

S5900-24S4T2Q Switch Stacking Configuration Guide

Model: S5900-24S4T2Q

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1. Overview

Virtualization technology is a centralized management port expansion technology. The user can connect the switch with the virtualization function and connect them together using the virtualization port and the connecting cable to form a virtual device.

Virtualization has the following advantages:

1. The port density can be expanded through virtualization, because the number of ports of the virtualized device is obtained by adding the ports of all member devices in the virtual domain, and all the ports can be regarded as the ports of one device.
2. The user management operation. Through virtualization, users can treat a group of switches as a logical object and manage them through an IP, reducing the occupation of IP addresses and facilitating management.
3. The extended link capacity. Virtualization management is used to manage the configuration and operation status of virtualization functions. Users need to enable the virtualization function of the virtualization enable switch. After the virtualization configuration is complete, you need to restart the device for the virtualization function to take effect.

2. Virtualization Configuration

2.1 Enable Virtualization

The device runs in standalone mode by default, and the virtualization function is not enabled, so the virtualization function needs to be enabled.

Command	Purpose
bvss enable	Enable virtualization

2.2 Configure Virtualization Parameters

Virtualization uses virtual domains to manage virtualized devices belonging to the same group. Devices in the same virtual domain are virtualized. Each member device in the virtual domain has a different number. Each member device needs to configure its own priority. For use when negotiating the master device, the device with the highest priority will become the master device in the virtualization domain.

There are 2 modes of virtualization: normal mode and enhanced mode. Normal mode only supports 2 devices virtualization, enhanced mode supports up to 4 devices virtualization, and the current system supports normal mode and enhanced mode virtualization.

There are two methods for setting the MAC address of the virtualization system: the MAC of the main device is used as the MAC of the virtualization system and the MAC address of the reservation is used as the MAC address of the virtualization system.

Use the following commands to configure virtualization-related parameters:

Command	Purpose
bvss mode [normal enhanced]	Configure virtualization mode.
bvss domain-id id	Configure the virtualization domain.
bvss member-id id	Configure the virtualization member number.
bvss priority priority	Configure virtual member device priority.
bvss mac-address mode [use-active-member use-static-pool]	Configure virtual systems mac address mode.

2.3 Configuring Virtual Ports for Interconnection

Devices with different numbers in the virtual domain are connected to each other through a virtualization port. Each device with virtualization enabled must have at least one virtualization port.

Use the following command to configure the virtualization port.

Command	Purpose
Bvss interface num type [TgigaEthernet QTGigaEthernet] port port group group	Configure the port number of the port type to be the virtualized port, the serial number is num, and the port group number is group

2.4 Save Virtualization Configuration

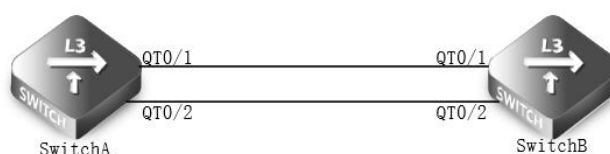
After the virtualization parameter configuration is complete and the virtualization function is enabled, you must save the virtualization configuration and restart the device to make the configured virtualization function take effect.

Command	Purpose
write bvss-config	Save virtualization configuration

3. Configuration Case

3.1 Two Devices Stack Configuration Case

(1) Network topology



(2) Configuration is as follows

SwitchA:

```
SwitchA>enable
SwitchA #config
SwitchA _config#bvss
SwitchA _config_bvss# enable
SwitchA _config_bvss# bvss domain-id 1
SwitchA _config_bvss# bvss member-id 1
SwitchA _config_bvss#bvss priority 40
SwitchA _config_bvss# bvss mode normal
SwitchA _config_bvss#bvss interface 1 type QTGigaEthernet port 1 group 1
SwitchA _config_bvss# bvss interface 2 type QTGigaEthernet port 2 group 1
SwitchA _config_bvss#quit
SwitchA _config#write bvss-config
SwitchA #reboot
```

