation mode smac dmac

4.1.2 aggregation group

Command Description

aggregation group group-id, Configuration for port to an aggregation group

no aggregation group, Configuration for deleting static aggregation for a group

Parameter

group-id, Aggregation group id

Default

N/A

Command Mode Port Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1-8

Switch(config-if)# aggregation group 2

Switch(config-if)# no aggregation group

4.1.3 lacp

Command Description

lacp, Configuration for enable dynamic Aggregation of port

no lacp, Configuration for disable dynamic Aggregation of port

Parameter

N/A

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1-4

Switch(config)# lacp

Switch(config)# no lacp

4.1.4 lacp key

Command Description

Lacp key, Configuration for the key value of dynamic aggregation port

Parameter

<1-65535> key value, ranges for the setting value 1-65535 ; auto, key value at automatic settings ;

Default

auto

Command Mode

Port Configuration Mode

Example

Switch(config-if)# lacp key 100

4.1.5 lacp port-priority

Command Description

lacp port-priority <1-65535> , Configuration for the Lacp Port-priority

Parameter

<1-65535> , Ranges for priority, The value is less, the priority level is higher

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config-if)# lacp port-priority 100

4.1.6 lacp role

Command Description

lacp role active | passive, Configuration for dynamic aggregation port role

Parameter

active | passive, Indicating the port role is active and passive respectively

Default

active

Command Mode Port Configuration Mode

Example

Switch(config-if)#lacp role active

Switch(config-if)#lacp role passive

4.1.7 lacp timeout

Command Description

Lacp timeout fast | slow, Configuration for Lacp timeout selections

Parameter

fast | slow, indicating fast and slow respectively

Default

fast

Command Mode Port Configuration Mode

Example

Switch(config-if)# lacp timeout fast

Switch(config-if)# lacp timeout slow

4.2 VLAN Management

vlan Configuration Command：

vlan name switchport mode switchport access vlan switchport forbidden vlan

Switchport hybrid acceptable-frame-type

Switchport hybrid ingress-filtering

Switchport hybrid native Switchport hybrid egress-tag show vlan

4.2.1 Vlan

Command Description

vlan { vlan_list}, add vlan no vlan , delete vlan

Parameter

<vlan_list> VLAN ID, valid ranges 1-4095,4095 should be kept, the real using ranges is 1-4094

Default

vlan 1, All port is vlan 1

Command Mode

Global Configuration Mode

Example

Switch(config)#vlan 2-3,6,9 //Add vlan 2,3,6,9 , 4 vlan ports

Switch(config)#no vlan 6,9 //Delete vlan 6,9

4.2.2 Name

Command Description

Name <vword32>, Setting vlan name

Parameter

<vword32> , vlan name

Default

default

Command Mode

vlan configuration mode

Example

Switch(config)# vlan 2

Switch(config-vlan)# name test123

4.2.3 switchport mode

Command Description

switchport mode {access | trunk | hybrid }

Parameter

Parameter	Parameter Command Mode
access	Access mode

trunk	Trunk mode
Hybrid	Hybrid mode

Switch ports could support several modes as below:

Access Mode: The port is only under one vlan, and only send and receive the data marked with N/A.

Trunk Mode: The port could be connect with other switches, and could send and receive marked data.

Hybrid Mode: The port could be connect with PC, switches, and routers(It is the combination of Trunk mode and Access Mode)

Default Hybrid Mode

Command Mode

Port Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/2-4

Switch(config-if)#switchport mode access

Switch(config)# interface GigabitEthernet 1/1

Switch(config-if)#switchport mode trunk

4.2.4 switchport access vlan

Command Description

switchport access vlan { vlan-id}

Parameter

Parameter	ParameterCommand Mode
Vlan-id	Vlan ID ranges 1-4094

Default

Vlan 1

Command ModePort Configuration Mode

Example

Switch(config)#vlan 2

Switch(config)# interface GigabitEthernet 1/5-8

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 2

4.2.5 Switchport forbidden vlan

Command Description

switchport forbidden vlan { add | remove} {vlan-id}

Parameter

Parameter	ParameterCommand Mode
add	enable vlan list
Remove	disable vlan list
Vlan-id	Vlan ID ranges1-4094

Default

Enable Vlan 1

Command ModePort Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1

Switch(config-if)# switchport mode hybrid

Switch(config-if)# switchport forbidden vlan add 2

Switch(config-if)# switchport forbidden vlan remove 3-4

4.2.6 Switchport hybrid acceptable-frame-type

Command Description

Switchport hybrid acceptable-frame-type <all | tagged | untagged>

Parameter

all | tagged | untagged enable/ disable hybrid port receiving data of all tag

Default

all

Command ModePort Configuration Mode

Example

Switch(config)# interface GigabitEthernet 1/1

Switch(config-if)# switchport hybrid acceptable-frame-type all

4.2.7 Switchport hybrid ingress-filtering

Command Description

Switchport hybrid ingress-filtering，Enable Port hybrid ingress-filtering

no switchport hybrid ingress-filtering，Disable Port hybrid ingress-filtering

Parameter

N/A

Default

Disable

Command Mode

Port Configuration Mode

Example

Switch(config)# switchport hybrid ingress-filtering

Switch(config-if)# no switchport hybrid ingress-filtering

4.2.8 Switchport hybrid egress-tag

Command Description

Switchport hybrid egress-tag <all | none>，port hybrid egress-tag configuration

No switchport hybrid egress-tag

Parameter

<all | none>，indicating egress port tag and untag attribute

Default

Untag Port vlan

Command Mode

Port Configuration Mode

Example

Switch(config)# switchport hybrid egress-tag all

Switch(config-if)# no switchport hybrid egress-tag

4.2.9 Switchport hybrid native

Command Description

Switchport hybrid native vlan <vlan-id> ,Configuration for hybrid port local vlan

Parameter

Vlan-id	Vlan ID ranges 1-4094

Default

all

Command ModePort Configuration Mode

Example

Switch(config)# Switchport hybrid native vlan 2

4.2.10 show vlan

Command Description

show vlan brief |id vlan-list| ip-subnet | mac |name | protocol | status

Parameter

For checking current vlan configuration according to vlan id & vlan name etc.

