# Configuring IGMP

This chapter describes how to configure the Internet Group Management Protocol (IGMP) on Cisco NX-OS switches for IPv4 networks.

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# About IGMP

IGMP is an IPv4 protocol that a host uses to request multicast data for a particular group. Using the information obtained through IGMP, the software maintains a list of multicast group or channel memberships on a per-interface basis. The systems that receive these IGMP packets send multicast data that they receive for requested groups or channels out the network segment of the known receivers.

By default, the IGMP process is running. You cannot enable IGMP manually on an interface. IGMP is automatically enabled when you perform one of the following configuration tasks on an interface:

- Enable PIM
- Statically bind a local multicast group
- Enable link-local group reports

## IGMP Versions

The switch supports IGMPv2 and IGMPv3, as well as IGMPv1 report reception.

By default, the software enables IGMPv2 when it starts the IGMP process. You can enable IGMPv3 on interfaces where you want its capabilities.

IGMPv3 includes the following key changes from IGMPv2:

- Support for Source-Specific Multicast (SSM), which builds shortest path trees from each receiver to the source, through the following features:
  - Host messages that can specify both the group and the source.
  - The multicast state that is maintained for groups and sources, not just for groups as in IGMPv2.
- Hosts no longer perform report suppression, which means that hosts always send IGMP membership reports when an IGMP query message is received.

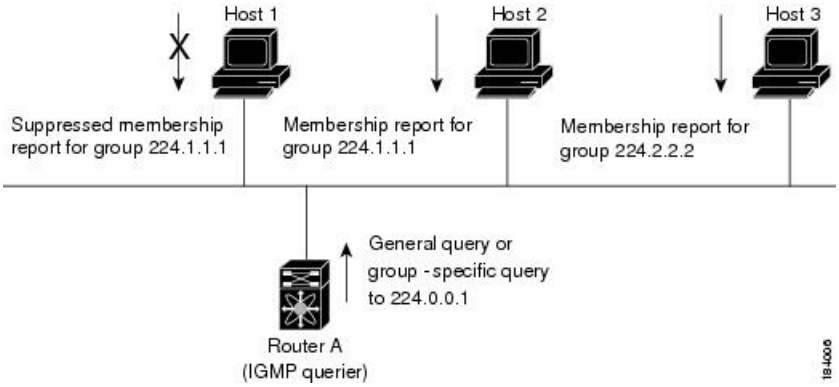
For detailed information about IGMPv2, see RFC 2236.

For detailed information about IGMPv3, see RFC 3376.

# IGMP Basics

The basic IGMP process of a router that discovers multicast hosts is shown in this figure. Hosts 1, 2, and 3 send unsolicited IGMP membership report messages to initiate receiving multicast data for a group or channel.

***Figure 1: IGMPv1 and IGMPv2 Query-Response Process***




In the figure **IGMPv1 and IGMPv2 Query-Response Process**, router A, which is the IGMP designated querier on the subnet, sends query messages to the all-hosts multicast group at 224.0.0.1 periodically to discover whether any hosts want to receive multicast data. You can configure the group membership timeout value that the router uses to determine that no members of a group or source exist on the subnet. For more information about configuring the IGMP parameters, see the Configuring IGMP Interface Parameters section.

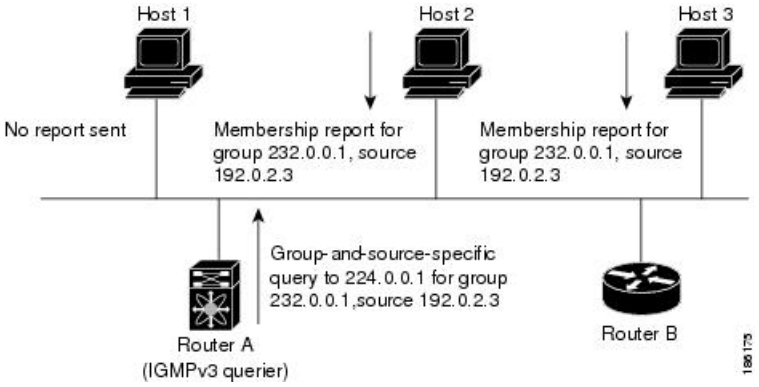
The software elects a router as the IGMP querier on a subnet if it has the lowest IP address. As long as a router continues to receive query messages from a router with a lower IP address, it resets a timer that is based on its querier timeout value. If the querier timer of a router expires, it becomes the designated querier. If that router later receives a host query message from a router with a lower IP address, it drops its role as the designated querier and sets its querier timer again.

