

Chapter 7

Summary of IGMP Configuration Statements

The following sections explain each of the Internet Group Management Protocol (IGMP) configuration statements. The statements are organized alphabetically.

disable

Syntax	disable;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i>], [edit protocols igmp interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Disable IGMP on the system.
Usage Guidelines	See “Disabling IGMP” on page 57.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

group

Syntax `group group {
 source source;
}`

Hierarchy Level [edit logical-routers *logical-router-name* protocols igmp interface *interface-name* static],
[edit protocols igmp interface *interface-name* static]

Release Information Statement introduced before JUNOS Release 7.4.

Description IGMP multicast group address that receives data on an interface.

Options *group*—Name of group.



NOTE: You must specify a unique address for each group.

The remaining statement is explained separately.

Usage Guidelines See “Enabling IGMP Static Group Membership” on page 55.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

igmp

```

Syntax  igmp {
            interface interface-name {
                disable;
                static {
                    group group {
                        source source;
                    }
                }
                version version;
            }
            query-interval seconds;
            query-last-member-interval seconds;
            query-response-interval seconds;
            robust-count number;
            traceoptions {
                file name <replace> <size size> <files number> <no-stamp>
                <(world-readable | no-world-readable)>;
                flag flag <flag-modifier> <disable>;
            }
        }

```

Hierarchy Level [edit logical-routers *logical-router-name* protocols],
[edit protocols]

Release Information Statement introduced before JUNOS Release 7.4.

Description Enable IGMP on the router. IGMP must be enabled for the router to receive multicast packets.

Default IGMP is disabled on the router. IGMP is automatically enabled on all broadcast interfaces when you configure Protocol Independent Multicast (PIM) or Distance Vector Multicast Routing Protocol (DVMRP).

Options The statements are explained separately.

Usage Guidelines See “Enabling IGMP” on page 52.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

interface

Syntax	<pre>interface <i>interface-name</i> { disable; static { group <i>group</i> { source <i>source</i>; } } version <i>version</i>; }</pre>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Enable IGMP on an interface and configure interface-specific properties.
Options	<p><i>interface-name</i>—Name of the interface. Specify the full interface name, including the physical and logical address components. To configure all interfaces, you can specify all. For details about specifying interfaces, see the <i>JUNOS Network Interfaces Configuration Guide</i>.</p> <p>The remaining statements are explained separately.</p>
Usage Guidelines	See “Enabling IGMP” on page 52.
Required Privilege Level	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>

query-interval

Syntax	query-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How often the querier router sends general host-query messages.
Options	<p><i>seconds</i>—Time interval, in seconds.</p> <p>Range: 1 through 1024</p> <p>Default: 125 seconds</p>
Usage Guidelines	See “Modifying the IGMP Host-Query Message Interval” on page 53.
Required Privilege Level	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>
See Also	query-last-member-interval on page 63, query-response-interval on page 63

query-last-member-interval

Syntax	query-last-member-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How often the querier router sends group-specific query messages.
Options	<i>seconds</i> —Time interval, in fractions of a second or seconds. Range: 0.1 through 0.9, then in 1-second intervals 1 through 1024 Default: 1 second
Usage Guidelines	See “Modifying the Last-Member Query Interval” on page 54.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	query-interval on page 62, query-response-interval on page 63

query-response-interval

Syntax	query-response-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How long the querier router waits to receive a response to a host-query message from a host.
Options	<i>seconds</i> —Time interval, in seconds. This interval must be less than the interval between general host-query messages. Range: 1 through 1024 Default: 10 seconds
Usage Guidelines	See “Modifying the IGMP Query Response Interval” on page 53.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	query-interval on page 62, query-last-member-interval on page 63

robust-count

Syntax	<code>robust-count <i>number</i>;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Dimensionless factor used to calculate several IGMP message intervals. Raised for higher expected packet loss on a subnet.
Options	<i>number</i> —Robustness variable. Range: 2 through 10 Default: 2
Usage Guidelines	See “Modifying the Robustness Variable” on page 54.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

source

Syntax	<code>source <i>source</i>;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i> static group], [edit protocols igmp interface <i>interface-name</i> static group]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	IP version 4 (IPv4) unicast address that sends data on an interface.
Options	<i>source</i> —IPv4 unicast address.
Usage Guidelines	See “Enabling IGMP Static Group Membership” on page 55.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

ssm-map

Syntax	<code>ssm-map ssm-map-name;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i>], [edit protocols igmp interface <i>interface-name</i>]
Release Information	Statement introduced in JUNOS Release 7.4.
Description	Apply an SSM map to an IGMP interface.
Options	<i>ssm-map-name</i> —Name of SSM map.
Usage Guidelines	See “Example: Configuring SSM Mapping” on page 148.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

static

Syntax	<pre>static { group group { source source; } }</pre>
Hierarchy	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i>], [edit protocols igmp interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Test multicast forwarding on an interface without a receiver host.
Options	The remaining statements are explained separately.
Usage Guidelines	See “Enabling IGMP Static Group Membership” on page 55.
Required Privilege Level	routing and trace—To view this statement in the configuration. routing-control and trace-control—To add this statement to the configuration.

traceoptions

Syntax	<pre>traceoptions { file name <replace> <size size> <files number> <no-stamp> <(world-readable no-world-readable)>; flag flag <flag-modifier> <disable>; }</pre>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
Release Information	Statement introduced before JUNOS Release 7.4.