Default

N/A

Command Mode

Privilege Mode

Example

Switch# show vlan brief

Switch# show vlan status

Switch# show vlan 2

Switch# show vlan ip-subnet id 2

4.3 VCL Configuration

VCL Configuration Command：

switchport vlan mac switchport vlan ip-subnet switchport vlan mapping switchport vlan protocol

4.3.1 switchport vlan mac

Command Description

switchport vlan mac, according to the vlan of MAC

no switchport vlan mac

Parameter

N/A

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config-if)# switchport vlan mac 00-00-00-00-00-01 vlan 2

Switch(config-if)# no switchport vlan mac 00-00-00-00-00-01 vlan 2

4.3.2 switchport vlan ip-subnet

Command Description

switchport vlan ip-subnet, according to the vlan of sub network mask

no switchport vlan ip-subnet, Delete the configuration according to the vlan of ip-subnet

Parameter

N/A

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config-if)# switchport vlan ip-subnet id 1 10.0.0.1/255.255.255.0 vlan 1

Switch(config-if)# no switchport vlan ip-subnet id 1

4.3.3 switchport vlan protocol

Command Description

switchport vlan protocol, Configurate the mapping of group name to vlan

no switchport vlan mac

Parameter

switchport vlan protocol group <group_name> vlan <vlan_id>

Default

N/A

Command Mode

Port Configuration Mode

Example

Switch(config-if)# switchport vlan protocol group test vlan 2

Switch(config-if)# no switchport vlan protocol group test vlan 2

4.3.4 vlan protocol

Command Description

vlan protocol eth2| llc | snap, Configurate the mapping of protocol to group

no vlan protocol

Parameter

eth2 Ethernet-based VLAN commands llc LLC-based VLAN group snap SNAP-based VLAN group

Default

N/A

Command ModeGlobal Configuration Mode

Example

Switch(config)# vlan protocol snap 0xE02B 0x1 group test

Switch(config)# no vlan protocol snap 0xE02B 0x1 group test

4.4 DHCP Snooping Configuration

DHCP Snooping Configuration Command： ip dhcp snooping ip dhcp snooping trust show ip dhcp snooping table

4.4.1 ip dhcp snooping

Command Description

ip dhcp snooping, Enable DHCP Snooping

no ip dhcp snooping, Disable DHCP Snooping

Parameter

N/A

Default

Disable

Command ModeGlobal Configuration Mode

Example

Switch(config)# ip dhcp snooping

Switch(config)# no ip dhcp snooping

4.4.2 ip dhcp snooping trust

Command Description

ip dhcp snooping trust, Enable DHCP snooping trust

no ip dhcp snooping trust, Disable DHCP snooping

Parameter

N/A

Default

Enable

Command ModePort Configuration Mode

Example

Switch(config-if)# ip dhcp snooping trust

Switch(config-if)# no ip dhcp snooping trust

4.4.3 show ip dhcp snooping table

Command Description

show ip dhcp snooping table, For checking DDHCP Snooping table

Parameter

N/A

Default

N/A

Command ModeGlobal Configuration Mode

Example

Switch(config)# ip dhcp snooping

Switch(config)# no ip dhcp snooping

4.4.4 show ip dhcp snooping interface

Command Description

show ip dhcp snooping interface, For checking DHCP Snooping trust mode

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch# show ip dhcp snooping interface GigabitEthernet 1/1

4.5 DHCP Server Configuration

DHCP Server Configuration Command：

ip dhcp server

ip dhcp pool

host/network

lease time

default-router

dns

show ip dhcp

4.5.1 ip dhcp server

Command Description

ip dhcp server, Enable DHCP

no ip dhcp server, Disable DHCP

Parameter

N/A

Default

Disable

Command Mode

Global Configuration Mode/vlan Port Configuration ModeExample

Switch(config)# ip dhcp server

Switch(config)# no ip dhcp server

Switch(config)# interface vlan 2

Switch(config-if-vlan)# ip dhcp server //Enable DHCP server allocating IP under vlan 2

Switch(config-if-vlan)# no ip dhcp server // disable DHCP server allocating IP under vlan 2

4.5.2 ip dhcp pool

Command Description

ip dhcp pool <word>, Add dhcp address pool name ip dhcp pool <word>, Delete specified name DHCP address pool

Parameter

N/A

Default

N/A

Command Mode

Global Configuration Mode

Example

Switch(config)# ip dhcp pool vlan2_test1

Switch(config)# no ip dhcp pool vlan2_test1

4.5.3 ip dhcp excluded-address

Command Description

ip dhcp excluded-address, Setting DHCP excluded IP address

noip dhcp excluded-address, Delete DHCP specified excluded IP address, excluding the DHCP Client, whose IP is not under the port.

Parameter

N/A

Default

N/A

Command Mode

Global Configuration Mode

Example

Switch(config)# ip dhcp excluded-address 1.0.0.1 1.0.0.2

Switch(config)#no ip dhcp excluded-address 1.0.0.1 1.0.0.2

4.5.4 host/network

Command Description

Host <ip> <subnet_mask> , Configurate IP DHCP pool.

Network <ip> <subnet_mask> ,Configurate DHCP pool IP network segment(Max support 1K, could be extending to 4K)

No host|network <ip> <subnet_mask>, Delete DHCP Pool IP or network segment.

Parameter

<ip> <subnet_mask> , Indicating IP address and subnet mask respectively

Default

N/A

Command Mode

DHCP Pool Configuration Mode

Example

Switch(config)# ip dhcp pool test_pool

Switch(config-dhcp-pool)# host 3.0.0.1 255.0.0.0

Switch(config-dhcp-pool)# network 1.0.0.1 255.0.0.0

4.5.5 lease time

Command Description

lease { <day> [<hour> [<min>]] | infinite } , Configurate address DCHP pool IP lease

Parameter

{ <day> [<hour> [<min>]] | infinite }

Default

infinite

Command Mode

DHCP Pool Configuration Mode

Example

Switch(config-dhcp-pool)# lease infinite

Switch(config-dhcp-pool)# lease 1 0 0

4.5.6 dns

Command Description

Dns <A.B.C.D>, Configurate DNS

Parameter

<A.B.C.D>, dns address

Default

N/A

Command Mode

DHCP Pool Configuration Mode

Example

Switch(config-dhcp-pool)# dns 8.8.8.8

4.5.7 Default-router

Command Description

Default-router <A.B.C.D>, Configurate DHCP Pool default gateway

Parameter

<A.B.C.D>, IP address of the gateway

Default

N/A

Command Mode

DHCP Pool Configuration Mode

Example

Switch(config-dhcp-pool)# default-router 1.0.0.100

4.5.8 Show ip dhcp

Command Description

Show ip dhcp pool|server, For checking IP DHCP pool and server configuration

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch# Show ip dhcp pool

Switch# Show ip dhcp server

4.6 DHCP relay Configuration

DHCP relay Configuration Command：

ip dhcp relay ip helper-address ip dhcp relay information option ip dhcp relay information policy show ip dhcp relay