In this figure, host 1's membership report is suppressed and host 2 sends its membership report for group 224.1.1.1 first. Host 1 receives the report from host 2. Because only one membership report per group needs to be sent to the router, other hosts suppress their reports to reduce network traffic. Each host waits for a random time interval to avoid sending reports at the same time. You can configure the query maximum response time parameter to control the interval in which hosts randomize their responses.

**Note** IGMPv1 and IGMPv2 membership report suppression occurs only on hosts that are connected to the same port.

In the following figure, router A sends the IGMPv3 group-and-source-specific query to the LAN. Hosts 2 and 3 respond to the query with membership reports that indicate that they want to receive data from the advertised group and source. This IGMPv3 feature supports SSM. For information about configuring SSM translation to support SSM for IGMPv1 and IGMPv2 hosts, see the Configuring an IGMP SSM Translation, on page 12 section.

***Figure 2: IGMPv3 Group-and-Source-Specific Query***




**Note** IGMPv3 hosts do not perform IGMP membership report suppression.

Messages sent by the designated querier have a time-to-live (TTL) value of 1, which means that the messages are not forwarded by the directly connected routers on the subnet. You can configure the frequency and number of query messages sent specifically for IGMP startup, and you can configure a short query interval at startup so that the group state is established as quickly as possible. Although usually unnecessary, you can tune the query interval used after startup to a value that balances the responsiveness to host group membership messages and the traffic created on the network.

**Caution** Changing the query interval can severely impact multicast forwarding.

When a multicast host leaves a group, a host that runs IGMPv2 or later sends an IGMP leave message. To check if this host is the last host to leave the group, the software sends an IGMP query message and starts a timer that you can configure called the last member query response interval. If no reports are received before the timer expires, the software removes the group state. The router continues to send multicast traffic for a group until its state is removed.

You can configure a robustness value to compensate for packet loss on a congested network. The robustness value is used by the IGMP software to determine the number of times to send messages.

Link local addresses in the range 224.0.0.0/24 are reserved by the Internet Assigned Numbers Authority (IANA). Network protocols on a local network segment use these addresses; routers do not forward these

addresses because they have a TTL of 1. By default, the IGMP process sends membership reports only for nonlink local addresses, but you can configure the software to send reports for link local addresses.

For more information about configuring the IGMP parameters, see the Configuring IGMP Interface Parameters section.

## Virtualization Support

Cisco NX-OS supports virtual routing and forwarding (VRF). You can define multiple VRF instances. A VRF configured with IGMP supports the following IGMP features:

- IGMP is enabled or disabled on per interface
- IGMPv1, IGMPv2, and IGMPv3 provide router-side support
- IGMPv2 and IGMPv3 provide host-side support
- Supports configuration of IGMP querier parameters
- IGMP reporting is supported for link local multicast groups
- IGMP SSM-translation supports mapping of IGMPv2 groups to a set of sources
- Supports multicast trace-route (Mtrace) server functionality to process Mtrace requests

For information about configuring VRFs, see the Cisco Nexus 3000 Series NX-OS Unicast Routing Configuration Guide.

