

1 IGMP Snooping Commands

| Command | Function |
|---|---|
| clear ip igmp snooping gda-table | Clear dynamic forwarding entries. |
| clear ip igmp snooping statistics | Clear IGMP snooping statistics. |
| deny | Deny a range of multicast groups specified by a profile. |
| ip igmp profile | Create a profile and enter the profile configuration mode. |
| ip igmp snooping dyn-mr-aging-time | Configure the aging time of dynamic multicast router ports. |
| ip igmp snooping fast-leave enable | Enable the port fast leave function. |
| ip igmp snooping filter | Apply a profile to a port to restrict the multicast groups that user hosts connecting to the port can join. |
| ip igmp snooping vlan filter | Apply a profile to a VLAN to restrict the multicast groups that user hosts in the VLAN can join. |
| ip igmp snooping host-aging-time | Configure the aging time for IGMP snooping dynamic member ports. |
| ip igmp snooping ivgl | Enable IGMP snooping globally and run the Independent VLAN Group Learning (IVGL) mode. |
| ip igmp snooping ivgl-svgl | Enable IGMP snooping globally and run the IVGL-SVGL mode. |
| ip igmp snooping l2-entry-limit | Configure the maximum number of multicast groups allowed for concurrent request globally. |
| ip igmp snooping limit-ipmc vlan address server | Specify a multicast group address and multicast source address for a VLAN. |
| ip igmp snooping max-groups | Configure the maximum number of multicast groups that can be dynamically learned by a port. |
| ip igmp snooping mrouter learn pim-dvmrp | Enable the function of dynamic multicast router port learning. |
| ip igmp snooping preview | Enable the multicast preview function. |

| | |
|--|---|
| ip igmp snooping preview interval | Configure the multicast preview duration. |
| ip igmp snooping querier | Enable the IGMP snooping querier function. |
| ip igmp snooping querier address | Configure the source IP address of the IGMP snooping querier. |
| ip igmp snooping querier max-response-time | Configure the maximum response time of IGMP snooping queriers. |
| ip igmp snooping querier query-interval | Configure the interval for an IGMP snooping querier to send Query packets. |
| ip igmp snooping querier timer expiry | Configure the aging time of IGMP snooping queriers. |
| ip igmp snooping querier version | Specify the version of an IGMP snooping querier |
| ip igmp snooping query-max-response-time | Configure the maximum response time for Query packets. |
| ip igmp snooping source-check default-server | Enable the source IP address check function and specify the source IP address. |
| ip igmp snooping source-check port | Enable the source port check function. |
| ip igmp snooping suppression enable | Enable the Report packet suppression function. |
| ip igmp snooping svgl | Enable IGMP snooping globally and run the Shared VLAN Group Learning (SVGL) mode. |
| ip igmp snooping svgl profile | Specify the range of multicast groups applied in the SVGL mode. |
| ip igmp snooping svgl subvlan | Specify the sub VLANs applied in the SVGL mode. |
| ip igmp snooping svgl vlan | Specify the shared VLAN applied in the SVGL mode. |
| ip igmp snooping tunnel | Enable the function of transparent IGMP packet transmission on the QinQ port. |
| ip igmp snooping vlan | Enable the IGMP snooping function in IVGL mode on a VLAN. |
| ip igmp snooping vlan mrouter interface | Configure a static multicast router port. |
| ip igmp snooping vlan static interface | Configure a static member port. |
| permit | Permit a range of multicast groups defined by a profile. |
| range | Define a range of multicast groups for a profile. |
| show ip igmp profile | Display configurations of a profile. |

| | |
|---|--|
| show ip igmp snooping | Display IGMP snooping information. |
| show ip igmp snooping gda-table | Display the IGMP snooping forwarding table. |
| show ip igmp snooping interfaces | Display multicast filter configurations on a port. |
| show ip igmp snooping mrouter | Display IGMP snooping multicast router ports. |
| show ip igmp snooping querier | Display IGMP snooping querier information. |
| show ip igmp snooping statistics | Display IGMP snooping statistics. |

1.1 clear ip igmp snooping gda-table

Function

Run the **clear ip igmp snooping gda-table** command to clear dynamic forwarding entries.

Syntax

```
clear ip igmp snooping gda-table
```

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

An Internet Group Management Protocol (IGMP) snooping forwarding entry includes the virtual local area network (VLAN) ID, multicast group address, multicast router ports, and member ports.

A VLAN ID (VID) and multicast group address uniquely identify a forwarding entry.

A forwarding entry may contain multiple multicast router ports, which may be dynamically learned or statically configured. Static multicast router ports never age.

A forwarding entry may contain multiple member ports, which may be dynamically learned or statically configured. Static member ports never age. This command cannot be used to delete static member ports.

Examples

The following example clears IGMP snooping dynamic forwarding entries.

```
Hostname> enable
Hostname# clear ip igmp snooping gda-table
```

Notifications

N/A

Platform Description

N/A

1.2 clear ip igmp snooping statistics

Function

Run the **clear ip igmp snooping statistics** command to clear IGMP snooping statistics.

Syntax

```
clear ip igmp snooping statistics
```

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command can be used to clear statistics displayed by running the [show ip igmp snooping statistics](#) command.

Examples

The following example clears IGMP snooping statistics.

```
Hostname> enable
Hostname# clear ip igmp snooping statistics
```

Notifications

N/A

Platform Description

N/A

1.3 deny

Function

Run the **deny** command to deny a range of multicast groups specified by a profile.

The **deny** action is performed for a profile by default.

Syntax**deny****Parameter Description**

N/A

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

- (1) Run the **ip igmp profile** command to create a profile and enter the profile configuration mode.

- (2) Run the **range** command to define a multicast group range.
- (3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.

Examples

The following example creates profile 1, defines the group range of 224.2.2.2 to 224.2.2.244, and denies profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# range 224.2.2.2 224.2.2.244
Hostname(config-profile)# deny
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [ip igmp profile](#)
- [range](#)
- [permit](#)
- [show ip igmp profile](#)

1.4 ip igmp profile

Function

Run the **ip igmp profile** command to create a profile and enter the profile configuration mode.

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

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

No profile is created by default.

Syntax

ip igmp profile *profile-number*

no ip igmp profile *profile-number*

default ip igmp profile *profile-number*

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

- (1) Run the **ip igmp profile** command to create a profile and enter the profile configuration mode.
- (2) Run the **range** command to define a multicast group range.
- (3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.
- (4) If the Deny action is configured and no multicast group range is configured, no group is denied. The effect is same as that of permitting all groups.
- (5) If the Permit action is configured and no multicast group range is configured, no group is permitted. The effect is same as that of denying all groups.

Examples

The following example creates profile 1, defines the group range of 224.2.2.2 to 224.2.2.244, and permits profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# range 224.2.2.2 224.2.2.244
Hostname(config-profile)# permit
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [deny](#)
- [permit](#)
- [range](#)
- [show ip igmp profile](#)

1.5 ip igmp snooping dyn-mr-aging-time

Function

Run the **ip igmp snooping dyn-mr-aging-time** command to configure the aging time of dynamic multicast router ports.

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

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

The default aging time of dynamic multicast router ports is 300s.

