

## 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

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<b>Syntax</b>	disable;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i> ], [edit protocols igmp interface <i>interface-name</i> ]
<b>Description</b>	Disable IGMP on the system.
<b>Usage Guidelines</b>	See “Disabling IGMP” on page 53.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

## group

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**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]

**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.

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The remaining statement is explained separately.

**Usage Guidelines** See “Enabling IGMP Static Group Membership” on page 51.

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

## igmp

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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]

**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 48.

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

## interface

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<b>Syntax</b>	<pre>interface <i>interface-name</i> {     disable;     static {         group <i>group</i> {             source <i>source</i>;         }     }     version <i>version</i>; }</pre>
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	Enable IGMP on an interface and configure interface-specific properties.
<b>Options</b>	<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 and Class of Service Configuration Guide</i> .
	The remaining statements are explained separately.
<b>Usage Guidelines</b>	See “Enabling IGMP” on page 48.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

## query-interval

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<b>Syntax</b>	query-interval <i>seconds</i> ;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	How often the querier router sends general host-query messages.
<b>Options</b>	<i>seconds</i> —Time interval, in seconds. <b>Range:</b> 1 through 1024 <b>Default:</b> 125 seconds
<b>Usage Guidelines</b>	See “Modifying the IGMP Host-Query Message Interval” on page 49.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
<b>See Also</b>	query-last-member-interval on page 59, query-response-interval on page 59

## query-last-member-interval

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<b>Syntax</b>	query-last-member-interval <i>seconds</i> ;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	How often the querier router sends group-specific query messages.
<b>Options</b>	<i>seconds</i> —Time interval, in fractions of a second or seconds. <b>Range:</b> 0.1 through 0.9, then in 1-second intervals 1 through 1024 <b>Default:</b> 1 second
<b>Usage Guidelines</b>	See “Modifying the Last-Member Query Interval” on page 50.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
<b>See Also</b>	query-interval on page 58, query-response-interval on page 59

## query-response-interval

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<b>Syntax</b>	query-response-interval <i>seconds</i> ;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	How long the querier router waits to receive a response to a host-query message from a host.
<b>Options</b>	<i>seconds</i> —Time interval, in seconds. This interval must be less than the interval between general host-query messages. <b>Range:</b> 1 through 1024 <b>Default:</b> 10 seconds
<b>Usage Guidelines</b>	See “Modifying the IGMP Query Response Interval” on page 49.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
<b>See Also</b>	query-interval on page 58, query-last-member-interval on page 59

## robust-count

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<b>Syntax</b>	<code>robust-count <i>number</i>;</code>
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	Dimensionless factor used to calculate several IGMP message intervals. Raised for higher expected packet loss on a subnet.
<b>Options</b>	<i>number</i> —Robustness variable. <b>Range:</b> 2 through 10 <b>Default:</b> 2
<b>Usage Guidelines</b>	See “Modifying the Robustness Variable” on page 50.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

## source

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<b>Syntax</b>	<code>source <i>source</i>;</code>
<b>Hierarchy Level</b>	[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]
<b>Description</b>	IP version 4 (IPv4) unicast address that sends data on an interface.
<b>Options</b>	<i>source</i> —IPv4 unicast address.
<b>Usage Guidelines</b>	See “Enabling IGMP Static Group Membership” on page 51.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

## static

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<b>Syntax</b>	static { group <i>group</i> { source <i>source</i> ; } }
<b>Hierarchy</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp interface <i>interface-name</i> ], [edit protocols igmp interface <i>interface-name</i> ]
<b>Description</b>	Test multicast forwarding on an interface without a receiver host.
<b>Options</b>	The remaining statements are explained separately.
<b>Usage Guidelines</b>	See “Enabling IGMP Static Group Membership” on page 51.
<b>Required Privilege Level</b>	routing and trace—To view this statement in the configuration. routing-control and trace-control—To add this statement to the configuration.

## traceoptions

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<b>Syntax</b>	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>; }
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols igmp], [edit protocols igmp]
<b>Description</b>	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 Protocols, Class of Service, and System Basics Management Command Reference</i> .
<b>Default</b>	The default IGMP trace options are those inherited from the routing protocols traceoptions statement included at the [edit routing-options] hierarchy level.
<b>Options</b>	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 *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 52.

**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

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**Statement** `version version;`

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

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**Usage Guidelines** See “Changing the IGMP Version” on page 51.

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