# Guidelines and Limitations for IGMP

IGMP has the following guidelines and limitations:

- Excluding or blocking a list of sources according to IGMPv3 (RFC 3376) is not supported.
- All external multicast router ports (either statically configured or dynamically learned) use the global LTL index. As a result, traffic in VLAN X goes out on the multicast router ports in both VLAN X and VLAN Y, in case both multicast router ports (Layer 2 trunks) carry both VLAN X and VLAN Y.
- On Cisco Nexus 3000 Series switches, you must carve the switch RACL TCAM regions in order to make IGMP and PIM work on Layer 3 interfaces. Some system default Multicast ACLs that are installed in the RACL regions are required for IGMP and PIM to work on Layer 3 interfaces.
- Starting with Release 7.0(3)I2(1), when you configure an interface in the VRF, configure the PIM, send the IGMP joins and verify the CLI command **show ip fib mroute**, an error message is displayed as follows: **ERROR: Invalid Table-id**.

  The default table is not created until there are joins in the interface under the default VRF. Therefore, an error is displayed while attempting to display the default table. When a group is learned in the default table, the default table is created and the error message is not displayed anymore.

  The CLI command **show ip fib mroute** is not supported on the Cisco Nexus 34180YC platform switch.
- In Cisco NX-OS releases older than Cisco NX-OS Release 6.0(2)U1(1), you can use the **ip igmp join-group** command to bind a Nexus 3000 Series switch to a multicast group. The switch generates an Internet Group Management Protocol (IGMP)-join for the specified group, and any multicast packets

destined to the group are sent to the CPU. If there are receivers connected to the Nexus 3000 Series switch, which request for the group, then a copy of the packet is also sent to the receiver.

- In Cisco NX-OS Release 6.0(2)U1(1) and higher releases, you cannot use the **ip igmp join-group** command to program any Outgoing Interface Lists (OILs). Even if there are receivers that request for the stream, no packets are sent to them. To bind a Nexus 3000 Series switch to a multicast group, use the **ip igmp static-oif** command instead of the **ip igmp join-group** command.
- Ingress RACL for L3 multicast data traffic, is not supported on the Cisco Nexus 34180YC platform switch.

# Default Settings for IGMP

This table lists the default settings for IGMP parameters.

***Table 1: Default IGMP Parameters***

| Parameters | Default |
|---|---|
| IGMP version | 2 |
| Startup query interval | 30 seconds |
| Startup query count | 2 |
| Robustness value | 2 |
| Querier timeout | 255 seconds |
| Query timeout | 255 seconds |
| Query max response time | 10 seconds |
| Query interval | 125 seconds |
| Last member query response interval | 1 second |
| Last member query count | 2 |
| Group membership timeout | 260 seconds |
| Report link local multicast groups | Disabled |
| Enforce router alert | Disabled |
| Immediate leave | Disabled |

# Configuring IGMP Parameters

You can configure the IGMP global and interface parameters to affect the operation of the IGMP process.

**Note** If you are familiar with the Cisco IOS CLI, be aware that the Cisco NX-OS commands for this feature might differ from the Cisco IOS commands that you would use.

# Configuring IGMP Interface Parameters

You can configure the optional IGMP interface parameters described in the table below.

***Table 2: IGMP Interface Parameters***

| Parameter | Description |
|---|---|
| IGMP version | IGMP version that is enabled on the interface. The IGMP version can be 2 or 3. The default is 2. |
| Static multicast groups | Multicast groups that are statically bound to the interface. You can configure the groups to join the interface with the (*, G) state or specify a source IP to join with the (S, G) state. You can specify a route-map policy name that lists the group prefixes, group ranges, and source prefixes to use with the **match ip multicast** command.<br>**Note** Although you can configure the (S, G) state, the source tree is built only if you enable IGMPv3. For information about SSM translation, see the Configuring an IGMP SSM Translation section.<br>You can configure a multicast group on all the multicast-capable routers on the network so that pinging the group causes all the routers to respond. |
| Static multicast groups on OIF | Multicast groups that are statically bound to the output interface. You can configure the groups to join the output interface with the (*, G) state or specify a source IP to join with the (S, G) state. You can specify a route-map policy name that lists the group prefixes, group ranges, and source prefixes to use with the **match ip multicast** command.<br>**Note** Although you can configure the (S, G) state, the source tree is built only if you enable IGMPv3. For information about SSM translation, see the Configuring an IGMP SSM Translation section. |