SwitchB:

```
SwitchB>enable
SwitchB#config
SwitchB _config#bvss
SwitchB _config_bvss#bvss enable
SwitchB _config_bvss# bvss domain-id 1
SwitchB _config_bvss# bvss member-id 2
SwitchB _config_bvss#bvss priority 30
SwitchB _config_bvss# bvss mode normal
SwitchB _config_bvss#bvss interface 1 type QTGigaEthernet port 1 group 2
SwitchB _config_bvss# bvss interface 2 type QTGigaEthernet port 2 group 2
SwitchB _config_bvss#quit
SwitchB _config#write bvss-config
SwitchB#reboot
```

(3) Use the following command to check the virtualization configuration information:

① Display the current configuration of virtualization:

```
Switch#show bvss current-config
```

bvss configuration information:

```
bvss enable: TRUE
bvss domain-id: 1
bvss member-id : 1
bvss mode: normal
bvss priority: 40
bvss vlan: 4094
bvss mac-address mode: use-active-member
```

② Display the current running configuration of virtualization:

```
Switch#show bvss running-config
```

bvss configuration information:

```
bvss enable: TRUE
bvss domain-id: 1
bvss member-id : 1
bvss mode: normal
bvss priority: 40
bvss vlan: 4094
bvss mac-address mode: use-active-member
```

③ Display virtualization information:

```
Switch#show bvss management
```

bvss member 1 management information:

```
active member: 1, standby member: 2
lgroup: 1-2, rgroup:
orphan group:-1, normal group:-1
HT[l]:, HT[r]:, HT[a]:
internal topology:0 , global topology: LINE-TOPO
L to member 1: unknown R to member 1:unknown
L to member 2: 1 R to member 2:unknown
L to member 3: unknown R to member 3:unknown
L to member 4: unknown R to member 4:unknown
hg route
to member 1: local
to member 2: l
to member 3: unreachable
to member 4: unreachable
```

④ Display virtualization statistics:

```
Switch#show bvss statistics
```

bvss statistics information:

```
topo change:1, errParam:0
messageSendFailed:0, cfgUncompleted:0
notifyGroupChange:2, GroupChangeErrParam:0
notifyMCPath:0, MCPathErrParam:0
phyServiceErr:2
```

⑤ When the stacking system starts normally, you can view all the device ports under the stacking system by viewing the global configuration on the main device:

```
Switch#show running-config
```

```
Building configuration...
```

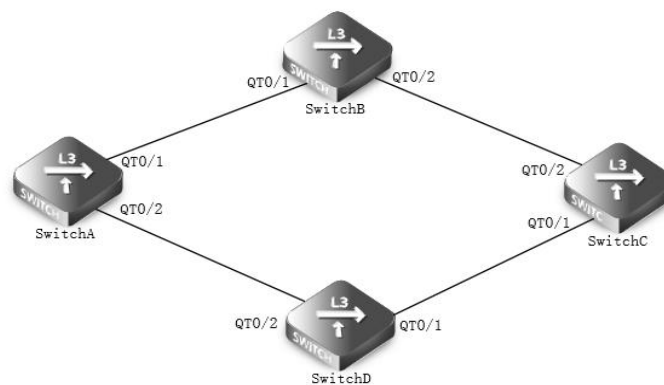
```
Current configuration:
```

```
!
!version 2.2.0D build 70424
service timestamps log date
service timestamps debug date
!
spanning-tree mode rstp
!
aaa authentication login default local
aaa authentication enable default none
aaa authorization exec default local
!
username admin password 0 admin
!
interface Null0
!
interface GigaEthernet0/0
no ip address
!
!!slot 1/0 4331 S5900-24S4T2Q
interface GigaEthernet1/0/1
shutdown
!
interface GigaEthernet1/0/2
shutdown
!
.....
interface TGigaEthernet2/0/24
shutdown
!
interface QTGigaEthernet2/0/1
!
```

```
interface QTGigaEthernet2/0/2
!
!!slot end
!
interface VLAN1
 ip address 192.168.1.1 255.255.255.0
 no ip directed-broadcast
!
vlan 1,4094
!
ip exf
!
ipv6 exf
!
ip http server
!
ip sshd enable
!
!Pending configurations for absent linecards:
!
!No configurations pending global
```