4.6.1 ip dhcp relay

Command Description

ip dhcp relay, Enable the DHCP relay

no ip dhcp relay, Disable the DHCP replay

Parameter

N/A

Default

Disable

Command Mode

Global Configuration Mode

Example

Switch(config)# ip dhcp relay

Switch(config)# no ip dhcp relay

4.6.2 ip helper-address

Command Description

ip helper-address ip_addr, Configurate IP of relay server

Parameter

N/A

Default

N/A

Command Mode

Global Configuration Mode

Example

Switch(config)# ip helper-address 1.0.0.1

4.6.3 ip dhcp relay information option

Command Description

ip dhcp relay information option, Enable DHCP relay option mode

no ip dhcp relay information option, disable DHCP relay option mode

Parameter

N/A

Default

Disable

Command Mode

Global Configuration Mode

Example

Switch(config)# ip dhcp relay information option

Switch(config)# no ip dhcp relay information option

4.6.4 ip dhcp relay information policy

Command Description

ip dhcp relay information policy {Replace|Keep|Drop},

Configurate DHCP relay information policy

Parameter

N/A

Default

N/A

Command ModeGlobal Configuration Mode

Example

Switch(config)# ip dhcp relay information policy drop

4.6.5 Show ip dhcp relay

Command Description

Show ip dhcp relay, For checking DHCP Relay Configuration

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch# show ip dhcp relay

4.7 IGMP Snooping Configuration

igmp-snooping Configuration Command： ip igmp-snooping ip igmp-snooping vlan ip igmp-snooping immediate-leave ip igmp-snooping max-groups ip igmp-snooping mrouter ip igmp-snooping querier election ip igmp-snooping querier address ip igmp-snooping compatibility ip igmp-snooping priority ip igmp snooping robustness-variable ip igmp-snooping query-interval ip igmp-snooping query-max-response-time ip igmp-snooping last-member-query-interval

ip igmp-snooping unsolicited-report-interval

show ip igmp-snooping

4.7.1 ip igmp-snooping

Command Description

ip igmp-snooping Enable the igmp-snooping

no ip igmp-snooping

Disable ip igmp-snooping

Parameter

N/A

Default

Disable

Command Mode

Global Configuration Mode、VLAN Configuration Mode or Configurate this command under Port Configuration Mode

Example

Enable igmp-snooping

Switch (config)# ip igmp snooping

4.7.2 ip igmp-snooping vlan

Command Description

ip igmp-snooping vlan <vlan_list> add IGMP Vlan

no ip igmp-snooping vlan <vlan_list> Delete IGMP Vlan

Parameter

Parameter	Parameter Command Mode
vlan_list	VLAN ID

Default

N/A

Command Mode

Configurate this command under Global Configuration Mode

Example

add IGMP VLAN

Switch (config)# ip igmp snooping vlan 1

4.7.3 ip igmp-snooping immediate-leave

Command Description

ip igmp-snooping immediate-leave Enable the function

no ip igmp-snooping immediate-leave Disable the function

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode

Example for Enable the function

Switch (config-if)# ip igmp snooping immediate-leave

4.7.4 ip igmp-snooping max-groups

Command Description

ip igmp-snooping max-groups <Throttling : 1-10>

For setting throttling numbers of port

no ip igmp-snooping max-groups

For setting to default

Parameter

Parameter	Parameter Command Mode
Throttling	Ranges 1-10

Default

unlimited

Command Mode

Configurate the command under Port Configuration Mode

Example for Setting Throttling of port at 10

Switch (config-if)# ip igmp snooping max-groups 10

4.7.5 ip igmp-snooping mrouter

Command Description

ip igmp-snooping mrouter , Enable the function

no ip igmp-snooping mrouter

Disable the function

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode

Example for Enable the function

Switch (config-if)# ip igmp snooping mrouter

4.7.6 ip igmp-snooping querier election

Command Description

ip igmp-snooping querier election

Enable the function

no ip igmp-snooping querier election

Disable the function

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under VLAN Configuration Mode

Example for enable the function

Switch (config-if-vlan)# ip igmp snooping querier election

4.7.7 ip igmp-snooping querier address

Command Description

ip igmp-snooping querier address <ipv4_ucast> For setting ip igmp-snooping querier address