| Parameter | Description |
|---|---|
| Startup query interval | Startup query interval. By default, this interval is shorter than the query interval so that the software can establish the group state as quickly as possible. Values range from 1 to 18,000 seconds. The default is 31 seconds. |
| Startup query count | Number of queries sent at startup that are separated by the startup query interval. Values range from 1 to 10. The default is 2. |
| Robustness value | Robustness variable that you can tune to reflect expected packet loss on a congested network. You can increase the robustness variable to increase the number of times that packets are resent. Values range from 1 to 7. The default is 2. |
| Querier timeout | Number of seconds that the software waits after the previous querier has stopped querying and before it takes over as the querier. Values range from 1 to 65,535 seconds. The default is 255 seconds. |
| Query max response time | Maximum response time advertised in IGMP queries. You can tune the IGMP messages on the network by setting a larger value so that host responses are spread out over a longer time. This value must be less than the query interval. Values range from 1 to 25 seconds. The default is 10 seconds. |
| Query interval | Frequency at which the software sends IGMP host query messages. You can tune the number of IGMP messages on the network by setting a larger value so that the software sends IGMP queries less often. Values range from 1 to 18,000 seconds. The default is 125 seconds. |
| Last member query response interval | Interval in which the software sends a response to an IGMP query after receiving a host leave message from the last known active host on the subnet. If no reports are received in the interval, the group state is deleted. You can use this value to tune how quickly the software stops transmitting on the subnet. The software can detect the loss of the last member of a group or source more quickly when the values are smaller. Values range from 1 to 25 seconds. The default is 1 second. |

| Parameter | Description |
|---|---|
| Last member query count | Number of times that the software sends an IGMP query, separated by the last member query response interval, in response to a host leave message from the last known active host on the subnet. Values range from 1 to 5. The default is 2.<br>Setting this value to 1 means that a missed packet in either direction causes the software to remove the multicast state from the queried group or channel. The software may wait until the next query interval before the group is added again. |
| Group membership timeout | Group membership interval that must pass before the router decides that no members of a group or source exist on the network. Values range from 3 to 65,535 seconds. The default is 260 seconds. |
| Report link local multicast groups | Option that enables sending reports for groups in 224.0.0.0/24. Link local addresses are used only by protocols on the local network. Reports are always sent for nonlink local groups. The default is disabled. |
| Report policy | Access policy for IGMP reports that is based on a route-map policy.<br>**Tip** To configure route-map policies, see the Cisco Nexus 3000 Series NX-OS Unicast Routing Configuration Guide. |
| Access groups | Option that configures a route-map policy to control the multicast groups that hosts on the subnet serviced by an interface can join. |
| Immediate leave | Option that minimizes the leave latency of IGMPv2 group memberships on a given IGMP interface because the device does not send group-specific queries. When immediate leave is enabled, the device removes the group entry from the multicast routing table immediately upon receiving a leave message for the group. The default is disabled.<br>**Note** Use this command only when there is one receiver behind the interface for a given group. |
| global-leave-ignore-gss-mrt | Beginning with Cisco NX-OS Release 5.0(3)U1(2), you can use the configured Maximum Response Time (MRT) value in group-specific queries against a lower MRT value in response to IGMP global leave messages (IGMP leave reports to group 0.0.0.0). |

