

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 protocols igmp interface <i>interface-name</i>], [edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i>]
Description	Disable IGMP on the system.
Usage Guidelines	See “Disable IGMP” on page 52.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

group

Syntax	<code>group <i>group</i> { source <i>source</i>; }</code>
Hierarchy Level	[edit protocols igmp interface <i>interface-name</i> static], [edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i> static]
Description	IGMP multicast group address that receives data on an interface.
Options	<i>group</i> —Name of group.

	NOTE: You must specify a unique address for each group.
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	The remaining statement is explained separately.
Usage Guidelines	See “Enable IGMP Static Group Membership” on page 50.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

igmp

Syntax	<pre> igmp { interface <i>interface-name</i> { disable; static { group <i>group</i> { source <i>source</i>; } } version <i>version</i>; } query-interval <i>seconds</i>; query-last-member-interval <i>seconds</i>; query-response-interval <i>seconds</i>; robust-count <i>number</i>; traceoptions { file <i>name</i> <replace> <size <i>size</i>> <files <i>number</i>> <no-stamp> <(world-readable no-world-readable)>; flag <i>flag</i> <<i>flag-modifier</i>> <disable>; } } </pre>
Hierarchy Level	[edit protocols], [edit logical-routers <i>logical-router-name</i> protocols]
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 PIM or DVMRP.
Options	The statements are explained separately.
Usage Guidelines	See “Enable IGMP” on page 47.
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 protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 Internet Software Network Interfaces and Class of Service Configuration Guide</i>.</p> <p>The remaining statements are explained separately.</p>
Usage Guidelines	See “Enable IGMP” on page 47.
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 protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 “Modify the IGMP Host-Query Message Interval” on page 47.
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 57, query-response-interval on page 57

query-last-member-interval

Syntax	query-last-member-interval <i>seconds</i> ;
Hierarchy Level	[edit protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 “Modify the Last-Member Query Interval” on page 48.
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 56, query-response-interval on page 57

query-response-interval

Syntax	query-response-interval <i>seconds</i> ;
Hierarchy Level	[edit protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 “Modify the IGMP Query Response Interval” on page 48.
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 56, query-last-member-interval on page 57

robust-count

Syntax	<code>robust-count <i>number</i>;</code>
Hierarchy Level	[edit protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 “Modify the Robustness Variable” on page 49.
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 protocols igmp interface <i>interface-name</i> static group], [edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i> static group]
Description	IPv4 unicast address that sends data on an interface.
Options	<i>source</i> —IPv4 unicast address.
Usage Guidelines	See “Enable IGMP Static Group Membership” on page 50.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

static

Syntax	static { group <i>group</i> { source <i>source</i> ; } }
Hierarchy	[edit protocols igmp interface <i>interface-name</i>], [edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i>]
Description	Test multicast forwarding on an interface without a receiver host.
Options	The remaining statements are explained separately.
Usage Guidelines	See “Enable IGMP Static Group Membership” on page 50.
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.

tracoptions

Syntax	tracoptions { file <i>name</i> <replace> <size <i>size</i> > <files <i>number</i> > <no-stamp> <(world-readable no-world-readable)>; flag <i>flag</i> < <i>flag-modifier</i> > <disable>; }
Hierarchy Level	[edit protocols igmp], [edit logical-routers <i>logical-router-name</i> protocols igmp]
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 <i>JUNOS Internet Software Protocols, Class of Service, Chassis, and Management Command Reference</i> .
Default	The default IGMP trace options are those inherited from the routing protocols tracoptions 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 <i>name</i> —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 <i>number</i> —(Optional) Maximum number of trace files. When a trace file named <i>trace-file</i> reaches its maximum size, it is renamed <i>trace-file.0</i> , then <i>trace-file.1</i> , 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 the *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 “Trace IGMP Protocol Traffic” on page 51.

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

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've already configured the router to use IGMP version 1 and then configure it to use IGMP version 2, the router will continue to use IGMP version 1 for up to 6 minutes and then use IGMP version 2.

Usage Guidelines See "Change the IGMP Version" on page 50.

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