Syntax

ip igmp snooping dyn-mr-aging-time *dynamic-mroute-aging-time*

no ip igmp snooping dyn-mr-aging-time

default ip igmp snooping dyn-mr-aging-time

Parameter Description

dynamic-mroute-aging-time: Aging time of dynamic router ports, in seconds. The value range is from 1 to 3600.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If a dynamic multicast router port does not receive a general IGMP Query packet or a Protocol Independent Multicast (PIM) Hello packet before the aging time expires, the device deletes the port from the multicast router port list.

When the dynamic multicast router port learning function is enabled, you can run this command to adjust the aging time of dynamic multicast router ports. A too short aging time may cause multicast router ports to be added and deleted frequently.

Examples

The following example sets the aging time of dynamic multicast router ports to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping dyn-mr-aging-time 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.6 ip igmp snooping fast-leave enable

Function

Run the **ip igmp snooping fast-leave enable** command to enable the port fast leave function.

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

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

The port fast leave function is disabled by default.

Syntax

ip igmp snooping fast-leave enable

no ip igmp snooping fast-leave enable

default ip igmp snooping fast-leave enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the port fast leave function is enabled and a port receives a Leave packet, the port is directly deleted from the member port list of the corresponding multicast forwarding entry. When receiving group-specific Query packets, the device does not forward the packets to this port. Leave packets include IGMPv2 Leave packets and IGMPv3 Report packets of the INCLUDE type without carrying any source address.

The port fast leave function is applicable when only one host is connected to each port. This function helps save bandwidth and resources.

Examples

The following example enables the port fast leave function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping fast-leave enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.7 ip igmp snooping filter

Function

Run the **ip igmp snooping filter** command to apply a profile to a port to restrict the multicast groups that user hosts connecting to the port can join.

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

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

No profile is applied to a port by default.

Syntax

ip igmp snooping filter *profile-number*

no ip igmp snooping filter

default ip igmp snooping filter

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

To specify a profile in the **ip igmp snooping filter** command, you must first create the profile.

After this command is configured on a port and the port receives a Report packet from a user host, the device checks whether the multicast address that the user host wants to join is within the multicast group range allowed by the profile. If yes, the user host can join the group. If no, the user host is not allowed to join the group.

Examples

The following example applies profile 1 to port GigabitEthernet 0/1 to restrict the multicast groups that user hosts connecting to the port can join.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if)# ip igmp snooping filter 1
```

Notifications

When the configured profile does not exist, the following notification will be displayed:

```
% Error: Configure vlan filter fail
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)
- [show ip igmp snooping interfaces](#)

1.8 ip igmp snooping vlan filter

Function

Run the **ip igmp snooping vlan filter** command to apply a profile to a VLAN to restrict the multicast groups that user hosts in the VLAN can join.

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

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

No profile is applied to a VLAN by default.

Syntax

```
ip igmp snooping vlan vlan-id filter profile-number
```

```
no ip igmp snooping vlan vlan-id filter
```

```
default ip igmp snooping vlan vlan-id filter
```

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To specify a profile in the **ip igmp snooping vlan filter** command, you must first create the profile.

After this command is configured on a VLAN and the VLAN receives a Report packet from a user host, the device checks whether the multicast address that the user host wants to join is within the multicast group range allowed by the profile. If yes, the user host can join the group. If no, the user host is not allowed to join the group.

Examples

The following example applies profile 1 to VLAN 1 to restrict the multicast groups that the user hosts in the VLAN can join.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping vlan 1 filter 1
```

Notifications

When the configured profile does not exist, the following notification will be displayed:

```
% Error: Configure vlan filter fail
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)
- [show ip igmp snooping interfaces](#)

1.9 ip igmp snooping host-aging-time

Function

Run the **ip igmp snooping host-aging-time** command to configure the aging time for IGMP snooping dynamic member ports.

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

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

The default aging time of IGMP dynamic member ports is 260s.

Syntax

```
ip igmp snooping host-aging-time host-aging-time
```

```
no ip igmp snooping host-aging-time
```

```
default ip igmp snooping host-aging-time
```

Parameter Description

host-aging-time: Aging time, in seconds. The value range is from 1 to 65535.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the device running IGMP snooping receives an IGMP Join packet from a host to join an IP multicast group, the device adds the port receiving the packet to the member port list and sets an aging time for the port.

If the port is already in the member port list, the device resets the aging timer of the port. The timer time is *host-aging-time*. After the timer times out, it is deemed that no user host receives multicast packets through this port, and the multicast device deletes the port from the IGMP snooping member port list. After this command is configured, the aging timer value of dynamic member ports is *host-aging-time* for subsequent IGMP Join packets. The configured aging time takes effect after the next Join packet is received, and the started member port aging timers are not updated.

Examples

The following example sets the aging time of IGMP dynamic member ports to 30s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping host-aging-time 30
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.10 ip igmp snooping ivgl

Function

Run the **ip igmp snooping ivgl** command to enable IGMP snooping globally and run the Independent VLAN Group Learning (IVGL) mode.

Run the **no** form of this command to disable IGMP snooping.

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

IGMP snooping is disabled by default.

Syntax

ip igmp snooping ivgl

no ip igmp snooping

default ip igmp snooping

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In IVGL mode, multicast streams in different VLANs are independent of each other. A host can request only a multicast router port in the same VLAN to receive multicast data. Upon receiving multicast data in any VLAN, the device running IGMP snooping forwards the data only to member ports in the same VLAN.

Examples

The following example enables IGMP snooping and runs the IVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping ivgl
```

Notifications

When the device does not support the IVGL mode, the following notification will be displayed:

```
% Error: It's invalid to configure IVGL mode in this product.
```

When L2 static multicast flow control is configured on the device, the following notification will be displayed, asking you to disable L2 static multicast flow control first:

```
% Error: IGMP Snooping conflicts with ip multicast static rule, please disable ip
multicast static rule and try again.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.11 ip igmp snooping ivgl-svgl

Function

Run the **ip igmp snooping ivgl-svgl** command to enable IGMP snooping globally and run the IVGL-SVGL mode.

Run the **no** form of this command to disable IGMP snooping.

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

IGMP snooping is disabled by default.

Syntax

ip igmp snooping ivgl-svgl

no ip igmp snooping

default ip igmp snooping

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In IVGL-SVGL mode, the IVGL and SVGL modes coexist. A profile must be used to define a range of multicast groups applied in SVGL mode. Multicast data in this range applies to the SVGL mode, and other multicast data applies to the IVGL mode.

Note

The IVGL-SVGL mode is exclusive from the IP multicast function. If you want to enable IP multicast, please select the IVGL mode.