### Procedure

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **configure terminal**<br>**Example:**<br>`switch# configure terminal`<br>`switch(config)#` | Enters configuration mode. |
| **Step 2** | **interface** *interface*<br>**Example:**<br>`switch(config)# interface ethernet 2/1`<br>`switch(config-if)#` | Enters interface mode on the interface type and number, such as **ethernet** *slot/port.*. |
| **Step 3** | **no switchport**<br>**Example:**<br>`switch(config-if)# no switchport`<br>`switch(config-if)#` | |
| **Step 4** | **ip igmp version** *value*<br>**Example:**<br>`switch(config-if)# ip igmp version 3` | Sets the IGMP version to the value specified. Values can be 2 or 3. The default is 2.<br>The **no** form of the command sets the version to 2. |
| **Step 5** | **ip igmp join-group** {**group** [**source** *source*] \| **route-map** *policy-name*}<br>**Example:**<br>`switch(config-if)# ip igmp join-group 230.0.0.0` | Configures an interface on the device to join the specified group or channel. The device accepts the multicast packets for CPU consumption only.<br>**Caution** The device CPU must be able to handle the traffic generated by using this command. Because of CPU load constraints, using this command, especially in any form of scale, is not recommended. Consider using the **ip igmp static-oif** command instead. |
| **Step 6** | **ip igmp static-oif** {*group* [**source** *source*] \| **route-map** *policy-name*}<br>**Example:**<br>`switch(config-if)# ip igmp static-oif 230.0.0.0` | Statically binds a multicast group to the outgoing interface, which is handled by the device hardware. If you specify only the group address, the (*, G) state is created. If you specify the source address, the (S, G) state is created. You can specify a route-map policy name that lists the group prefixes, group ranges, and source prefixes to use with the **match ip multicast** command.<br>**Note** A source tree is built for the (S, G) state only if you enable IGMPv3. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 7** | **ip igmp startup-query-interval** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp startup-query-interval 25` | Sets the query interval used when the software starts up. Values can range from 1 to 18,000 seconds. The default is 31 seconds. |
| **Step 8** | **ip igmp startup-query-count** *count*<br>**Example:**<br>`switch(config-if)# ip igmp startup-query-count 3` | Sets the query count used when the software starts up. Values can range from 1 to 10. The default is 2. |
| **Step 9** | **ip igmp robustness-variable** *value*<br>**Example:**<br>`switch(config-if)# ip igmp robustness-variable 3` | Sets the robustness variable. Values can range from 1 to 7. The default is 2. |
| **Step 10** | **ip igmp querier-timeout** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp querier-timeout 300` | Sets the querier timeout that the software uses when deciding to take over as the querier. Values can range from 1 to 65,535 seconds. The default is 255 seconds. |
| **Step 11** | **ip igmp query-timeout** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp query-timeout 300` | Sets the query timeout that the software uses when deciding to take over as the querier. Values can range from 1 to 65,535 seconds. The default is 255 seconds.<br>**Note** This command has the same functionality as the **ip igmp querier-timeout** command. |
| **Step 12** | **ip igmp query-max-response-time** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp query-max-response-time 15` | Sets the response time advertised in IGMP queries. Values can range from 1 to 25 seconds. The default is 10 seconds. |
| **Step 13** | **ip igmp query-interval** *interval*<br>**Example:**<br>`switch(config-if)# ip igmp query-interval 100` | Sets the frequency at which the software sends IGMP host query messages. Values can range from 1 to 18,000 seconds. The default is 125 seconds. |
| **Step 14** | **ip igmp last-member-query-response-time** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp last-member-query-response-time 3` | Sets the query interval waited after sending membership reports before the software deletes the group state. Values can range from 1 to 25 seconds. The default is 1 second. |
| **Step 15** | **ip igmp last-member-query-count** *count*<br>**Example:** | Sets the number of times that the software sends an IGMP query in response to a host |

