1 Super VLAN Commands

Command	Function
bcast vlan	Configure a broadcast virtual local area network (VLAN) for a super VLAN.
proxy-arp	Enable the proxy Address Resolution Protocol (ARP) function for a VLAN.
show supervlan	Display configurations of a super VLAN and its sub VLANs.
subvlan	Configure an existing common VLAN as a sub VLAN of a super VLAN.
subvlan-address-range	Configure an IP address range for a sub VLAN.
supervlan	Configure a super VLAN.

1.1 bcast vlan

Function

Run the **bcast vlan** command to configure a broadcast virtual local area network (VLAN) for a super VLAN.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No broadcast VLAN is configured in a super VLAN by default.

Syntax

bcast vlan *sub-vlan-id*

no bcast vlan

default bcast vlan

Parameter Description

bcast vlan *sub-vlan-id*: Specifies the ID of a sub VLAN that is configured as a broadcast VLAN. The value range is from 1 to 4094. The VLAN to be configured as a broadcast VLAN must be a sub VLAN of the super VLAN. Only one broadcast VLAN can be configured for a super VLAN.

Command Modes

VLAN mode

Default Level

14

Usage Guidelines

A broadcast VLAN is configured in super VLAN configuration mode. If no broadcast VLAN is configured for a super VLAN, broadcast packets of the super VLAN are sent to all sub VLANs of the super VLAN. If a broadcast VLAN is configured, broadcast packets of the super VLAN are sent to only this broadcast VLAN.

Examples

The following example configures VLAN 2 as a super VLAN, VLANs 10, 20 and 30 as sub VLANs, and VLAN 10 as the broadcast VLAN.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan range 10,20,30
Hostname(config-vlan-range)# exit
Hostname(config)# vlan 2
Hostname(config-vlan)# supervlan
Hostname(config-vlan)# subvlan 10,20,30
Hostname(config-vlan)# bcast vlan 10
```

The following example removes the broadcast VLAN from VLAN 2.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# vlan 2
Hostname(config-vlan)# no bcast vlan
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

-
- supervlan

1.2 proxy-arp

Function

Run the **proxy-arp** command to enable the proxy Address Resolution Protocol (ARP) function for a VLAN.

Run the **no** form of this command to disable this feature.

Run the **default** form of this command to restore the default configuration.

The proxy ARP function of a VLAN is enabled by default.

Syntax

proxy-arp

no proxy-arp

default proxy-arp

Parameter Description

N/A

Command Modes

VLAN mode

Default Level

14

Usage Guidelines

The proxy ARP function must be enabled for a super VLAN and its sub VLANs.

Examples

The following example enables the proxy ARP function.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# vlan 2
Hostname(config-vlan)# proxy-arp
```

The following example disables the proxy ARP function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# no proxy-arp
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show supervlan**

1.3 show supervlan

Function

Run the **show supervlan** command to display configurations of a super VLAN and its sub VLANs.

Syntax

show supervlan [**id** *super-vlan-id*]

Parameter Description

id *super-vlan-id*: Displays configuration of a specified super VLAN. The value range is from 1 to 4094. The specified VLAN ID must be the ID of the super VLAN. Only one VLAN ID can be specified. If the **id** *super-vlan-id* parameter is not specified, the configurations of all super VLANs and sub VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can use this command to view mappings between a super VLAN and its sub VLANs and other information.

Examples

The following example displays configurations of super VLAN 2.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# show supervlan id 2
supervlan id  supervlan arp-proxy  bcast vlan  subvlan id  subvlan arp-proxy
subvlan ip range
------------  -------------------  ----------  ----------  -----------------
----------------
2             ON                   10          10          ON   192.168.196.10 -
192.168.196.50
                                               20          ON   192.168.196.60 -
192.168.196.100
                                               30          ON   192.168.196.110 -
192.168.196.150
```

The following example displays configurations of all super VLANs.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# show supervlan
supervlan id  supervlan arp-proxy  bcast vlan  subvlan id  subvlan arp-proxy
subvlan ip range
------------  -------------------  ----------  ----------  -----------------
----------------
2             ON                   10           10         ON   192.168.196.10 -
192.168.196.50
                                               20          ON   192.168.196.60 -
192.168.196.100
                                               30          ON   192.168.196.110 -
192.168.196.150
6             ON                                7-8        ON
```

Table 1-1Output Fields of the show supervlan Command

Field	Description
supervlan id	VLAN ID of a super VLAN
supervlan arp-proxy	Whether the proxy ARP function of the super VLAN is enabled ● **ON**: Enabled ● **OFF**: Disabled
bcast vlan	Broadcast VLAN of the super VLAN
subvlan id	VLAN ID of a sub VLAN
subvlan arp-proxy	Whether the proxy ARP function of the sub VLAN is enabled ● **ON**: Enabled ● **OFF**: Disabled
subvlan ip range	IP address range of the sub VLAN

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.4 subvlan

Function

Run the **subvlan** command to configure an existing common VLAN as a sub VLAN of a super VLAN.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No common VLAN is configured as a sub VLAN of a super VLAN by default.