Examples

The following example enables IGMP snooping and runs the IVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping ivgl
```

The following example enables IGMP snooping and runs the IVGL-SVGL mode, sets the shared VLAN to VLAN 1, and sets the range of multicast groups applied in SVGL mode to Profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# permit
Hostname(config-profile)# range 224.1.1.1 238.1.1.1
Hostname(config-profile)# exit
Hostname(config)# ip igmp snooping ivgl-svgl
Hostname(config)# ip igmp snooping svgl profile 1
```

Notifications

When L2 static multicast flow control is configured on the device, the following notification will be displayed, asking you to disable L2 static multicast flow control first:

```
% Error: IGMP Snooping conflicts with ip multicast static rule, please disable ip multicast static rule and try again.
```

When the device does not support the SVGL mode, the following notification will be displayed:

```
% Error: It's invalid to configure SVGL mode in this product.
```

When the device enables the L3 IPv4 multicast routing function and does not support the configuration of SVGL mode, the following notification will be displayed:

```
% Error: You must disable ip multicast-routing first.
```

If no SVGL profile is configured when the SVGL mode is enabled, the following notification will be displayed:

```
% Warning: Please remember to configure SVGL profile
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [ip igmp snooping svgl subvlan](#)
- [ip igmp snooping svgl vlan](#)
- [ip igmp snooping svgl profile](#)
- [show ip igmp snooping](#)

1.12 ip igmp snooping I2-entry-limit

Function

Run the **ip igmp snooping I2-entry-limit** command to configure the maximum number of multicast groups allowed for concurrent request globally.

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

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

The maximum number of multicast groups allowed for concurrent request globally is **64000** by default.

Syntax

```
ip igmp snooping I2-entry-limit I2-entry-limit
```

```
no ip igmp snooping I2-entry-limit
```

```
default ip igmp snooping I2-entry-limit
```

Parameter Description

I2-entry-limit: Maximum number of multicast groups. The value range is from 0 to 65536.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The global maximum number of multicast groups allowed for concurrent request indicates groups on all ports in all VLANs and includes dynamically learned and statically configured multicast groups. When the number of multicast groups reaches the limit, learning new group records or configuring new static multicast group member ports are not allowed.

Examples

The following example sets the maximum number of multicast groups allowed for concurrent request globally to **2000**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping l2-entry-limit 2000
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.13 ip igmp snooping limit-ipmc vlan address server

Function

Run the **ip igmp snooping limit-ipmc vlan address server** command to specify a multicast group address and multicast source address for a VLAN.

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

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

Only the multicast source address is specified by default.

Syntax

```
ip igmp snooping limit-ipmc vlan vlan-id address group-address server source-address
```

```
no ip igmp snooping limit-ipmc vlan vlan-id address group-address
```

```
default ip igmp snooping limit-ipmc vlan vlan-id address group-address
```

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

group-address: Multicast group address.

source-address: Multicast source address.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The source IP address check function and IP multicast routing function are mutually exclusive.

The source IP address check function is used to restrict the source IP address of multicast traffic. After the source IP address check function is enabled, multicast traffic with invalid multicast source address will be discarded.

To configure the source IP address check function, perform the following steps:

- (1) Enable the source IP address check function and specify the multicast source address.
- (2) (Optional) Specify a multicast group address and multicast source address for a specific VLAN.

Examples

The following example enables the source IP address check function to allow hosts in VLAN 203 and VLAN 204 to receive multicast traffic only from the source IP address of 192.168.1.10 and multicast group address of 229.1.1.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan range 203-204
Hostname(config-vlan-range)# exit
Hostname(config)# ip igmp snooping source-check default-server 192.168.1.11
Hostname(config)# ip igmp snooping limit-ipmc vlan 203 address 229.1.1.1 server
192.168.1.10
Hostname(config)# ip igmp snooping limit-ipmc vlan 204 address 229.1.1.1 server
192.168.1.10
```

Notifications

When the set source IP address is the same as the address of default source IP address check, the following notification will be displayed:

```
% Error: Please reset the limit ipmc ip address,because it's equal to the default
source ip
```

If the default source IP address check function is not enabled, the following notification will be displayed:

```
% Warning: Remember to configure source-ip check ability!
```

Common Errors

- The source IP address check function is not enabled.
- The source IP address specified in **ip igmp snooping limit-ipmc** is the same as the source IP address specified in **ip igmp snooping source-check default-server**.

Platform Description

N/A

Related Commands

N/A

1.14 ip igmp snooping max-groups

Function

Run the **ip igmp snooping max-groups** command to configure the maximum number of multicast groups that can be dynamically learned by a port.

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

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

The maximum number of multicast groups that can be dynamically learned by a port is 64,000 by default.

Syntax

ip igmp snooping max-groups *max-groups*

no ip igmp snooping max-groups

default ip igmp snooping max-groups

Parameter Description

max-groups: Maximum number of multicast groups. The value range is from 0 to 64000.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

After this command is configured and the number of multicast groups dynamically learned by a port exceeds the limit, the device no longer learns IGMP Report packets over this port to create new forwarding entries.

The number of multicast groups that can be dynamically learned by a port is counted based on the VLANs to which the port belongs. For example, if a port belongs to three VLANs and the port receives requests of multicast group 224.1.1.1 from each VLAN, the number of multicast groups dynamically learned by the port is 3 instead of 1.

Examples

The following example sets the maximum number of multicast groups that can be dynamically learned by GigabitEthernet 0/1 to **100**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if)# ip igmp snooping max-group 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping interfaces](#)

1.15 ip igmp snooping mrouter learn pim-dvmrp

Function

Run the **ip igmp snooping mrouter learn pim-dvmrp** command to enable the function of dynamic multicast router port learning.

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

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

Dynamic multicast router port learning is enabled by default.

Syntax

ip igmp snooping [vlan *vlan-id*] mrouter learn pim-dvmrp

no ip igmp snooping [vlan *vlan-id*] mrouter learn pim-dvmrp

default ip igmp snooping [vlan *vlan-id*] mrouter learn pim-dvmrp

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The value range is from 1 to 4094. If this parameter is not specified, the dynamic multicast router port learning function is enabled or disabled for all VLANs.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

A multicast router port directly connects an IGMP snooping-enabled multicast device to a neighbor multicast device in which a multicast routing protocol is enabled. By default, when the dynamic multicast router port learning function is enabled, the device automatically listens to IGMP Query/DVMRP/PIM Hello packets and dynamically identifies multicast router ports.

To dynamically learn multicast router ports, enable the dynamic multicast router port learning function.

To configure static multicast router ports, run the **ip igmp snooping vlan mrouter interface** command.

To disable the dynamic multicast router port learning function for all VLANs, run the **no ip igmp snooping mrouter learn pim-dvmrp** command.

To disable the dynamic multicast router port learning function for a specific VLAN, run the **no ip igmp snooping vlan *vlan-id* mrouter learn pim-dvmrp** command.

When the source port check function is enabled, only multicast traffic from the multicast router ports is valid and the multicast device forwards the traffic to registered ports. Multicast data from non-multicast router ports is invalid and will be discarded.

Examples

The following example enables dynamic multicast router port learning only on VLAN 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no ip igmp snooping mrouter learn pim-dvmrp
Hostname(config)# ip igmp snooping vlan 1 mrouter learn pim-dvmrp
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.16 ip igmp snooping preview

Function

Run the **ip igmp snooping preview** command to enable the multicast preview function.

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

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

The multicast preview function is disabled by default.

Syntax

ip igmp snooping preview *profile-number*

no ip igmp snooping preview

default ip igmp snooping preview

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After the multicast preview function is enabled, a user who doesn't have access permission to certain multicast traffic (namely the user filtered out by IGMP snooping filter) can preview partial content of the multicast traffic. A profile is used to define the range of multicast groups allowed for preview.

