IGMP-Snooping Configuration Commands

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1.1.1 igmp-snooping

Syntax

ip igmp-snooping [vlan *vlan_id* **]**

no ip igmp-snooping [vlan *vlan_id* **]**

To enable or disable the IGMP-snooping function, run ip igmp-snooping [vlan vlan_id]. To resume the corresponding default settings, run no ip igmp-snooping [vlan vlan_id].

Parameters

Parameters	Description
vlan id	Stands for the ID of a VLAN. Value range: 1-4094

Default Value

The IGMP-Snooping function of the designated VLAN is shut down by default.

Usage Guidelines

If the vlan parameter is not designated, all VLANs in the system will be enabled or disabled after you run this command (IGMP-snooping supports at most 16 VLANs simultaneously).

Example

The following example shows how to enable the IGMP snooping function of VLAN1.

```
switch_config# ip igmp-snooping vlan 1
switch_config#
```

1.1.2 igmp-snooping static

Syntax

ip igmp-snooping vlan *vlan_id* **static** *A.B.C.D* **interface** *intf*

no ip igmp-snooping vlan *vlan_id* **static** *A.B.C.D* **interface** *intf*

Parameters

Parameters	Description
vlan id	Stands for the ID of a VLAN. Value range: 1-4094
A.B.C.D	IP address of the multicast

intf	Port

Default Value

None

Usage Guidelines

This command is used to configure the static multicast address of VLAN. Its negative form is used to cancel the static multicast address.

Example

The following example shows how to add static multicast address 234.5.6.7 to interface FastEthernet0/5 of VLAN 2.

```
switch_config# ip igmp-snooping vlan 2 static 234.5.6.7 interface GigaEthernet0/5
switch_config#
```

Note:

224.0.0.0-224.0.0.255 stands for irroutable multicast addresses which cannot be registered on each port.

1.1.3 igmp-snooping immediate-leave

Syntax

To configure the immediate-leave attribute of VLAN, run ip igmp-snooping vlan vlan_id immediate-leave. To resume the default value, run no ip igmp-snooping vlan vlan_id immediate-leave.

ip igmp-snooping vlan *vlan_id* **immediate-leave**

no ip igmp-snooping vlan *vlan_id* **immediate-leave**

Parameters

Parameters	Description
vlan id	Stands for the ID of a VLAN. Value range: 1-4094

Default Value

The immediate-leave attribute is shut down by default.

Usage Guidelines

None

Example

The following example shows how to enable the immediate-leave attribute of VLAN1.

```
switch_config# ip igmp-snooping vlan 1 immediate-leave
switch_config#
```

1.1.4 igmp-snooping mrouter

Syntax

ip igmp-snooping vlan *vlan_id* **mrouter interface** *intf*

no ip igmp-snooping vlan *vlan_id* **mrouter interface** *intf*

Parameters

Parameters	Description
vlan id	Stands for the ID of a VLAN. Value range: 1-4094
intf	Port

Default Value

None

Usage Guidelines

The command is used to set the static routing port of VLAN. Use the no form of this command to delete the routing port.

Example

The following example shows how to add gigabit Ethernet port 0/5 to the static routing port of VLAN 2.

```
switch_config# ip igmp-snooping vlan 2 mrouter interface GigaEthernet0/5
switch_config#
```

1.1.5 igmp-snooping policy

Syntax

ip igmp-snooping policy *word*

no ip igmp-snooping policy

Parameters

Parameters	Description
Word	IP ACL name

Default Value

None

Usage Guidelines

The command is used to set the to be detected IP ACL list of igmp-snooping when adding multicast forwarding table. Use the no form of this command to cancel the detection of the list.

Example

The following example is to detect the IP ACL whose name is 123 when adding multicast forwarding table.

switch_config# ip igmp-snooping policy 123

switch_config#

1.1.6 igmp-snooping dlf-drop

Syntax

ip igmp-snooping dlf-drop

no ip igmp-snooping dlf-drop

Default Value

None

Usage Guidelines

This command is used to set the multicast packets whose destination multicast addresses are not registered to the filtration mode. The negative form of this command is used to resume the default settings.