Description Configure IGMP tracing options.

To specify more than one tracing operation, include multiple **flag** statements.

To trace the paths of multicast packets, use the **mtrace** command, as described in the *JUNOS System Basics and Services Command Reference*.

Default The default IGMP trace options are those inherited from the routing protocols **traceoptions** statement included at the [edit routing-options] hierarchy level.

Options **disable**—(Optional) Disable the tracing operation. You can use this option to disable a single operation when you have defined a broad group of tracing operations, such as **all**.

file name—Name of the file to receive the output of the tracing operation. Enclose the name within quotation marks. All files are placed in the directory `/var/log`. We recommend that you place tracing output in the file **igmp-log**.

files number—(Optional) Maximum number of trace files. When a trace file named **trace-file** reaches its maximum size, it is renamed **trace-file.0**, then **trace-file.1**, and so on, until the maximum number of trace files is reached. Then the oldest trace file is overwritten.

If you specify a maximum number of files, you also must specify a maximum file size with the **size** option.

Range: 2 through 1000 files

Default: 2 files

flag—Tracing operation to perform. To specify more than one tracing operation, include multiple **flag** statements.

IGMP Tracing Flags

- **leave**—Leave group messages (for IGMP version 2 only).
- **mtrace**—Mtrace packets. Use the **mtrace** command to troubleshoot the software.
- **packets**—All IGMP packets.
- **query**—IGMP membership query messages, including general and group-specific queries.
- **report**—Membership report messages.

Global Tracing Flags

- **all**—All tracing operations
- **general**—A combination of the **normal** and **route** trace operations
- **normal**—All normal operations
Default: If you do not specify this option, only unusual or abnormal operations are traced.

- `policy`—Policy operations and actions
- `route`—Routing table changes
- `state`—State transitions
- `task`—Interface transactions and processing
- `timer`—Timer usage

`flag-modifier`—(Optional) Modifier for the tracing flag. You can specify one or more of these modifiers:

- `detail`—Detailed trace information
- `receive`—Packets being received
- `send`—Packets being transmitted

`no-stamp`—(Optional) Do not place timestamp information at the beginning of each line in the trace file.

Default: If you omit this option, timestamp information is placed at the beginning of each line of the tracing output.

`no-world-readable`—(Optional) Disallow any user to read the log file.

`replace`—(Optional) Replace an existing trace file if there is one.

Default: If you do not include this option, tracing output is appended to an existing trace file.

`size size`—(Optional) Maximum size of each trace file, in kilobytes (KB), megabytes (MB), or gigabytes (GB). When a trace file named `trace-file` reaches this size, it is renamed `trace-file.0`. When `trace-file` again reaches its maximum size, `trace-file.0` is renamed `trace-file.1` and `trace-file` is renamed `trace-file.0`. This renaming scheme continues until the maximum number of trace files is reached. Then the oldest trace file is overwritten.

If you specify a maximum file size, you must also specify a maximum number of trace files with the `files` option.

Syntax: `xk` to specify KB, `xm` to specify MB, or `xg` to specify GB

Range: 10 KB through the maximum file size supported on your system

Default: 1 MB

`world-readable`—(Optional) Allow any user to read the log file.

Usage Guidelines See “Tracing IGMP Protocol Traffic” on page 56.

Required Privilege Level `routing` and `trace`—To view this statement in the configuration.
`routing-control` and `trace-control`—To add this statement to the configuration.

version

Statement `version version;`

Hierarchy Level [edit logical-routers *logical-router-name* protocols igmp interface *interface-name*],
[edit protocols igmp interface *interface-name*]

Release Information Statement introduced before JUNOS Release 7.4.

Description Specify the version of IGMP.

Options *version*—IGMP version number.

Range: 1, 2, or 3

Default: IGMP version 2



NOTE: Routers running different versions of IGMP negotiate the lowest common version of IGMP that is supported by hosts on their subnet and operate in that version.

If you have already configured the router to use IGMP version 1 and then configure it to use IGMP version 2, the router continues to use IGMP version 1 for up to 6 minutes and then use IGMP version 2.

Usage Guidelines See “Changing the IGMP Version” on page 55.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.