no ip igmp-snooping querier address

For setting to default

Parameter

Parameter	ParameterCommand Mode
ipv4_ucast	querier address

Default

0.0.0.0

Command Mode

Configurate the command under Vlan configuration mode

Example for setting ip igmp-snooping querier addresss

Switch (config-if-vlan)# ip igmp snooping querier address 192.168.2.1

4.7.8 ip igmp-snooping compatibility

Command Description

ip igmp-snooping compatibility auto/v1/v2/v3

For Setting IGMP compatibility in IGMP VLAN

no ip igmp-snooping compatibility

Setting IGMP compatibility in IGMP VLAN to default

Parameter

N/A

Default

IGMP-auto

Command Mode

Configurate the command under VLAN configuration Mode

Example for setting IGMP in VLAN into Forced IGMP V1

Switch (config-if-vlan)# ip igmp snooping compatibility v1

4.7.9 ip igmp-snooping priority

Command Description

ip igmp-snooping priority <CosPriority : 0-7> For setting the priority

no ip igmp-snooping priority

For setting t he priority to default

Parameter

Parameter	ParameterCommand Mode
CosPriority	Priority Level Ranges 0-7

Default

0

Command Mode

Configurate the command under VLAN configuration mode

Example for setting priority level

Switch (config-if-vlan)# ip igmp snooping priority 7

4.7.10 ip igmp snooping robustness-variable

Command Description

ip igmp-snooping robustness-variable <IpmcRv : 1-255> For setting RV

no ip igmp-snooping robustness-variable

Setting RV to default

Parameter

Parameter	ParameterCommand Mode
IpmcRv	RV ranges 1-255

Default

2

Command Mode

Configurate the command under VLAN configuration mode

Example for setting RV

Switch (config-if-vlan)# ip igmp snooping robustness-variable 7

4.7.11 ip igmp-snooping query-interval

Command Description

ip igmp-snooping query-interval <IpmcQi : 1-31744> For setting QI

no ip igmp-snooping query-interval

For setting QI to default

Parameter

Parameter	ParameterCommand Mode
IpmcQi	QI ranges 1-31744

Default

125

Command Mode

Configurate the command under VLAN configuration mode

Example for setting QI

Switch (config-if-vlan)# ip igmp snooping query-interval 70

4.7.12 ip igmp-snooping query-max-response-time

Command Description

ip igmp-snooping query-max-response-time <IpmcQri : 0-31744>

For setting QRI

no ip igmp-snooping query-max-response-time

For setting QRI to default

Parameter

Parameter	ParameterCommand Mode
IpmcQri	QRI Ranges 0-31744

Default

100

Command Mode

Configurate the command under VLAN configuration mode

Example for setting ORI

Switch (config-if-vlan)# ip igmp snooping query-interval 110

4.7.13 ip igmp-snooping last-member-query-interval

Command Description

ip igmp-snooping last-member-query-interval < IpmcLmqi : 0-31744>

For setting LLQI

no ip igmp-snooping last-member-query-interval

For setting LLQI to default

Parameter

Parameter	ParameterCommand Mode
IpmcLmqi	LLQI ranges 围 0-31744

Default

10

Command Mode

Configurate the command under VLAN configuration mode

Example for setting LLOI

Switch (config-if-vlan)# ip igmp snooping last-member-query-interval 20

4.7.14 ip igmp-snooping unsolicited-report-interval

Command Description

ip igmp-snooping unsolicited-report-interval <IpmcUri : 0-31744>

For setting URI

no ip igmp-snooping unsolicited-report-interval

For setting URI to default

Parameter

Parameter	ParameterCommand Mode

IpmcUri	URII ranges 0-31744

Default

10

Command Mode

Configurate the command under VLAN configuration mode

Example for setting URI

Switch (config-if-vlan)# ip igmp snooping last-member-query-interval 200

4.7.15 show ip igmp snooping

Command Description

show ip igmp snooping |/detail/group-database/mrouter/vlan

For checking IGMP configuration

Parameter

N/A

DefaultN/ACommand Mode

Configurate the command under Privilege mode

Example for checking IGMP configuration

Switch #show ip igmp snooping

4.8 MVR configuration

MVR configuration command：

mvr mvr vlan mvr name mvr immediate-leave ipmc profile ipmc range show mvr show ipmc profile show ipmc range

4.8.1 Mvr

Command Description

Mvr, Enable global MVR mode

no mvr, Disable global MVR mode

Parameter

N/A

Default

Disable

Command ModeGlobal Configuration Mode

Example

Switch(config)# mvr

Switch(config)# no mvr

4.8.2 Mvr vlan

Command Description

mvr vlan, Setting MVR vlan port

no mvr vlan, Delete mvr vlan port settings

Parameter

mvr vlan <v_vlan_list> [name <mvr_name>] mvr vlan <v_vlan_list> channel <profile_name> mvr vlan <v_vlan_list> frame priority <cos_priority> mvr vlan <v_vlan_list> frame tagged mvr vlan <v_vlan_list> igmp-address <v_ipv4_ucast> mvr vlan <v_vlan_list> last-member-query-interval <ipmc_lmqi> mvr vlan <v_vlan_list> mode { dynamic | compatible }

Default

N/A

Command ModeGlobal Configuration Mode

Example

Switch(config)# mvr vlan 2 name test

Switch(config)# mvr vlan 2 mode compatible

4.8.3 Mvr name

Command Description

mvr name, Setting MVR name

no mvr name, Delete MVR name

Parameter

mvr name <mvr_name> channel <profile_name> mvr name <mvr_name> frame priority <cos_priority> mvr name <mvr_name> frame tagged mvr name <mvr_name> igmp-address <v_ipv4_ucast> mvr name <mvr_name> last-member-query-interval <ipmc_lmqi> mvr name <mvr_name> mode { dynamic | compatible } Default N/A

Command ModeGlobal Configuration Mode

Example

Switch(config)# mvr name test igmp-address 222.0.0.1

Switch(config)# no mvr name test igmp-address 222.0.0.1

4.8.4 mvr immediate-leave

Command Description

mvr immediate-leave, Enable mvr immediate-leave

no mvr immediate-leave, Disable mvr immediate-leave

Parameter

N/A

Default

Disable

Command Mode

Port Configuration Mode

Example

Switch(config)# mvr immediate-leave

Switch(config)# no mvr immediate-leave

4.8.5 ipmc range

Command Description

ipmc range,

Setting IPMC range

no ipmc range,

Delete IPMC range

Parameter

ipmc range <entry_name> <v_ipv4_mcast_start> [<v_ipv4_mcast_end>]

Default

Disable

Command Mode

Global Configuration Mode

Example

Switch(config)# ipmc range test 224.0.0.1 224.0.0.20

Switch(config)# no ipmc range test

4.8.6 ipmc profile

ipmc profile, Enable global ipmc profile mode

ipmc profile，Disable global ipmc profile mode

ipmc profile <name>，configurate ipmc profile name

Parameter

N/A

Default

Disable Command Mode

Global Configuration Mode

Example

Switch(config)# ipmc profile

Switch(config)# no ipmc profile

Switch(config)# ipmc profile test

4.8.7 show mvr

Command Description

Show mvr，For checking MVR configuration

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

N/A

4.8.8 show ipmc profile

Command Description

Show ipmc profile，For checking ipmc profile configuration

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

N/A

4.8.9 show ipmc range

Command Description

Show ipmc range, For checking ipmc range configuration

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

N/A

4.9 Router Configuration

Router Configuration Command：

ip routing interface vlan ip address ip route show ip interface brief

show ip route

4.9.1 ip routing

Command Description

ip routing , Enable the function

no ip routing, Disable the function

Parameter

N/A

Default

Host-only mode

Command Mode

Configurate the command under Global Configuration Mode

Example for enable ip routing

Switch (config)#ip routing

4.9.2 interface vlan

Command Description

interface vlan<vlan_id>

Parameter

Parameter	ParameterCommand Mode
vlan_id	Vlan port ID ranges：vlan1-vlan4094。

Default

N/A

Command Mode

Under Global Configuration Mode, use command mode and this command, could be access to vlan Port Configuration Mode