3.2 Four Devices Stack Configuration Case

(1) Network topology



(2) Configuration is as follows

SwitchA:

```
SwitchA>enable
```

```
SwitchA #config
```

```
SwitchA _config#bvss
```

```
SwitchA _config_bvss#bvss enable
```

```
SwitchA _config_bvss# bvss domain-id 1
```

```
SwitchA _config_bvss# bvss member-id 1
SwitchA _config_bvss# bvss priority 40
SwitchA _config_bvss# bvss mode enhanced
SwitchA _config_bvss# bvss interface 1 type QTGigaEthernet port 1 group 1
SwitchA _config_bvss# bvss interface 2 type QTGigaEthernet port 2 group 1
SwitchA _config_bvss# quit
SwitchA _config# write bvss-config
SwitchA #reboot
```

```
SwitchB:
SwitchB>enable
SwitchB #config
SwitchB _config#bvss
SwitchB _config_bvss#bvss enable
SwitchB _config_bvss# bvss domain-id 1
SwitchB _config_bvss#bvss member-id 2
SwitchB _config_bvss#bvss priority 30
SwitchB _config_bvss#bvss mode enhanced
SwitchB _config_bvss#bvss interface 1 type QTGigaEthernet port 1 group 2
SwitchB _config_bvss#bvss interface 2 type QTGigaEthernet port 2 group 1
SwitchB _config_bvss#bvss quit
SwitchB _config#write bvss-config
SwitchB #reboot
```

```
SwitchC:
SwitchC>enable
SwitchC #config
SwitchC _config#bvss
SwitchC _config_bvss#bvss enable
SwitchC _config_bvss#bvss domain-id 1
SwitchC _config_bvss#bvss member-id 3
SwitchC _config_bvss#bvss priority 20
SwitchC _config_bvss#bvss mode enhanced
SwitchC _config_bvss#bvss interface 1 type QTGigaEthernet port 1 group 1
SwitchC _config_bvss#bvss interface 2 type QTGigaEthernet port 2 group 2
SwitchC _config_bvss#quit
SwitchC _config#write bvss-config
SwitchC #reboot
```

```
SwitchD:
SwitchD>enable
SwitchD#config
SwitchDconfig#bvss
SwitchD _config_bvss#bvss enable
```

```

SwitchD_config_bvss#bvss domain-id 1
SwitchD_config_bvss#bvss member-id 4
SwitchD_config_bvss#bvss priority 10
SwitchD_config_bvss#bvss mode enhanced
SwitchD_config_bvss#bvss interface 1 type QTGigaEthernet port 1 group 2
SwitchD_config_bvss#bvss interface 2 type QTGigaEthernet port 2 group 2
SwitchD_config quit
SwitchD_config#write bvss-config
SwitchD#reboot

```

(3) Check the configuration and view all ports on the master device

```

SwitchA#show running-config
Building configuration...

Current configuration:
!
!version 2.2.0D build 70424
service timestamps log date
service timestamps debug date
!
hostname SwitchA
!
spanning-tree mode rstp
!
aaa authentication login default local
aaa authentication enable default none
aaa authorization exec default local
!
username admin password 0 admin
!
interface Null0
!
interface GigaEthernet0/0
  no ip address
!
!!slot 1/0 4331 S5900-24S4T2Q
interface GigaEthernet1/0/1
  shutdown
!
.....
interface TGigaEthernet4/0/24
  shutdown
!
interface QTGigaEthernet4/0/1

```

```
!  
interface QTGigaEthernet4/0/2  
!  
!!slot end  
!  
interface VLAN1  
    ip address 192.168.1.1 255.255.255.0  
    no ip directed-broadcast  
!  
vlan 1,4094  
!  
ip exf  
!  
ipv6 exf  
!  
ip http server  
!  
ip sshd enable  
!  
!Pending configurations for absent linecards:  
!  
!Pending configurations for global:  
!  
interface GigaEthernet0/1  
!  
interface GigaEthernet0/2  
!  
.....  
interface QTGigaEthernet0/2  
!
```



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