The multicast preview function must be used in conjunction with IGMP snooping filter or multicast control.

Examples

The following example enables the multicast preview function (with profile 1 applied) to be used together with IGMP snooping filter (with profile 2 applied) configured on GigabitEthernet.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping preview 1
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if)# ip igmp snooping filter 2
```

Notifications

When the configured profile does not exist, the following notification will be displayed:

```
% Error: The profile doesn't exist, Please configure it first of all
```

Common Errors

IGMP snooping filter or multicast control is not used to control permissions of multicast groups.

Platform Description

N/A

Related Commands

N/A

1.17 ip igmp snooping preview interval

Function

Run the **ip igmp snooping preview interval** command to configure the multicast preview duration.

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

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

The default multicast preview duration is 60s.

Syntax

```
ip igmp snooping preview interval preview-interval
```

no ip igmp snooping preview interval

default ip igmp snooping preview interval

Parameter Description

preview-interval: Multicast preview duration, in seconds. The value range is from 1 to 300.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the multicast preview function and sets the preview duration to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping preview 1
Hostname(config)# ip igmp snooping preview interval 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.18 ip igmp snooping querier

Function

Run the **ip igmp snooping querier** command to enable the IGMP snooping querier function.

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

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

The IGMP snooping querier function is disabled by default.

Syntax

ip igmp snooping [vlan *vlan-id*] querier

no ip igmp snooping [vlan *vlan-id*] querier

```
default ip igmp snooping [ vlan vlan-id ] querier
```

Parameter Description

vlan *vlan-id*: Specifies a VLAN. If this parameter is not specified, the IGMP snooping querier function is enabled or disabled for all VLANs.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To activate the IGMP querier function on a VLAN, you must enable the function globally and then enable it on the VLAN.

If the IGMP snooping querier function is disabled globally, the function is disabled on all VLANs.

Examples

The following example enables the IGMP querier function on VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier
Hostname(config)# ip igmp snooping vlan 2 querier
```

Notifications

When the IGMP querier function is enabled on a VLAN before it is enabled globally, the following notification will be displayed:

```
% Command did not take effect due to reason: IGMP switch querier is globally
disabled
```

Common Errors

The IGMP querier function is enabled on a VLAN before it is enabled globally. As a result, the IGMP querier function on the VLAN does not take effect.

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.19 ip igmp snooping querier address

Function

Run the **ip igmp snooping querier address** command to configure the source IP address of the IGMP snooping querier.

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

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

The source IP address configuration applies to all VLANs by default.

Syntax

ip igmp snooping [vlan *vlan-id*] querier address *source-address*

no ip igmp snooping [vlan *vlan-id*] querier address

default ip igmp snooping [vlan *vlan-id*] querier address

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The querier source IP address configured on a specific VLAN, if any, prevails.

source-address: Source IP address of the querier.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After the querier function is enabled, you must specify a source IP address for the querier so that the querier function can take effect.

The querier source IP address configured on a specific VLAN, if any, prevails.

Examples

The following example sets the source IP address of the IGMP snooping querier to **1.1.1.1**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier address 1.1.1.1
```

The following example sets the source IP address of the IGMP snooping querier on VLAN 3 to **1.1.1.1**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 3
Hostname(config-vlan)# exit
Hostname(config)# ip igmp snooping vlan 3 querier address 1.1.1.1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.20 ip igmp snooping querier max-response-time

Function

Run the **ip igmp snooping querier max-response-time** command to configure the maximum response time of IGMP snooping queriers.

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

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

The maximum response time of IGMP snooping queriers is 10s by default.

Syntax

ip igmp snooping [vlan *vlan-id*] querier max-response-time *max-response-time*

no ip igmp snooping [vlan *vlan-id*] querier max-response-time

default ip igmp snooping [vlan *vlan-id*] querier max-response-time

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The maximum response time configured on a specific VLAN, if any, prevails.

max-response-time: Maximum response time of queriers, in seconds. The value range is from 1 to 25.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The maximum response time configured on a specific VLAN, if any, prevails.

Examples

The following example sets the maximum response time of queriers to 15s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier max-response-time 15
```

The following example sets the maximum response time of queriers on VLAN 3 to 15s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 3
Hostname(config-vlan)# exit
Hostname(config)# ip igmp snooping vlan 3 querier max-response-time 15
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.21 ip igmp snooping querier query-interval

Function

Run the **ip igmp snooping querier query-interval** command to configure the interval for an IGMP snooping querier to send Query packets.

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

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

The default interval for an IGMP snooping querier to send Query packets is 60s.

Syntax

ip igmp snooping [vlan *vlan-id*] querier query-interval *query-interval*

no ip igmp snooping [vlan *vlan-id*] querier query-interval

default ip igmp snooping [vlan *vlan-id*] querier query-interval

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The query interval configured on a specific VLAN, if any, prevails.

query-interval: Interval for a querier to send Query packets, in seconds. The value range is from 1 to 18000.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The query interval configured on a specific VLAN, if any, prevails.

Examples

The following example sets the query interval to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier query-interval 100
```

The following example sets the query interval on VLAN 3 to 100s.

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

```
Hostname(config)# vlan 3
Hostname(config-vlan)# exit
Hostname(config)# ip igmp snooping vlan 3 querier query-interval 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.22 ip igmp snooping querier timer expiry

Function

Run the **ip igmp snooping querier timer expiry** command to configure the aging time of IGMP snooping queriers.

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

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

The default aging time of IGMP snooping queriers is 125s.

Syntax

ip igmp snooping [vlan *vlan-id*] querier timer expiry *timeout*

no ip igmp snooping [vlan *vlan-id*] querier timer expiry

default ip igmp snooping [vlan *vlan-id*] querier timer expiry

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The querier aging time configured on a specific VLAN, if any, prevails.

timeout: Aging time of a querier, in seconds. The value range is from 60 to 300.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After the IGMP querier function is enabled and multiple queriers are configured in the network, querier election will be performed. The device elected as the querier will send Query packets periodically. Other candidate queriers receive Query packets from the elected querier. If a candidate querier does not receive Query packets from the elected querier within a specific period of time, the candidate querier regards that it is the only querier in the directly-connected network segment and initiates a new round querier election.

The querier aging time configured on a specific VLAN, if any, prevails.

Examples

The following example sets the querier aging time to 60s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier timer expiry 60
```

The following example sets the querier aging time on VLAN 3 to 60s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 3
Hostname(config-vlan)# exit
Hostname(config)# ip igmp snooping vlan 3 querier timer expiry 60
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.23 ip igmp snooping querier version

Function

Run the **ip igmp snooping querier version** command to specify the version of an IGMP snooping querier

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

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

The default version of an IGMP snooping querier is **version 2**.

Syntax

```
ip igmp snooping [ vlan vlan-id ] querier version { 1 | 2 }
```

```
no ip igmp snooping [ vlan vlan-id ] querier version
```

```
default ip igmp snooping [ vlan vlan-id ] querier version
```

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The IGMP snooping querier version configured on a specific VLAN, if any, prevails.

1: Specifies IGMPv1.

2: Specifies IGMPv2.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

An IGMP snooping querier supports IGMPv1, IGMPv2, and IGMPv3.

The IGMP snooping querier version configured on a specific VLAN, if any, prevails.

Examples

The following example sets the IGMP snooping querier version to IGMPv1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping querier version 1
```

The following example sets the IGMP snooping querier version on VLAN 3 to IGMPv1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan 3
Hostname(config-vlan)# exit
Hostname(config)# ip igmp snooping vlan 3 querier version 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.24 ip igmp snooping query-max-response-time

Function

Run the **ip igmp snooping query-max-response-time** command to configure the maximum response time for Query packets.