| | Command or Action | Purpose |
|---|---|---|
| | `switch(config-if)# ip igmp last-member-query-count 3` | leave message. Values can range from 1 to 5. The default is 2. |
| **Step 16** | **ip igmp group-timeout** *seconds*<br>**Example:**<br>`switch(config-if)# ip igmp group-timeout 300` | Sets the group membership timeout for IGMPv2. Values can range from 3 to 65,535 seconds. The default is 260 seconds. |
| **Step 17** | **ip igmp report-link-local-groups**<br>**Example:**<br>`switch(config-if)# ip igmp report-link-local-groups` | Enables sending reports for groups in 224.0.0.0/24. Reports are always sent for nonlink local groups. By default, reports are not sent for link local groups. |
| **Step 18** | **ip igmp report-policy** *policy*<br>**Example:**<br>`switch(config-if)# ip igmp report-policy my_report_policy` | Configures an access policy for IGMP reports that is based on a route-map policy. |
| **Step 19** | **ip igmp access-group** *policy*<br>**Example:**<br>`switch(config-if)# ip igmp access-group my_access_policy` | Configures a route-map policy to control the multicast groups that hosts on the subnet serviced by an interface can join.<br>**Note** Only the **match ip multicast group** command is supported in this route map policy. The **match ip address** command for matching an ACL is not supported. |
| **Step 20** | **ip igmp immediate-leave**<br>**Example:**<br>`switch(config-if)# ip igmp immediate-leave` | Enables the device to remove the group entry from the multicast routing table immediately upon receiving a leave message for the group. Use this command to minimize the leave latency of IGMPv2 group memberships on a given IGMP interface because the device does not send group-specific queries. The default is disabled.<br>**Note** Use this command only when there is one receiver behind the interface for a given group. |
| **Step 21** | **ip igmp global-leave-ignore-gss-mrt**<br>**Example:**<br>`switch(config-if)# ip igmp global-leave-ignore-gss-mrt` | Enables the switch to use the general Maximum Response Time (MRT) in response to an IGMP global leave message for general queries. |
| **Step 22** | (Optional) **show ip igmp interface** [*interface*] [**vrf** *vrf-name* \| **all**] [**brief**]<br>**Example:** | Displays IGMP information about the interface. |

| | Command or Action | Purpose |
|---|---|---|
| | `switch(config)# show ip igmp interface` | |
| **Step 23** | (Optional) **copy running-config startup-config**<br>**Example:**<br>`switch(config)# copy running-config startup-config` | Copies the running configuration to the startup configuration. Saves the configuration changes |

# Configuring an IGMP SSM Translation

You can configure an SSM translation to provide SSM support when the router receives IGMPv1 or IGMPv2 membership reports. Only IGMPv3 provides the capability to specify group and source addresses in membership reports. By default, the group prefix range is 232.0.0.0/8. To modify the PIM SSM range, see the Configuring SSM (PIM) section.

This table lists the example SSM translations.

***Table 3: Example SSM Translations***

| Group Prefix | Source Address |
|---|---|
| 232.0.0.0/8 | 10.1.1.1 |
| 232.0.0.0/8 | 10.2.2.2 |
| 232.1.0.0/16 | 10.3.3.3 |
| 232.1.1.0/24 | 10.4.4.4 |

This table shows the resulting MRIB routes that the IGMP process creates when it applies an SSM translation to the IGMP membership report. If more than one translation applies, the router creates the (S, G) state for each translation.

***Table 4: Example Result of Applying SSM Translations***

| IGMPv2 Membership Report | Resulting MRIB Route |
|---|---|
| 232.1.1.1 | (10.4.4.4, 232.1.1.1) |
| 232.2.2.2 | (10.1.1.1, 232.2.2.2) (10.2.2.2, 232.2.2.2) |

**Note** This feature is similar to SSM mapping found in some Cisco IOS software.

**Procedure**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **configure terminal**<br>**Example:**<br>`switch# configure terminal`<br>`switch(config)#` | Enters global configuration mode. |
| **Step 2** | **ip igmp ssm-translate** *group-prefix source-addr*<br>**Example:**<br>`switch(config)# ip igmp ssm-translate 232.0.0.0/8 10.1.1.1` | Configures the translation of IGMPv1 or IGMPv2 membership reports by the IGMP process to create the (S,G) state as if the router had received an IGMPv3 membership report. |
| **Step 3** | (Optional) **show running-configuration igmp**<br>**Example:**<br>`switch(config)# show running-configuration igmp` | Shows the running-configuration information, including **ssm-translate** command lines. |
| **Step 4** | (Optional) **copy running-config startup-config**<br>**Example:**<br>`switch(config)# copy running-config startup-config` | Saves configuration changes. |

# Configuring the Enforce Router Alert Option Check

You can configure the enforce router alert option check for IGMPv2 and IGMPv3 packets.