Example

The following example shows how to drop the multicast packets with unregistered destination addresses in all VLANs.

```
switch_config# ip igmp-snooping dlf-drop
switch_config#
```

1.1.7 igmp-snooping router age

Syntax

ip igmp-snooping timer router-age *time_value*

no ip igmp-snooping timer router-age

Parameters

Parameters	Description
time value	Queries the time of the timer. Value range: 10-2147483647

Default Value

260 seconds

Usage Guidelines

This command is used to query the time of the timer of IGMP-Snooping. The negative form of this command is used to resume the default value.

Example

The following example shows how to set the query time of the router to 300 seconds.

```
switch_config# ip igmp-snooping timer router-age 300
switch_config#
```

1.1.8 igmp-snooping response time

Syntax

To configure the maximum response time of IGMP snooping, run ip igmp-snooping timer response-time timer_value. To resume the default value of IGMP snooping, run no ip igmp-snooping timer response-time timer_value.

ip igmp-snooping timer response-time *time_value*

no ip igmp-snooping timer response-time

Parameters

Parameters	Description

time value	Queries the time of the timer. Value range: 1-2147483647

Default Value

15 seconds

Usage Guidelines

None

Example

The following example shows how to set the query response time of IGMP snooping to 20 seconds.

switch_config# ip igmp-snooping timer response-time 20
switch_config#

1.1.9 igmp-snooping querier

Syntax

To activate the IGMP-snooping querier mechanism, or set the source IP address of the automatic query packet, run ip igmp-snooping querier [address <ip_addr>]. To resume the default value, run no ip igmp-snooping querier [address <ip_addr>].

ip igmp-snooping querier [address <*ip_addr*>**]**

no ip igmp-snooping querier [address]

Parameters

Parameters	Description
ip_addr	IP address of a normal unicast

Default Value

By default, the querier function is not enabled and the source IP address is 10.0.0.200.

Usage Guidelines

None

Example

The following example shows how to activate IGMP Querier to serve as a multicast router if no multicast router is working.

```
switch_config# ip igmp-snooping querier
switch_config#
```

1.1.10 igmp-snooping querier querier-timer

Syntax

To configure the forward interval of forwarding query packets by the local querier, run the first one of the above commands. To return to the default setting, use the no form of this command.

ip igmp-snooping querier querier-timer *time_value*

no ip igmp-snooping querier querier-timer

Parameters

Parameters	Description
time_value	local querier interval

Default Value

The default interval is 200 seconds in enabling Querier.

Usage Guidelines

None

Example

The following command shows how to configure the query period of the local querier to 140s.

```
switch_config# ip igmp-snooping querier querier-timer 140
switch_config#
```

1.1.11 igmp-snooping forward-l3-to-mrouter

Syntax

To send the data packets to the multicast routing port, run ip igmp-snooping forward-l3-to-mrouter. To resume the default settings, use the “no” form of this command.

ip igmp-snooping forward-l3-to-mrouter

no ip igmp-snooping forward-l3-to-mrouter

Parameters

None

Default Value

If the forward-l3-to-mrouter command is not enabled, the data packets will not be sent to the related multicast routing port.

Usage Guidelines

This command is mainly to send the data packets to the IGMP JOIN port and meanwhile to the multicast routing port. Especially in case of L3 multicast cascading, the upstream L3 switches cannot receive the IGMP JOIN packets from a relative group and hence cannot learn the information about the relative group, and then the data packets will be sent to all physical ports in the L3 egress VLAN. After this command is run, the data packets will only be sent to the multicast routing port, which is registered on PIM-SM.