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

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

The maximum response time for Query packets is 10s by default.

Syntax

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

no ip igmp snooping query-max-response-time

default ip igmp snooping query-max-response-time

Parameter Description

query-max-response-time: Maximum response time for Query packets, in seconds. The value range is from 1 to 65535.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When receiving group-specific Query packets, the multicast device will reset the aging timers of all dynamic member ports of this multicast group. The timer time is *query-max-aging-time*. After the timer times out, it is deemed that no user host receives multicast packets through this port, and the multicast device deletes the port from the IGMP snooping member port list.

The configured aging time takes effect after the next Query packet is received, and the started aging timers are not updated. For IGMPv3 group-specific Query packets, the multicast device does not update the timers.

Examples

The following example sets the maximum response time for Query packets to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping query-max-response-time 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.25 ip igmp snooping source-check default-server

Function

Run the **ip igmp snooping source-check default-server** command to enable the source IP address check function and specify the source IP address.

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

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

Source IP address check is disabled by default.

Syntax

ip igmp snooping source-check default-server *source-address*

no ip igmp snooping souce-check

default ip igmp snooping souce-check

Parameter Description

source-address: Multicast source IP address.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The source IP address check function and IP multicast routing function are mutually exclusive.

The source IP address check function is used to restrict the source IP address of multicast traffic. After the source IP address check function is enabled, multicast traffic with invalid multicast source address will be discarded.

To configure the source IP address check function, perform the following steps:

- (1) Enable the source IP address check function and specify the multicast source address.
- (2) (Optional) Specify a multicast group address and multicast source address for a specific VLAN.

Examples

The following example enables the source IP address check function to allow hosts in VLAN 203 and VLAN 204 to receive multicast traffic only from the source IP address 192.168.1.10 and multicast group address 229.1.1.1.

```
Hostname> enable
```



```
Hostname# configure terminal
Hostname(config)# vlan range 203-204
Hostname(config-vlan-range)# exit
Hostname(config)# ip igmp snooping source-check default-server 192.168.1.10
Hostname(config)# ip igmp snooping limit-ipmc vlan 203 address 229.1.1.1 server
192.168.1.10
Hostname(config)# ip igmp snooping limit-ipmc vlan 204 address 229.1.1.1 server
192.168.1.10
```

Notifications

When the set default source IP address is the same as that specified in the **ip igmp snooping limit-ipmc** command, the following notification will be displayed:

```
% Error: The default-server address is conflict!
```

When the L3 multicast routing function is enabled, the following notification will be displayed:

```
% Error: You must disable multicast-routing first
```

If the device does not support the source IP address check function, the following notification will be displayed:

```
% Error: Switch does not support source-ip check!
```

Common Errors

The source IP address specified in **ip igmp snooping source-check default-server** is the same as the source IP address specified in **ip igmp snooping limit-ipmc**.

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.26 ip igmp snooping source-check port

Function

Run the **ip igmp snooping source-check port** command to enable the source port check function.

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

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

Source port check is disabled by default.

Syntax

```
ip igmp snooping source-check port
```

```
no ip igmp snooping source-check port
```

```
default ip igmp snooping source-check port
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The source port check function is used to restrict multicast traffic to be forwarded only through multicast router ports. After this function is enabled, only multicast traffic received on multicast router ports is valid. Multicast traffic received on other ports is invalid and will be discarded. If no multicast router port exists in a VLAN, multicast traffic in the VLAN will be discarded.

When the source port check function is disabled, multicast traffic received on any port is valid and will be forwarded to the corresponding member ports.

Examples

The following example enables the source port check function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping source-check port
```

Notifications

If the device does not support the source port check function, the following notification will be displayed:

```
% Error: Source-port check is invalid in this product
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.27 ip igmp snooping suppression enable

Function

Run the **ip igmp snooping suppression enable** command to enable the Report packet suppression function.

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

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

Report packet suppression is disabled by default.

Syntax

ip igmp snooping suppression enable

no ip igmp snooping suppression enable

default ip igmp snooping suppression enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When Report packet suppression is enabled, the IGMP multicast device forwards only the first Report packet from a specific VLAN for a multicast group to the multicast router port and suppresses subsequent Report packets for the same multicast group during one query interval. This function helps reduce the number of packets in the network.

Only IGMPv1 and IGMPv2 Report packets can be suppressed, and IGMPv3 Report packets cannot be suppressed.

Examples

The following example enables the Report packet suppression function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping suppression enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.28 ip igmp snooping svgl

Function

Run the **ip igmp snooping svgl** command to enable IGMP snooping globally and run the Shared VLAN Group Learning (SVGL) mode.

Run the **no** form of this command to disable IGMP snooping.

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

IGMP snooping is disabled by default.

Syntax

```
ip igmp snooping svgl
no ip igmp snooping
default ip igmp snooping
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In SVGL mode, hosts in different VLANs share multicast data. Hosts can request multicast data across VLANs. A shared VLAN (VLAN 1 by default) needs to be designated. Only multicast data in the shared VLAN can be forwarded to all member ports of the group address. These member ports can be in other VLANs. A profile must be used to define a range of multicast groups applied in SVGL mode. Only multicast data from this range can be forwarded across VLANs, and other multicast data will be discarded.

Note

The SVGL mode is exclusive from the IP multicast function. If you want to enable IP multicast, please select the IVGL mode.

Examples

The following example enables IGMP snooping and runs the SVGL mode, sets the shared VLAN to VLAN 1, and sets the range of multicast groups applied in SVGL mode to Profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# permit
Hostname(config-profile)# range 224.1.1.1 238.1.1.1
Hostname(config-profile)# exit
Hostname(config)# ip igmp snooping svgl
Hostname(config)# ip igmp snooping svgl profile 1
```

Notifications

When L2 static multicast flow control is configured on the device, the following notification will be displayed, asking you to disable L2 static multicast flow control first:

```
% Error: IGMP Snooping conflicts with ip multicast static rule, please disable ip
multicast static rule and try again.
```

When the device does not support the SVGL mode, the following notification will be displayed:

```
% Error: It's invalid to configure SVGL mode in this product.
```

When the device enables the L3 IPv4 multicast routing function and does not support the configuration of SVGL mode, the following notification will be displayed:

```
% Error: You must disable ip multicast-routing first.
```

If no SVGL profile is configured when the SVGL mode is enabled, the following notification will be displayed:

```
% Warning: Please remember to configure SVGL profile
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [ip igmp snooping svgl subvlan](#)
- [ip igmp snooping svgl vlan](#)
- [ip igmp snooping svgl profile](#)
- [show ip igmp snooping](#)

1.29 ip igmp snooping svgl profile

Function

Run the **ip igmp snooping svgl profile** command to specify the range of multicast groups applied in the SVGL mode.