Example

Below command to VLAN1 Port Configuration Mode: switch(config)# interface vlan1

switch(config-if-vlan)#

4.9.3 ip address

Command Description

ip address <address> <netmask>

For adding IP of port

no ip address

For deleting IP of port

Parameter

Parameter	ParameterCommand Mode
Address	Vlan IP addrees
Netmask	subnet mask

Default

VLAN 1

Command Mode

Configurate the command under VLAN Port Configuration Mode

Example for setting IP of VLAN 2

switch(config)# interface vlan 2

switch(config-if-vlan)# ip address 192.168.1.1 255.255.255.0

4.9.4 ip route

Command Description

ip route <v_ipv4_addr> <v_ipv4_netmask> <v_ipv4_gw> <v_nhop_vlanid>

For adding a static route

no ip route

Delete a static route

Parameter

Parameter	ParameterCommand Mode
v_ipv4_addr	IP
v_ipv4_netmask	Subnet mask
v_ipv4_gw	Gateway
v_nhop_vlanid	next VLAN

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for setting a static route

switch(config)# ip route 192.168.3.0 255.255.255.0 192.168.100.100 2

4.9.5 show ip interface brief

Command Description

show ip interface brief

For checking IP of port

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Privilege mode

Example for checking IP of port

Switch#show ip interface brief

4.9.6 show ip route

Command Description

show ip route

For checking static route

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Privilege mode

Example for checking static route

Switch#show ip route

Chapter 5 Network Security Command

5.1 MAC address table

MAC address table configuration command：

mac address-table static mac address-table aging-time

show mac address-table

5.1.1 mac address-table static

Command Description

mac address-table static mac-addr vlan vlan-id interface interface-id

For adding a static MAC address

no mac address-table static mac-addr vlan vlan-id interface interface-id

For deleting a static MAC address

Parameter

Parameter	ParameterCommand Mode
mac-addr	MAC address
vlan-id	VLAN ID ranges for the MAC： 1－4094。
interface-id	All ports ID for the MAC

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for setting MAC< 00-00-00-00-00-01> bond to Port 10 under VLAN2

Switch(config)# mac address-table static 00-00-00-00-00-01 vlan 2 interface 1/10

5.1.2 mac address-table aging-time

Command Description

mac address-table aging-time time

For setting the aging time of the MAC address

no mac address-table aging time

For setting the MAC address aging time to default

Noted: If the value is 0, it indicates disable the automatic aging function

Parameter

Parameter	ParameterCommand Mode
Time	Aging time ranges：<0,10-1000000>

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for setting the MAC address table aging time at 200s

Switch(config)# mac address-table aging-time 200

5.1.3 show mac address-table

Command Description

show mac address-table {address | aging-time | conf | count | learning |[interface interface-id | vlan vlan-id] | static}

For showing the MAC address table content of switch

Parameter

Parameter	ParameterCommand Mode
Address	Mac address checking
aging-time	Mac address table aging time。
Conf	For added static MAC address by user
Count	Total numbers of MAC address
Learning	Mac learning status

interface-id	Port name
vlan-id	VLAN ID valid ranges：1－4094。
Static	Static MAC address table

Default N/A

Command Mode

Using the command to show MAC address table under Privilege Mode

Example for showing all MAC address tabless

Switch# show mac address-table

5.2 Storm Broadcast control

Command Description

qos storm broadcast /unicast /unknown

Enable the function

no qos storm broadcast /unicast /unknown

Disable the function

Parameter

Parameter	ParameterCommand Mode
Broadcast	Broadcast data
Unicast	Single broadcast data
Unknown	Undefined Single broadcast data

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode

Example for enable Storm Broadcast control at Port 10

Switch(config)# interface GigabitEthernet 1/10

Switch (config-if)# qos storm broadcast

5.3 IP Verify Source

IP Verify Source Command

ip verify source

ip verify source translate

ip verify source limit

ip source binding interface

show ip verify source

5.3.1 ip verify source

Command Description

ip verify source

Enable IP verify source

no ip verify source

Disable IP verify source

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable IP verify source

Switch (config)# ip verify source

5.3.2 ip verify source translate

Command Description

ip verify source translate

For translating dynamic entry to static entry

no ip verify source translate

For cancel the translations

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example

Switch (config)# ip verify source translate

5.3.3 ip verify source limit

Command Description

ip verify source limit <0-2>

For limit the numbers of the dynamic client

no ip verify source limit

For setting the limit to default

Parameter

Parameter	ParameterCommand Mode
<0-2>	Number ranges of dynamic client<0-2>

Default

Unlimited

Command Mode

Configurate the command under Port Configuration Mode

Example

Switch (config)# interface GigabitEthernet 1/1

Switch (config-if)# ip verify source limit 2

5.3.4 ip source binding interface

Command Description

ip source binding interface <port_type> <in_port_type_id> <vlan_var>

<ipv4_var> <mask_var>

For adding numbers of the static entry

no ip source binding interface<port_type> <in_port_type_id> <vlan_var>

<ipv4_var> <mask_var>

For deleting numbers of the static entry

Parameter

Parameter	ParameterCommand Mode
port_type	Port type
in_port_type_id	Port ID
vlan_var	vlan ID
ipv4_var	ip address
mask_var	Subnet mask

Default

N/A

Command Mode

Configurate the command under Global Mode

Example for adding a static item, whose Port ID is 1, Vlan ID is 1, IP address is 192.168.2.66, and the subnet mask is 255.255.255.0

Switch(config)#ip source binding interface GigabitEthernet 1/1 1 192.168.2.66

255.255.255.0

5.3.5 show ip verify source

Command Description

show ip verify source

For checking IP verify source configuration status

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Privilege mode

Example for checking enable IP verify source configuration status

Switch# show ip verify source

5.4 ARP Inspection Configuration

ARP Testing Configuration Command：

ip arp inspection ip arp inspection trust ip arp inspection checking-vlan ip arp inspection logging ip arp inspection entry interface ip arp inspection translate ip arp inspection vlan show ip arp inspection