Example

The following example shows how to activate IGMP forward-l3-to-mrouter and make the upstream multicast data packets be sent to the multicast routing port:

```
switch_config# ip igmp-snooping forward-l3-to-mrouter
switch_config#
```

1.1.12 igmp-snooping sensitive

Syntax

To activate the IGMP-snooping sensitive mechanism or set the value of the sensitive parameter, run ip igmp-snooping sensitive [value int<3-30>]. To resume the default value, use the "no" form of this command.

ip igmp-snooping sensitive [value *int<3-30>***]**

no ip igmp-snooping sensitive [value]

Parameters

Parameters	Description
int	3-30

Default Value

The sensitive function is disabled by default.

Usage Guidelines

This command is mainly used to modify the router-age of the mrouter port in active state and deliver the new query packets rapidly when a port in trunk mode is shut down.

Example

The following example shows how to activate IGMP sensitive and set the route-age of mrouter to be a converged one.

switch_config# ip igmp-snooping sensitive

switch_config# ip igmp-snooping sensitive value 10

1.1.13 igmp-snooping v3-leave-check

Syntax

To send the special query packets after the v3-leave packet is received, run ip igmp-snooping v3-leave-check; to resume the default settings, run the "no” form of this command.

ip igmp-snooping v3-leave-check

no ip igmp-snooping v3-leave-check

Default Value

v3-leave-check is disabled and the special query packet will not be sent after v3-leave packet is received.

Usage Guidelines

None

Example

The following example shows how to activate IGMP v3-leave-check and send the special query packet after the v3-leave packet is received.

switch_config# ip igmp-snooping v3-leave-check

switch_config#

1.1.14 igmp-snooping forward-wrongiif-within-vlan

Syntax

To send the multicast data packets, received from the wrongiif port, to the relative physical ports in the local vlan, run ip igmp-snooping forward-wrongiif-within-vlan; to resume the default value, run the “no” form of this command.

ip igmp-snooping forward-wrongiif-within-vlan

no ip igmp-snooping forward-wrongiif-within-vlan

Default Value

This command is enabled by default and the multicast packets from the wrongiif port will be sent to the relative physical ports.

Usage Guidelines

The command takes its importance only when the L3 multicast is enabled. After this command is enabled, the multicast packets, entering from the wrongiif port, will be sent to the physical ports that are added into the group of vlan; otherwise, the multicast packets will be dropped.

Example

The following example shows how to activate IGMP forward-wrongiif-within-vlan, and how to send the multicast packets from the wrongiif port to the relative physical ports in the local VLAN:

```
switch_config# ip igmp-snooping forward-wrongiif-within-vlan
switch_config#
```

1.1.15 igmp-snooping policy

Syntax

ip igmp-snooping policy *word*

no ip igmp-snooping policy

Parameters

Parameters	Description
Word	IP ACL name

Default Value

None

Usage Guidelines

Enable IPACL function of IGMP-snooping and determine the pakcets of some multicast IP address are to be deleted or ignored.

Configuration Mode

Port Configuration

Example

The following example is to detect the IP ACL whose name is 123 when dealing with the packets.

```
switch_config_G0/1# ip igmp-snooping policy 123
switch_config_G0/1#
```

1.1.16 igmp-snooping limit

Syntax

ip igmp-snooping limit *value*

no ip igmp-snooping limit

Parameters

Parameters	Description
value	1-2048

Default Value

2048

Usage Guidelines

The command configures the max multicast IP address number in the port of IGMP-snooping. The command will estimate whether the applied groups have reached the configuration number when IGMP-snooping generating the forward table. Otherwise, the table of the port is no longer generated.

Configuration Mode

Port Configuration

Example

The following example shows how to set the max number of the joining group as 1000.

```
switch_config_G0/1# ip igmp-snooping limit 1000
switch_config_G0/1#
```

1.1.17 show ip igmp-snooping

Syntax

show ip igmp-snooping

Parameters

None

Default Value

None

Usage Guidelines

This command is used to display the information about IGMP-snooping configuration.