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

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

No multicast group is associated with the SVGL mode by default.

Syntax

```
ip igmp snooping svgl profile profile-number
```

```
no ip igmp snooping svgl profile
```

```
default ip igmp snooping svgl profile
```

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the device running IGMP snooping operates in SVGL or IVGL-SVGL mode, the multicast groups associated with the SVGL mode must be configured.

First, define the multicast groups applied in the SVGL mode in a profile. Then, apply this profile in this command.

Examples

The following example applies profile 2 to the SVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)#ip igmp profile 2
Hostname(config-profile)#permit
Hostname(config-profile)#range 225.1.1.1 225.1.255.255
Hostname(config-profile)#exit
Hostname(config)# ip igmp snooping svgl profile 2
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)
- [ip igmp profile](#)
- [show ip igmp snooping](#)

1.30 ip igmp snooping svgl subvlan

Function

Run the **ip igmp snooping svgl subvlan** command to specify the sub VLANs applied in the SVGL mode.

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

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

All VLANs except the shared VLAN are sub VLANs in SVGL mode by default.

Syntax

```
ip igmp snooping svgl subvlan [ vlan-range ]
```

```
no ip igmp snooping svgl subvlan [ vlan-range ]
```

```
default ip igmp snooping svgl subvlan [ vlan-range ]
```

Parameter Description

vlan-range: VLAN ID or VLAN ID range. *vlan-range* can be set to a single VLAN or a range of VLANs. When a range of VLANs is configured, use commas (,) to separate VIDs. Consecutive VIDs can also be connected using hyphens (-). There is no sequence requirement for the VIDs.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the device running IGMP snooping operates in SVGL or IVGL-SVGL mode, you can run this command to configure the multicast groups associated with the SVGL mode.

Examples

The following example sets the shared VLAN to VLAN 3 and sub VLANs to VLANs 2, 5, 6, and 7 for the SVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan range 2-3,5-7
Hostname(config-vlan-range)# exit
Hostname(config)# ip igmp snooping svgl vlan 3
Hostname(config)# ip igmp snooping svgl subvlan 2,5-7
```

Notifications

When the number of configured sub VLANs exceeds the limit 127, the following notification will be displayed:

```
% Error: Reach max subvlan entries than what allowed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)
- [ip igmp snooping svgl vlan](#)

1.31 ip igmp snooping svgl vlan

Function

Run the **ip igmp snooping svgl vlan** command to specify the shared VLAN applied in the SVGL mode.

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

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

The default shared VLAN is VLAN 1.

Syntax

ip igmp snooping svgl vlan *vlan-id*

no ip igmp snooping svgl vlan

default ip igmp snooping svgl vlan

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the device running IGMP snooping operates in SVGL or IVGL-SVGL mode, you can run this command to configure the shared VLAN applied in the SVGL mode.

Examples

The following example sets the shared VLAN to VLAN 3 and sub VLANs to VLANs 2, 5, 6, and 7 for the SVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# vlan range 2-3,5-7
Hostname(config-vlan-range)# exit
Hostname(config)# ip igmp snooping svgl vlan 3
Hostname(config)# ip igmp snooping svgl subvlan 2,5-7
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)
- [ip igmp snooping svgl subvlan](#)
- [show ip igmp snooping](#)

1.32 ip igmp snooping tunnel

Function

Run the **ip igmp snooping tunnel** command to enable the function of transparent IGMP packet transmission on the QinQ port.

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

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

The function of transparent IGMP packet transmission on the QinQ port is disabled by default.

Syntax

ip igmp snooping tunnel

no ip igmp snooping tunnel

default ip igmp snooping tunnel

Parameter Description

N/A

Default Level

14

Command Modes

Global configuration mode

Usage Guidelines

On a device with IGMP snooping enabled and a dot1q-tunnel (QinQ) port configured, IGMP snooping will process the IGMP packets received on the QinQ port using the following two modes:

- Mode 1: Transmit IGMP packets in transparent mode on the QinQ port. Create multicast entries on the VLAN where the IGMP packets are located and forward IGMP packets on the VLAN. For example, IGMP snooping is enabled for a device, Port A on the device is designated as the QinQ port, the default VLAN of this port is VLAN 1, and Port A allows the passage of VLAN 1 and VLAN 10 packets. When an IGMP Report packet is sent from VLAN 10 to Port A, IGMP snooping establishes a multicast entry for VLAN 10 and forwards the IGMP Report packet to the multicast router port of VLAN 10.
- Mode 2: Create multicast entries on the default VLAN of the QinQ port. Encapsulate the IGMP packets with the VLAN tag of the default VLAN where the QinQ port is located and forward the packets within the default VLAN. For example, IGMP snooping is enabled for a device, Port A on the device is designated as the QinQ port, the default VLAN of this port is VLAN 1, and Port A allows the passage of VLAN 1 and VLAN 10 packets. When an IGMP Report packet is sent from VLAN 10 to Port A, IGMP snooping establishes a multicast entry for VLAN 1, encapsulates the IGMP Report packet with the tag of VLAN 1, and forwards the packet to the multicast router port of VLAN 1.

IGMP snooping works in mode 2 by default.

Examples

The following example enables the function of transparent IGMP packet transmission on the QinQ port.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping tunnel
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)
-

1.33 ip igmp snooping vlan

Function

Run the **ip igmp snooping vlan** command to enable the IGMP snooping function in IVGL mode on a VLAN.

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

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

If the IGMP snooping function in IVGL mode is enabled globally, the function is enabled on all VLANs.

If the IGMP snooping function in IVGL mode is disabled globally, the function is disabled on all VLANs.

Syntax

ip igmp snooping vlan *vlan-id*

no ip igmp snooping vlan *vlan-id*

default ip igmp snooping vlan *vlan-id*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the IGMP snooping function in IVGL mode is enabled globally, you can run the **no ip igmp snooping vlan** *vlan-id* command to enable the IGMP snooping function in IVGL mode on VLANs except the specified VLAN.

Examples

The following example enables the IGMP snooping function in IVGL mode globally and disables the function on VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping ivgl
Hostname(config)# no ip igmp snooping vlan 2
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping vlan](#)

1.34 ip igmp snooping vlan mrouter interface

Function

Run the **ip igmp snooping vlan mrouter interface** command to configure a static multicast router port.

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

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

No static multicast router port is configured by default.

Syntax

ip igmp snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

no ip igmp snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

default ip igmp snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

interface-type interface-number: Interface name.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To dynamically learn multicast router ports, enable the dynamic multicast router port learning function, which is enabled by default.

To configure static multicast router ports, run the **ip igmp snooping vlan mrouter interface** command. Static multicast router ports never age.

If a port is configured as a static multicast router port, the device can forward all received multicast traffic over this port.

When the source port check function is enabled, only multicast traffic from the multicast router ports is valid and the multicast device forwards the traffic to registered ports. Multicast data from non-multicast router ports is invalid and will be discarded.

Examples

The following example configures GigabitEthernet 0/1 in VLAN 1 as a static multicast router port.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping vlan 1 mrouter interface gigabitethernet 0/1
```

Notifications

When a static multicast router port fails to be configured, the following notification will be displayed:

```
% Error: Configure this interface static multicast route failure
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)
-

1.35 ip igmp snooping vlan static interface

Function

Run the **ip igmp snooping vlan static interface** command to configure a static member port.