5.4.1 ip arp inspection

Command Description

ip arp inspection

Enable t he IP ARP inspection

no ip arp inspection

Disable IP ARP inspection

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable ARP inspection

Switch(config)# ip arp inspection

5.4.2 ip arp inspection trust

Command Description

ip arp inspection trust

Disable ARP inspection for port

no ip arp inspection trust

Enable the ARP inspection for port

Parameter

N/A

Default

Disable the function

Command Mode

Configurate the command under Port Configuration Mode

Example for enable IP ARP inspection of port 10

Switch (config-if)# no ip arp inspection trust

5.4.3 ip arp inspection checking-vlan

Command Description

ip arp inspection checking-vlan

Enable ARP inspection checking-VLAN

no ip arp inspection checking-vlan

Disable ARP inspection checking-VLAN

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode

Example for enable ARP inspection checking-VLAN of port 10

Switch (config-if)# ip arp inspection checking-vlan

5.4.4 ip arp inspection logging

Command Description

ip arp inspection logging all/deny/permit

For setting Port logging type

no ip arp inspection logging

For setting port logging type to default

Parameter

Parameter	ParameterCommand Mode
All	All
Deny	Deny
Permit	Permit

Default

N/A

Command Mode

Configurate the command under Port Configuration Mode

Example setting logging type to “ Permit” of port 10

Switch (config-if)# ip arp inspection logging permit

5.4.5 ip arp inspection entry interface

Command Description

ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var>

<mac_var> <ipv4_var>

For adding static entry

no ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var>

<mac_var> <ipv4_var>

For deleting static entry

Parameter

Parameter	ParameterCommand Mode
port_type	Port type
port_type_id	Port ID
vlan_var	VLAN ID
mac_var	MAC
ipv4_var	IP address

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for adding a static entry

Switch(config)# ip arp inspection entry interface GigabitEthernet 1/1 1 00:00:00:00:00:08 192.168.2.3

5.4.6 ip arp inspection translate

Command Description

ip arp inspection translate [interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>]

For translating dynamic entry to static entry.

no ip arp inspection translate [interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>]

For cancel translated entry

Parameter

Parameter	ParameterCommand Mode
port_type	Port type
port_type_id	Port ID
vlan_var	VLAN ID
mac_var	MAC Address
ipv4_var	IP Address

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for translating all dynamic entry to static entry

Switch (config)# ip arp inspection translate

5.4.7 ip arp inspection vlan

Command Description

ip arp inspection vlan <in_vlan_list> logging { deny | permit | all }

For setting VLAN logging type

no ip arp inspection vlan <in_vlan_list> logging { deny | permit | all }

For setting VLAN logging type to default

Parameter

Parameter	ParameterCommand Mode
All	all
Deny	deny
Permit	permit

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for setting vlan 1 logging type at deny

Switch (config)# ip arp inspection vlan 1 logging deny

5.4.8 show ip arp inspection

Command Description

show ip arp inspection entry/interface/vlan

For checking ARP inspection related information configuration

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Privilege mod

Example for checking ARP inspection configuration

Switch (config)# show ip arp inspection

5.5 ACL Configuration

ACL configuration command：

access-list ace show access-list

5.5.1 access-list ace

Command Description

access-list ace , configuration for acl ace entry

no access-list ace, Delete acl ace entry

Parameter

Ace id ace entry id, ranges 1-512

action

permit/deny

dmac-type

frame-type

ingress interface

logging logging frame information

next Add a new ACE entry at current ACE entry

policy Policy configuration selection

rate-limiter rate limit, this will occupy the rate limiter in bandwidth policy

redirect Port redirection configuration selection

shutdown Shut down port configuration selection

tag-priority vlanTag priority level configuration selection

vid VID filter domain configuration selection

Default

Shutdown

Command Mode

Global Configuration Mode

Example

Switch(config)# access-list ace 1 ingress interface GigabitEthernet 1/1

frame-type ipv4 action deny rate-limiter 1 redirect interface GigabitEthernet 1/2 logging

Switch(config)# no access-list ace 1

5.5.2 Show access-list

Command Description

Show access-list , For checking ace configuration information

Parameter

show access-list [interface [(<port_type> [<v_port_type_list>])]]

[rate-limiter [<rate_limiter_list>]] [ace statistics [<ace_list>]] show access-list ace-status [static] [link-oam] [loop-protect] [dhcp] [ptp] [upnp] [arp-inspection] [evc] [mep] [ipmc] [ip-source-guard] [ip-mgmt] [conflicts]

[switch <switch_list>]

Default

Shutdown

Command Mode\

Privilege Configuration Mode

Example

Switch# show access-list ace statistics

Switch# show access-list ace

5.6 STP Configuration

STP Configuration Command：

spanning-tree spanning-tree mode spanning-tree aggregation spanning-tree auto-edge spanning-tree bpdu-guard spanning-tree edge spanning-tree link-type spanning-tree mst spanning-tree restricted-role

spanning-tree restricted-tcn

5.6.1 spanning-tree

Command Description

spanning-tree

Enable STP

no spanning-tree

Disable STP

Parameter

N/A

Default

Enable

Command Mode

Configurate the command under Port Configuration Mode or aggregate port configuration mode

Example for enable STP of port 10 and STP of aggregate port

Switch (config-if) #spanning-tree

Switch (config-stp-aggr)# spanning-tree

5.6.2 spanning-tree mode

Command Description

spanning-tree mode stp/mstp/rstp

For setting STP version

no spanning-tree mode

For setting STP version to default

Parameter

N/A

Default

mstp

Command Mode

Configurate the command Global Configuration Mode

Example for modifying STP version to RSTP

Switch (config) #spanning-tree mode rstp

5.6.3 spanning-tree aggregation

Command Description

spanning-tree aggregation, For accessing to aggregate port STP configuration mode

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for accessing aggregate port STP configuration mode

Switch (config) #spanning-tree aggregation

5.6.4 spanning-tree auto-edge

Command Description

spanning-tree auto-edge

For enable auto-edge

no spanning-tree auto-edge

For disable auto-edge

Parameter

N/A

Default

Enable

Command Mode

Configurate the command under Port Configuration Mode or aggregate port configuration mode

Example for enable the auto-edge function of port 10 and aggregate port

Switch (config-if) #spanning-tree auto-edge

Switch (config-stp-aggr)# spanning-tree auto-edge

5.6.5 spanning-tree bpdu-guard

Command Description

spanning-tree bpdu-guard

Enable BPDU Guard

no spanning-tree bpdu-guard

Disable BPDU Guard

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode or Aggregate Port Configuration mode

Example for enable BPDU Guard of port 10 and aggregate port

Switch (config-if) #spanning-tree bpdu-guard

Switch (config-stp-aggr)# spanning-tree bpdu-guard

5.6.6 spanning-tree edge

Command Description

spanning-tree edge Enable management of edge function

no spanning-tree edge

Disable management of edge function

Parameter

N/A

Default

Non-Edge

Command Mode

Configurate the command under Port Configuration Mode or Aggregate Port configuration Mode