**Procedure**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **configure terminal**<br>**Example:**<br>`switch# configure terminal`<br>`switch(config)#` | Enters global configuration mode. |
| **Step 2** | (Optional) **[no] ip igmp enforce-router-alert**<br>**Example:**<br>`switch(config-if)# ip igmp enforce-router-alert` | Enables or Disables the enforce router alert option check for IGMPv2 and IGMPv3 packets. By default, the enforce router alert option check is enabled. |
| **Step 3** | (Optional) **show running-configuration igmp**<br>**Example:**<br>`switch(config)# show running-configuration igmp` | Shows the running-configuration information, including the **enforce-router-alert** command line. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 4** | (Optional) **copy running-config startup-config**<br>**Example:**<br>`switch(config)# copy running-config startup-config` | Saves configuration changes. |

# Verifying the IGMP Configuration

To display the IGMP configuration information, perform one of the following tasks:

| Command | Purpose |
|---|---|
| **show ip igmp interface** [*interface*] [**vrf** ] *vrf-name*\| **all**] [**brief**] | Displays IGMP information about all interfaces or a selected interface, the default VRF, a selected VRF, or all VRFs. |
| **show ip igmp groups** *group*\|*interface*] [**vrf** *vrf-name* \| **all**] | Displays the IGMP attached group membership for a group or interface, the default VRF, a selected VRF, or all VRFs. |
| **show ip igmp route***group* \| *interface* **vrf** *vrf-name* \| **all** | Displays the IGMP attached group membership for a group or interface, the default VRF, a selected VRF, or all VRFs. |
| **show ip igmp local-groups** | Displays the IGMP local group membership. |
| **show running-configuration igmp** | Displays the IGMP running-configuration information. |
| **show startup-configuration igmp** | Displays the IGMP startup-configuration information. |

For detailed information about the fields in the output from these commands, see the Cisco Nexus 3000 Series Command Reference.

# Configuration Examples for IGMP

The following example shows how to configure the IGMP parameters:

```
switch# configure terminal
switch(config)# ip igmp ssm-translate 232.0.0.0/8 10.1.1.1
switch(config)# interface ethernet 2/1
switch(config-if)# no switchport
switch(config-if)# ip igmp version 3
switch(config-if)# ip igmp join-group 230.0.0.0
switch(config-if)# ip igmp startup-query-interval 25
switch(config-if)# ip igmp startup-query-count 3
switch(config-if)# ip igmp robustness-variable 3
switch(config-if)# ip igmp querier-timeout 300
switch(config-if)# ip igmp query-timeout 300
switch(config-if)# ip igmp query-max-response-time 15
switch(config-if)# ip igmp query-interval 100
switch(config-if)# ip igmp last-member-query-response-time 3
```

```
switch(config-if)# ip igmp last-member-query-count 3
switch(config-if)# ip igmp group-timeout 300
switch(config-if)# ip igmp report-link-local-groups
switch(config-if)# ip igmp report-policy my_report_policy
switch(config-if)# ip igmp access-group my_access_policy
switch(config-if)# ip igmp immediate-leave
switch(config-if)# ip igmp global-leave-ignore-gss-mrt
```

This example shows how to configure a route map that accepts all multicast reports (joins):

```
switch(config)# route-map foo
switch(config-route-map)# exit
switch(config)# interface vlan 10
switch(config-if)# no switchport
switch(config-if)# ip pim sparse-mode
switch(config-if)# ip igmp report-policy foo
```

This example shows how to configure a route map that denies all multicast reports (joins):

```
switch(config)# route-map foo deny 10
switch(config-route-map)# exit
switch(config)# interface vlan 5
switch(config-if)# ip pim sparse-mode
switch(config-if)# ip igmp report-policy foo
```

# Where to Go Next

You can enable the following features that work with PIM and IGMP:

- Configuring IGMP Snooping
- Configuring MSDP

# Feature History for IGMP

This Table lists the release history for this feature.

***Table 5: Feature History for IGMP***

| Feature Name | Releases | Feature Information |
|---|---|---|
| IGMP | 5.0(3)U1(1) | This feature was introduced. |
| IGMP | 9.2.2 | Added support for the Cisco Nexus 34180YC platform switch. |