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

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

No static member port is configured by default.

Syntax

ip igmp snooping vlan *vlan-id* **static** *group-address* **interface** *interface-type* *interface-number*

no ip igmp snooping vlan *vlan-id* **static** *group-address* **interface** *interface-type* *interface-number*

default ip igmp snooping vlan *vlan-id* **static** *group-address* **interface** *interface-type* *interface-number*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

group-address: Multicast group address.

interface-type interface-number: Interface name.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

An IGMP snooping forwarding entry includes the VLAN ID, multicast group address, multicast router ports, and member ports.

A VID and multicast group address uniquely identify a forwarding entry.

A forwarding entry may contain multiple multicast router ports, which may be dynamically learned or statically configured. Static multicast router ports never age.

A forwarding entry may contain multiple member ports, which may be dynamically learned or statically configured. Static member ports never age. The **clear ip igmp snooping gda-table** command cannot be used to delete static member ports.

Examples

The following example establishes a forwarding entry and sets the VLAN ID to 1, multicast group address to 224.1.1.1, and static member port to GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp snooping vlan 1 static 224.1.1.1 interface
gigabitethernet 0/1
```

Notifications

When a static member port fails to be configured, the following notification will be displayed:

```
% Error: Configure static multicast group in this port fail
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip igmp snooping](#)

1.36 permit

Function

Run the **permit** command to permit a range of multicast groups defined by a profile.

The **deny** action is performed for a profile by default.

Syntax

```
permit
```

Parameter Description

N/A

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

- (1) Run the **ip igmp profile** command to create a profile and enter the profile configuration mode.
- (2) Run the **range** command to define a multicast group range.
- (3) Run the **permit** or **deny** command to permit or deny the range of multicast groups. The default action is **deny**.

Examples

The following example permits multicast groups in the range of 224.2.2.2 to 224.2.2.244 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# range 224.2.2.2 224.2.2.244
Hostname(config-profile)# permit
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [deny](#)
- [ip igmp profile](#)

- [range](#)
- [show ip igmp profile](#)

1.37 range

Function

Run the **range** command to define a range of multicast groups for a profile.

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

No multicast group range is defined for a profile by default.

Syntax

```
range low-ip-address [ high-ip-address ]
```

```
no range low-ip-address [ high-ip-address ]
```

Parameter Description

low-ip-address: Start IP address of a multicast group range.

high-ip-address: End IP address of a multicast group range.

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

- (1) Run the **ip igmp profile** command to create a profile and enter the profile configuration mode.
- (2) Run the **range** command to define a multicast group range.
- (3) Run the **permit** or **deny** command to permit or deny the range of multicast groups. The default action is **deny**.

Examples

The following example permits multicast groups in the range of 224.2.2.2 to 224.2.2.244 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip igmp profile 1
Hostname(config-profile)# range 224.2.2.2 224.2.2.244
Hostname(config-profile)# permit
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [deny](#)
- [ip igmp profile](#)
- [permit](#)
- [show ip igmp profile](#)

1.38 show ip igmp profile**Function**

Run the **show ip igmp profile** command to display configurations of a profile.

Syntax

```
show ip igmp profile [ profile-number ]
```

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024. If this parameter is not configured, configurations of all profiles are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display information about configured profiles.

Examples

The following example displays information about configured profiles.

```

Hostname> enable
Hostname# show ip igmp profile
PROFILE      1
             DENY
             RANGE 224.1.1.1, 225.1.1.1

```

Table 1-1 Output Fields of the show ip igmp profile Command

| Field | Description |
|-----------------|---|
| PROFILE | Profile ID. |
| PERMIT/ DENY | Run the permit or deny command to permit or deny a range of multicast groups. The default action is deny . |

| Field | Description |
|-------|---|
| RANGE | Range of multicast groups defined in a profile. |

Notifications

N/A

Platform Description

N/A

1.39 show ip igmp snooping

Function

Run the **show ip igmp snooping** command to display IGMP snooping information.

Syntax

```
show ip igmp snooping [ vlan vlan-id ]
```

Parameter Description

vlan *vlan-id*: Specifies a VLAN. If this parameter is not specified, configurations of all VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the IGMP snooping status and parameters globally or on a specific VLAN.

Examples

The following example displays IGMP snooping information globally.

```
Hostname> enable
Hostname# show ip igmp snooping
IGMP Snooping running mode: IVGL
IGMP Snooping L2-entry-limit: 64000
Source port check: Disable
Source ip check: Disable
IGMP Fast-Leave: Disable
IGMP Report suppress: Disable
IGMP Globle Querier: Disable
IGMP Preview: Disable
IGMP Tunnel: Disable
IGMP Snooping version: 2IGMP Preview group aging time : 60(Seconds)
Dynamic Mroute Aging Time : 300(Seconds)
```

```
Dynamic Host Aging Time : 260 (Seconds)
```

Table 1-1 Output Fields of the show ip igmp snooping Command

| Field | Description |
|-------------------------------|---|
| IGMP Snooping running mode | IGMP snooping working mode <ul style="list-style-type: none"> ● IVGL mode: provides independent multicast services for each user VLAN. ● SVGL mode: provides shared multicast services for user VLANs. ● IVGL-SVGL mode: provides both shared and independent multicast services for user VLANs. |
| IGMP Snooping L2-entry-limit | Global maximum number of multicast groups allowed for concurrent request |
| Source port check | Source port check |
| Source ip check | Source IP address check |
| IGMP Fast-Leave | Port fast leave |
| IGMP Report suppress | Report packet suppression |
| IGMP Globle Querier | Global IGMP snooping querier |
| IGMP Preview | IGMP multicast preview |
| IGMP Tunnel | Transparent IGMP packet transmission on the QinQ port |
| IGMP Snooping version | IGMP snooping version |
| IGMP Preview group aging time | IGMP multicast preview duration |
| Dynamic Mroute Aging Time | Aging time of dynamic multicast router ports |
| Dynamic Host Aging Time | Aging time of dynamic member ports |

The following example displays IGMP snooping information on VLAN 1.

```

Hostname> enable
Hostname# show ip igmp snooping vlan 1
IGMP Snooping running mode: IVGL
IGMP Snooping L2-entry-limit: 65536
Global IGMPv2 Fast-Leave :Disable
Global multicast router learning mode :Enable
Query Max Response Time: 10 (Seconds)
Dynamic Mroute Aging Time : 300 (Seconds)
Dynamic Host Aging Time : 260 (Seconds)
vlan 1
----
IGMP Snooping state: Enable

```

```

Multicast router learning mode: pim-dvmrp
IGMP Fast-Leave: Disable
IGMP VLAN querier: Disable
IGMP VLAN Mode: STATIC