Example

The following example shows how to display each VLAN where IGMP-snooping is running.

```
switch_config# show ip igmp-snooping
Global IGMP snooping configuration:
----------------------------------
Globally enable          : Enabled
VLAN nodes               : 1,50,100,200,400,500
```

```
Dlf-frames filtering : Disabled
Sensitive                : Disabled
Querier                  : Enabled
Querier address          : 10.0.0.200
Querier interval         : 140 s
Router age               : 260 s
Response time            : 15 s

  vlan_id     Immediate-leave     Ports     Router Ports
-----------------------------------------------------------------
     1              Disabled          5-10       SWITCH(querier);
    50              Disabled          1-4        SWITCH(querier);
   100              Disabled          NULL       SWITCH(querier);G0/1(static);
   200              Disabled          NULL       SWITCH(querier);
   400              Disabled          NULL       SWITCH(querier);
   500              Disabled          NULL       SWITCH(querier);
switch_config#
```

1.1.18 show ip igmp-snooping timer

Syntax

show ip igmp-snooping timer

Parameters

None

Default Value

None

Usage Guidelines

This command is used to display the information about the IGMP-snooping clock.

Example

The following example shows how to display the information about the IGMP-snooping clock.

```
switch_config# show ip igmp-snooping timer
vlan 1 mrouter on port 3 : 251
switch_config#
```

1.1.19 show ip igmp-snooping groups

Syntax

show ip igmp-snooping groups

Parameters

None

Default Value

None

Usage Guidelines

This command is used to display the information about the multicast group of IGMP-snooping.

Example

The following example shows how to display the information about the multicast group of IGMP-snooping.

```
switch_config# show ip igmp-snooping groups
                The total number of groups          2

Vlan Group              Type Port(s)
---- ---------------- ---- -----------------------------------------------------
   1 226.1.1.1          IGMP G0/1                      G0/3
   1 225.1.1.16         IGMP G0/1                      G0/3
switch_config#
```

1.1.20 show ip igmp-snooping statistics

Syntax

show ip igmp-snooping statistics

Parameters

None

Default Value

None

Usage Guidelines

This command is used to display the information about IGMP-snooping statistics.

Example

The following example shows how to display the information about IGMP-snooping statistics.

```
switch_config# show ip igmp-snooping statistics
   vlan 1
------------
     v1_packets:1
     v2_packets:2
     v3_packets:0
     general_query_packets:1
     special_query_packets:2
     join_packets:0
     leave_packets:0
     send_query_packets:0
     err_packets:0
switch_config#
```

1.1.21 debug ip igmp-snooping packet

Syntax

debug ip igmp-snooping packet

no debug ip igmp-snooping packet

Parameters

None

Default Value

None

Usage Guidelines

This command is used to enable or disable the igmp-snooping packet.

Example

The following example shows how to enable the packet debugging switch of IGMP-snooping.

```
switch # debug ip igmp-snooping packet
switch #
```

1.1.22 debug ip igmp-snooping timer

Syntax

debug ip igmp-snooping timer

no debug ip igmp-snooping timer

Parameters

None

Default Value

None

Usage Guidelines

This command is used to enable or disable the timer debugging switch of IGMP-snooping.

Example

The following example shows how to enable the timer debugging switch of IGMP-snooping.

```
switch # debug ip igmp-snooping timer
switch #
```

1.1.23 debug ip igmp-snooping event

Syntax

debug ip igmp-snooping event

no debug ip igmp-snooping event

Parameters

None

Default Value

None

Usage Guidelines

This command is used to enable or disable the event debugging switch of IGMP-snooping.

Example

The following example shows how to enable the event debugging switch of IGMP-snooping.

switch # debug ip igmp-snooping event

switch #

1.1.24 debug ip igmp-snooping error

Syntax

debug ip igmp-snooping error

no debug ip igmp-snooping error

Parameters

None

Default Value

None

Usage Guidelines

This command is used to enable or disable the error debugging switch of IGMP-snooping.

Example

The following example shows how to enable the error debugging switch of IGMP-snooping.

```
switch # debug ip igmp-snooping error
switch #
```