Syntax

subvlan [*vlan-id-list*]

no subvlan [*vlan-id-list*]

default subvlan [*vlan-id-list*]

Parameter Description

vlan-id-list: VLAN IDs that are configured as sub VLANs. The value range is from 2 to 4094. The specified VLAN must exist. VLAN 1 cannot be configured as a sub VLAN. The VLAN list contains one or more VLANs. When multiple VLANs are contained, separate VLAN IDs by a comma (,) or connect the first and last VLAN IDs with a hyphen (-) to represent continuous VLAN IDs.

Command Modes

VLAN mode

Default Level

14

Usage Guidelines

You must enter the super VLAN configuration mode to add sub VLANs. If multiple common VLANs need to use the same network segment, configure them as sub VLANs of a super VLAN.

Examples

The following example configures VLAN 2 as a super VLAN and adds sub VLANs 10, 20 and 30 to the super VLAN.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
```

```
Hostname(config-vlan)# supervlan
Hostname(config-vlan)# subvlan 10,20,30
```

The following example removes sub VLAN 20 from super VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# no subvlan 20
```

The following example removes sub VLAN 30 from super VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# default subvlan 30
```

The following example removes all sub VLANs from super VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# default subvlan
```

Notifications

When you configure sub VLANs not in super VLAN configuration mode, the following notification will be displayed:

```
vlan 2 is not a supervlan
```

If the VLAN to be configured is a dynamic VLAN rather than a static VLAN, the following notification will be displayed

```
The vlan is dynamic vlan
```

If an SVI has been configured for a super VLAN, the system assigns an L3 interface invisible to users to each sub VLAN of the super VLAN. When you add a sub VLAN to the super VLAN, the configuration may fail due to system resource deficiency. The following notification will be displayed:

```
the vlan can't be set as subvlan for lack of resources.
```

If an SVI has been configured for a VLAN, when you try to configure this VLAN as a sub VLAN of a super VLAN, the following notification will be displayed:

```
Following reason prevent some vlan to be set as supervlan 2's subvlan
The vlan has created interface
```

Common Errors

(1) An inexistent VLAN is configured as a sub VLAN.

(2) Sub VLANs are not configured in super VLAN configuration mode.

(3) A sub VLAN is added to more than one super VLAN.

(4) An L3 interface has been configured for a VLAN and then the VLAN is configured as a sub VLAN. The operation will fail.

(5) A dynamic VLAN is configured as a sub VLAN.

Platform Description

N/A

Related Commands

-
- supervlan

1.5 subvlan-address-range

Function

Run the **subvlan-address-range** command to configure an IP address range for a sub VLAN.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No IP address range is specified for a sub VLAN by default.

Syntax

subvlan-address-range *start-ip-address end-ip-address*

no subvlan-address-range

default subvlan-address-range

Parameter Description

start-ip-address: Start IP address. The value range must be in the same network segment as the gateway of the super VLAN.

end-ip-address: End IP address. The value range must be in the same network segment as the gateway of the super VLAN.

Command Modes

VLAN mode

Default Level

14

Usage Guidelines

After an IP address range is configured for a sub VLAN, users in the sub VLAN cannot communicate when their IP addresses are out of this range.

Examples

The following example configures an IP address range for a sub VLAN.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# subvlan-address-range 192.168.23.1 192.168.23.5
```

Notifications

N/A

Common Errors

(1) A dynamic VLAN is configured as a super VLAN.

(2) The configured IP address range is not in the same network segment as the gateway of the super VLAN.

Platform Description

N/A

Related Commands

- **show supervlan**

1.6 supervlan

Function

Run the **supervlan** command to configure a super VLAN.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No common VLAN is configured as a super VLAN by default.

Syntax

supervlan

no supervlan

default supervlan

Parameter Description

N/A

Command Modes

VLAN mode

Default Level

14

Usage Guidelines

Only existent VLANs can be configured as super VLANs. VLAN 1 cannot be configured as a super VLAN.

A super VLAN cannot be configured as a sub VLAN of another super VLAN. A sub VLAN of a super VLAN cannot be configured as a super VLAN.

No physical port can be added to a super VLAN.

After a super VLAN is configured, you must configure an SVI and an IP address for this SVI so that users in sub VLANs of the super VLAN can communicate. No SVI can be configured for a sub VLAN.

Examples

The following example configures VLAN 2 as a super VLAN.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 2
Hostname(config-vlan)# supervlan
```

Notifications

If you configure a sub VLAN of a super VLAN as a new super VLAN, the following notification will be displayed:

```
the vlan is other supervlan's subvlan
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **bcast vlan**
- **show supervlan**
- **subvlan**