```

Table 1-2Output Fields of the show ip igmp snooping vlan Command

| Field | Description |
|---------------------------------------|---|
| IGMP Snooping running mode | IGMP snooping working mode <ul style="list-style-type: none"> ● IVGL mode: provides independent multicast services for each user VLAN. ● SVGL mode: provides shared multicast services for user VLANs. ● IVGL-SVGL mode: provides both shared and independent multicast services for user VLANs. |
| IGMP Snooping L2-entry-limit | Global maximum number of multicast groups allowed for concurrent request |
| Global IGMPv2 Fast-Leave | Global port fast leave |
| Global multicast router learning mode | Global dynamic multicast router port learning <ul style="list-style-type: none"> ● Enable: The function is enabled. ● Disable: The function is disabled. |
| Query Max Respone Time | Maximum response time of an IGMP snooping querier |
| Dynamic Mroute Aging Time | Aging time of dynamic multicast router ports |
| Dynamic Host Aging Time | Aging time of dynamic member ports |
| vlan | Specified VLAN |
| IGMP Snooping state | IGMP snooping status |
| Multicast router learning mode | Dynamic multicast router port learning on a specified VLAN |
| IGMP Fast-Leave | Fast leave of a member port on a specific VLAN |
| IGMP VLAN querier | IGMP snooping querier of a specific VLAN |
| IGMP VLAN Mode | VLAN mode <ul style="list-style-type: none"> ● STATIC: static mode ● DYNAMIC: dynamic mode ● PRIVATE: private VLAN mode ● SUPER: VLAN aggregation mode |

Notifications

N/A

Platform Description

N/A

1.40 show ip igmp snooping gda-table

Function

Run the **show ip igmp snooping gda-table** command to display the IGMP snooping forwarding table.

Syntax

```
show ip igmp snooping gda-table
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the IGMP snooping forwarding table.

```

Hostname# enable
Hostname# show ip igmp snooping gda-table
Multicast Switching Cache Table
  D: DYNAMIC
  S: STATIC
  M: MROUTE
(*, 225.0.1.1, 20):
  VLAN(20) 3 OPORTS:
    ROUTER(M)
    GigabitEthernet 0/23(D)
    GigabitEthernet 0/24(M)

```

Table 1-1 Output Fields of the show ip igmp snooping gda-table Command

| Field | Description |
|---|---|
| D: DYNAMIC | Dynamic member port |
| S: STATIC | Static member port |
| M: MROUTE | Multicast router port |
| (*, <i>group-address</i> , <i>vlan-id</i>) | Multicast entry <ul style="list-style-type: none"> ● *: any source ● <i>group-address</i>: Multicast group address ● <i>vlan-id</i>: VLAN ID |

| Field | Description |
|---|--|
| VLAN(<i>vlan-id</i>) <i>oport-number</i> OPORTS | <i>oport-number</i> outbound ports under VLAN <i>vlan-id</i> |
| ROUTER(M) | Multicast router port of the local device |
| <i>interface-type interface-number</i> (D) | Dynamic member port |
| <i>interface-type interface-number</i> (M) | Multicast router port |

Notifications

N/A

Platform Description

N/A

1.41 show ip igmp snooping interfaces

Function

Run the **show ip igmp snooping interfaces** command to display multicast filter configurations on a port.

Syntax

```
show ip igmp snooping interfaces [ interface-type interface-number ]
```

Parameter Description

interface-type interface-number: Interface name.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays multicast filter configurations on GigabitEthernet 0/1.

```

Hostname# enable
Hostname# show ip igmp snooping interfaces GigabitEthernet 0/1
      Interface                Filter profile number      max-group
-----
GigabitEthernet 0/1          -----
                               1000

```

Table 1-1 Output Fields of the show ip igmp snooping interfaces Command

| Field | Description |
|-----------------------|--|
| Interface | Interface |
| Filter profile number | Profile ID |
| max-group | Maximum number of multicast groups that can be dynamically learned by a port |

Notifications

N/A

Platform Description

N/A

1.42 show ip igmp snooping mrouter

Function

Run the **show ip igmp snooping mrouter** command to display IGMP snooping multicast router ports.

Syntax

```
show ip igmp snooping mrouter
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays IGMP snooping multicast router ports.

```

Hostname# enable
Hostname# show ip igmp snooping mrouter
Multicast Switching Mroute Port
  D: DYNAMIC
  S: STATIC
(*, *, 2):
  VLAN(2) 1 MROUTES:
    GigabitEthernet 0/23(D)

```

Table 1-1 Output Fields of the `show ip igmp snooping mrouter` Command

| Field | Description |
|--|--|
| D: DYNAMIC | Dynamic multicast router port |
| S: STATIC | Static multicast router port |
| (* , * , <i>vlan-id</i>): | (Multicast source, multicast group, VLAN) |
| VLAN(<i>vlan-id</i>) <i>mroute-interface-number</i> MROUTES | <i>Mroute-interface-number</i> multicast router ports under VLAN <i>vlan-id</i> |
| <i>interface-type interface-number</i> (D) | Dynamic multicast router port |

Notifications

N/A

Platform Description

N/A

1.43 show ip igmp snooping querier**Function**

Run the `show ip igmp snooping querier` command to display IGMP snooping querier information.

Syntax

```
show ip igmp snooping querier [ detail | vlan vlan-id ]
```

Parameter Description

vlan *vlan-id*: Specifies a VLAN. If this parameter is not specified, configurations of all VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays IGMP snooping querier information.

```

Hostname# enable
Hostname# show ip igmp snooping querier
Vlan      IP Address      IGMP Version      Port
-----
```

```
3          1.1.1.1          1          switch
```

Table 1-1 Output Fields of the show ip igmp snooping querier Command

| Field | Description |
|--------------|--------------|
| Vlan | VLAN ID |
| IP Address | IP address |
| IGMP Version | IGMP version |
| Port | Port |

Notifications

N/A

Platform Description

N/A

1.44 show ip igmp snooping statistics

Function

Run the **show ip igmp snooping statistics** command to display IGMP snooping statistics.

Syntax

```
show ip igmp snooping statistics [ vlan vlan-id ]
```

Parameter Description

vlan *vlan-id*: Specifies a VLAN. If this parameter is not specified, configurations of all VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays IGMP snooping statistics.

```

Hostname# enable
Hostname# show ip igmp snooping statistics

Current number of Gda-table entries: 0
Configured Statistics database limit: 64000
```



```

Current number of IGMP Query packet received: 0
Current number of IGMPv1/v2 Report packet received: 0
Current number of IGMPv3 Report packet received: 0
Current number of Leave packet received: 0
Current number of PIM packet received: 0
Current number of DVMRP packet received: 0
Current number of SQL Exec waited: 0

```

Table 1-1Output Fields of the show ip igmp snooping statistics Command

| Field | Description |
|--|---|
| Current number of Gda-table entries | Number of IGMP snooping forwarding entries |
| Configured Statistics database limit | Maximum number of multicast entries |
| Current number of IGMP Query packet received | Number of IGMP Query packets received |
| Current number of IGMPv1/v2 Report packet received | Number of IGMPv1/IGMPv2 Report packets received |
| Current number of IGMPv3 Report packet received | Number of IGMPv3 Report packets received |
| Current number of Leave packet received | Number of Leave packets received |
| Current number of PIM packet received | Number of PIM packets received |
| Current number of DVMRP packet received | Number of DVMRP packets received |
| Current number of SQL Exec waited | Number of SQL statements waiting for execution |

Notifications

N/A

Platform Description

N/A