Example for enable management of edge function of port 10 and aggregate port

Switch (config-if) #spanning-tree edge

Switch (config-stp-aggr)# spanning-tree edge

5.6.7 spanning-tree link-type

Command Description

spanning-tree link-type auto/ point-to-point/ shared

For configurating point-to-point type

no spanning-tree link-type

For configurating point-to-point type to default

Parameter

Parameter	ParameterCommand Mode
Auto	auto for corresponding web interface
point-to-point	forced true for corresponding web interface
shared	forced false for corresponding web interface

Default

auto

Command Mode

Configurate the command under Port Configuration Mode or Aggregate port configuration mode

Example for configurating point-to-point type to forced true of port 10 and aggregate port

Switch (config-if) spanning-tree link-type point-to-point

Switch (config-stp-aggr)# spanning-tree link-type point-to-point

5.6.8 spanning-tree mst

Command Description

spanning-tree mst <instance> cost { <cost> | auto }

For setting path cost

no spanning-tree mst <instance> cost { <cost> | auto }

For setting path cost to default

spanning-tree mst <instance> port-priority <prio>

For setting port priority

no spanning-tree mst <instance> port-priority <prio>

For setting port priority back to default

Parameter

Parameter	ParameterCommand Mode
instance	Ranges 0-7
Cost	Integer of the ranges 1-200000000
Prio	Ranges 0-240

Default

N/A

Command Mode

Configurate the command under Port Configuration Mode or aggregate port configuration configuration mode

Example for setting path cost of port 10 and aggregate port

Switch (config-if) # spanning-tree mst 1 cost 144

Switch (config-stp-aggr)# spanning-tree mst 1 cost 144

5.6.9 spanning-tree restricted-role

Command Description

spanning-tree restricted-role

Enable restricted role

no spanning-tree restricted-role

Disable restricted role

Parameter N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode or aggregate port configuration mode

Example for enable restricted role of port 10 and aggregate port

Switch (config-if) # spanning-tree restricted-role

Switch (config-stp-aggr)# spanning-tree restricted-role

5.6.10 spanning-tree restricted-tcn

Command Description

spanning-tree restricted- tcn

Enable restricted tcn

no spanning-tree restricted- tcn

Disable restricted tcn

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode or Aggregate port configuration mode

Example for enable restricted tcn of port 10 and aggregate port

Switch (config-if) # spanning-tree restricted- tcn

Switch (config-stp-aggr)# spanning-tree restricted- tcn

5.6.11 show spanning-tree

Command Description

show spanning-tree |/active/ detailed/ interface / mst / summary

For checking STP related configuration

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Privilege Configuration Mode

Example for checking STP configuration status

Switch # show spanning-tree

5.7 Loop-protect configuration

Loop-protect configuration command

loop-protect

loop-protect tx-mode

5.7.1 loop-protect

Command Description

loop-protect

Enable loop-protect

no loop-protect

Disable loop-protect

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable loop-protect

Switch (config) # loop-protect

5.7.2 loop-protect tx-mode

Command Description

loop-protect tx-mode

Enable loop-protect tx-mode

no loop-protect tx-mode

Disable loop-protect tx-mode

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Port Configuration Mode

Example for enable loop-protect tx-mode

Switch (config-if) #loop-protect tx-mode

5.8 ERPS configuration

ERPS configuration command：

Mep Erps

Noted: command for erps is complicated, suggest to configurated by web. More easier to do.

5.8.1 mep

Command Description

Reference to

Example

Parameter Reference to

Example

Default Reference to

Example

Command Mode

Global Mode

Example

//Configurtate Port 1, 2 into ERPS group 1, protocol vlan3001, the major port without configurating

Switch(cinfig)# mep 1 down domain port flow 1 level 0 interface GigabitEthernet 1/1

Switch(cinfig)# mep 1 vid 3001 Switch(cinfig)# mep 1 aps 0 raps

Switch(cinfig)# mep 2 down domain port flow 2 level 0 interface GigabitEthernet 1/2

Switch(cinfig)# mep 2 vid 3001

Switch(cinfig)# mep 2 aps 0 raps

Switch(cinfig)# erps 1 major port0 interface GigabitEthernet 1/1 port1 interface GigabitEthernet 1/2

Switch(cinfig)# erps 1 mep port0 sf 1 aps 1 port1 sf 2 aps 2

Switch(cinfig)# erps 1 vlan 1

5.8.2 erps

Command Description

Reference to

Example

Parameter

Reference to Example

Default Reference to Example

Command Mode Global Mode

Example // Configurate port 51, 52 into ERPS group 2, protocol vlan3002, Major port- port 0

Switch(cinfig)# mep 51 down domain port flow 51 level 0 interface XGigabitEthernet 1/3

Switch(cinfig)# mep 51 vid 3002

Switch(cinfig)# mep 51 aps 0 raps

Switch(cinfig)# mep 52 down domain port flow 52 level 0 interface XGigabitEthernet 1/4

Switch(cinfig)# mep 52 vid 3002

Switch(cinfig)# mep 52 aps 0 raps

Switch(cinfig)# erps 2 major port0 interface XGigabitEthernet 1/3 port1 interface XGigabitEthernet 1/4

Switch(cinfig)# erps 2 mep port0 sf 51 aps 51 port1 sf 52 aps 52

Switch(cinfig)# erps 2 rpl owner port0

Switch(cinfig)# erps 2 vlan 1

Chapter 6 Network Management Command

6.1 SSH Configuration

SSH Configuration Command：

ip ssh

no ip ssh

6.1.1 ip ssh

Command Description

ip ssh

For enable SSH

no ip ssh

For disable SSH, under this situation, cannot manage switch via SSH

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Global Configuration Mode

Example for enable SSH

Switch(config)# ip ssh

6.2 HTTP Configuration

HTTP Configuration Command：

ip http secure-server ip http-serve- redirect

6.2.1 ip http-server-server

Command Description

ip http secure-server

Enable the HTTP service

no ip http secure-server

Disable the HTTP service, at this situation, cannot manage switch via HTTPS

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable HTTPS service

Switch(config)# ip http-server-server

6.2.2 ip http-server-redirect

Command Description

ip http-server- redirect

For setting switch redirect to https service automatically

no ip http-server- redirect

For delete the settings, won't redirect to HTTPS to manage the switch. But could manage switch via HTTP

Parameter

N/A

Default

Disable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable HTTPS-server redirect

Switch(config)# ip http-server- redirect

6.3 LLDP Configuration

LLDP Configuration command：

Lldp lldp holdtime lldp transmission-delay lldp timer lldp reinit show lldp neighbors

6.3.1 lldp

Command Description

lldp receive , Setting port LLDP receive

lldp transmit , Setting port LLDP receive and transmit

No lldp receive|transmit, Shut down port LLDP receive/ transmit

Parameter

N/A

Default

Shut down

Command Mode

Port configuration mode

Example

Switch(config)# lldp receive

Switch(config)# lldp transmit

Switch(config)# no lldp transmit

6.3.2 lldp holdtime

Command Description

lldp holdtime, Setting LLDP transmit time for holdtime

nolldp holdtime, Setting LLDP transmit time for holdtime to default

Parameter

<time>, Valid ranges 2-10, second

Default

4

Command Mode

Global Configuration Mode

Example

Switch(config)# lldp holdtime 3

Switch(config)# no lldp holdtime

6.3.3 lldp transmission-delay

Command Description

lldp transmission-delay <1-8192> , Setting for LLDP transmission delay

Parameter

<1-8192>, valid ranges 1-8192, second

Default

2

Command Mode

Global Configuration Mode

Example

Switch(config)# lldp transmission-delay 4

Switch(config)# nolldp transmission-delay

6.3.4 lldp timer

Command Description

lldp timer <5-32768>, Configurate TTL of LLDP Transmit Message

No lldp timer, Configurate TTL of LLDP Transmit Message to default

Parameter

<5-32768>, 5-32768 Second

Default

30

Command Mode

Global Configuration Mode

Example

Switch(config)# lldp timer 20

6.3.5 lldp reinit

Command Description

lldp reinit <1-10>, Configurate LLDP Transmit Message delay time

no lldp reinit, Configurate LLDP Transmit Message delay time to default

Parameter

<1-10>, second

Default

2

Command ModeGlobal Configuration Mode

Example

Switch(config)# lldp timer 2

6.3.6 show lldp neighbors

Command Description

show lldp neighbors, For showing lldp neighbors brief information

Parameter

N/A

Default

N/A

Command Mode

Privilege Mode

Example

Switch# show lldp neighbors

6.4 802.1X Configuration

802.1x Configuration Command：

dot1x system-auth-control dot1x port-control auto dot1x port-control mac-based dot1x port-control single dot1x port-control force-unauthorized dot1x re-authentication show dot1x statistics

Noted: It needs to shutdown STP of the port if needs enable 802.1x

6.4.1 dot1x system-auth-control

Command Description

dot1x system-auth-control, This command could global enable 802.1x NAS

No dot1x system-auth-contro, This command could global disable 802.1x NAS

Parameter

N/A

Default

Shutdown

Command Mode

Global Configuration Mode

Example

Switch(config)# dot1x system-auth-control

Switch(config)# no dot1x system-auth-control

6.4.2 dot1x port-control auto

Command Description

dot1x port-control auto，For setting port identification to Port_Based 802.1x

no dot1x port-control，For setting port identification to default

Parameter

N/A

Default

force-authorized

Command Mode

Port Configuration Mode

Example

Switch(config-if)# dot1x port-control auto

6.4.3 dot1x port-control mac-based

Command Description

dot1x port-control mac-based，For setting port identification to mac_Based 802.1x

no dot1x port-control ，For setting port identification to default

Parameter

N/A

Default

force-authorized

Command ModePort Configuration Mode

Example

Switch(config-if)# dot1x port-control mac-based

6.4.4 dot1x port-control single

Command Description

dot1x port-control single，For setting port identification to single 802.1x

no dot1x port-control ， For setting port identification to default

Parameter

N/A

Default

force-authorized

Command Mode

Port Configuration Mode

Example

Switch(config-if)# dot1x port-control single

6.4.5 dot1x port-control force-unauthorized

Command Description

dot1x port-control force-unauthorized， For setting port identification to force-unauthorized

no dot1x port-control ， For setting port identification to default

Parameter

N/A

Default

force-authorized

Command Mode

Port Configuration Mode

Example

Switch(config-if)# dot1x port-control force-unauthorized

6.4.6 dot1x re-authentication

Command Description

dot1x re-authentication ， Global enable port re-authentication

no dot1x re-authentication， Global disable port re-authentication

Parameter

N/A

Default

Shutdown

Command ModeGlobal Configuration Mode

Example

Switch(config)# dot1x re-authentication

Switch(config)# no dot1x re-authentication

6.4.7 dot1x authentication timer re-authenticate

Command Description

dot1x authentication timer re-authenticate <1-3600> , Global configurate port re-authentication time

no dot1x authentication timer re-authenticate, configurate port re-authentication time to default

Parameter

<1-3600> 1-3600, second

Default

3600

Command Mode

Global Configuration Mode

Example

Switch(config)# dot1x authentication timer re-authenticate 1000

Switch(config)# no dot1x authentication timer re-authenticate

6.4.8 show dot1x statistics

Command Description

show dot1x statistics, For checking port identification statistics

Parameter

N/A

DefaultN/A

Command Mode

Privilege configuration Mode

Example

Switch# show dot1x statistics

6.5 SNMP Configuration

SNMP Configuration Command：

snmp

snmp version

6.5.1 snmp

Command Description

snmp , Enable SNMP

no snmp , Disable SNMP

Parameter

N/A

Default

Enable

Command Mode

Configurate the command under Global Configuration Mode

Example for enable SNMP

Switch(config)# snmp

6.5.2 snmp version

Command Description

snmp version, Enable setting SNMP Version

no snmp version, Setting SNMP Version to default

Parameter

N/A

Default

snmp v2c

Command Mode

Configurate the command under Global Configuration Mode

Example for configurating SNMP Version

Switch(config)# snmp version v2c

Chapter 7 System Maintenance Command

7.1 Devise Reboot Command：

reload cold

7.1.1 reload cold

Command Description

reload cold , for rebooting device

Parameter

N/A

Default

N/A

Command Mode

Configurate the command under Privilege Mode

Example for rebooting device after save all configuration

switch# copy running-config startup-config

switch# reload cold

7.2 Restore to default

Restore to default command：

reload defaults

7.2.1 reload defaults

Command Description

reload defaults, For restoring to default, after it, the device will back to default after rebooting

Parameter

N/A

Default

N/A

Command Mode

Configurate the command Privilege Mode

Example for restoring to default

switch# reload defaults

7.3 ping testing

Ping testing command：

ping ip

7.3.1 ping ip

Command Description

ping ip ip_addr

Parameter

Parameter	ParameterCommand Mode
Ip_addr	Ip address, valid ranges X.X.X.X。

Default

N/A

Command Mode

Configurate the command under Privilege Mode

Example for testing connection between switch and mainframe

switch# ping ip 192.168.255.3