

Chapter 6

Summary of Protocol-Independent Routing Properties Configuration Statements

This chapter provides a reference for each of the protocol-independent routing configuration statements. The statements are organized alphabetically.

active

Syntax	(active passive);
Hierarchy Level	[edit routing-options (aggregate generate static) (defaults route)] [edit routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)]
Description	Configure whether static, aggregate, or generated routes are removed from the routing and forwarding tables when they become inactive. Routes that have been configured to remain continually installed in the routing and forwarding tables are marked with reject next hops when they are inactive. active—Remove a route from the routing and forwarding tables when it becomes inactive. passive—Have a route remain continually installed in the routing and forwarding tables even when it becomes inactive.
Default	active
Usage Guidelines	See “Configure Static Routes” on page 41, “Configure Aggregate Routes” on page 58, and “Configure Generated Routes” on page 66.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	aggregate on page 94, generate on page 103, static on page 124

aggregate

Syntax	<pre> aggregate { defaults { aggregate-options; } route destination-prefix { policy policy-name; aggregate-options; } } </pre>
Hierarchy Level	<pre> [edit routing-options], [edit routing-options rib routing-table-name], [edit routing-instances routing-instance-name routing-options], [edit routing-instances routing-instance-name routing-options rib routing-table-name] </pre>
Description	Configure aggregate routes.
Options	<p><i>aggregate-options</i>—Additional information about aggregate routes that is included with the route when it is installed in the routing table. Specify zero or more of the following options in <i>aggregate-options</i>. Each option is explained separately.</p> <p>(active passive);</p> <p>as-path < <i>as-path</i>> < origin (egp igp incomplete)> < atomic-aggregate> < aggregator <i>as-number in-address</i>>;</p> <p>community [<i>community-ids</i>];</p> <p>discard;</p> <p>(brief full);</p> <p>(metric metric2 metric3 metric4) <i>value</i> < type <i>type</i>> ;</p> <p>(preference preference2 color color2) <i>preference</i> < type <i>type</i>> ;</p> <p>tag <i>string</i>;</p> <p>defaults—Configure default aggregate route.</p> <p>route <i>destination-prefix</i>—Configure non-default aggregate route:</p> <p> default—For the default route to the destination. This is equivalent to specifying an IP address of 0.0.0.0/0.</p> <p> <i>destination-prefix/prefix-length</i>—<i>destination-prefix</i> is the network portion of the IP address, and <i>prefix-length</i> is the destination prefix length.</p> <p>The policy statement is explained separately.</p>
Usage Guidelines	See “Configure Aggregate Routes” on page 58.
Required Privilege Level	<pre> routing—To view this statement in the configuration. routing-control—To add this statement to the configuration. </pre>

as-path

Syntax	as-path <as-path> <origin (egp igp incomplete)> <atomic-aggregate> <aggregator as-number in-address>;
Hierarchy Level	[edit routing-options (aggregate generate static) (defaults route)], [edit routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)]
Description	Associate Border Gateway Protocol (BGP) autonomous system (AS) path information with a static, aggregate, or generated route.
Options	<p>aggregator—(Optional) Attach the BGP aggregator path attribute to the aggregate route. You must specify the last AS number that formed the aggregate route (encoded as two octets) for <i>as-number</i>, followed by the IP address of the BGP system that formed the aggregate route for <i>in-address</i>.</p> <p><i>as-path</i>—(Optional) AS path to include with the route. It can include a combination of individual AS path numbers and AS sets. Enclose sets in brackets ([]). The first AS number in the path represents the AS immediately adjacent to the local AS. Each subsequent number represents an AS that is progressively farther from the local AS, heading toward the origin of the path. You cannot specify a regular expression for <i>as-path</i>; you must use a full, valid AS path.</p> <p>atomic-aggregate—(Optional) Attach the BGP atomic-aggregate path attribute to the aggregate route. This path attribute indicates that the local system selected a less specific route instead of a more specific route.</p> <p>origin <i>egp</i>—BGP origin attribute that indicates that the path information originated in another AS.</p> <p>origin <i>igp</i>—BGP origin attribute that indicates that the path information originated within the local AS.</p> <p>origin <i>incomplete</i>—BGP origin attribute that indicates that the path information was learned by some other means.</p>
Usage Guidelines	See “Configure Static Routes” on page 41, “Configure Aggregate Routes” on page 58, and “Configure Generated Routes” on page 66.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	aggregate on page 94, generate on page 103, static on page 124

auto-export

```

Statement auto-export {
    (disable | enable);
    family {
        inet {
            multicast {
                (disable | enable);
                rib-group rib-group;
            }
            unicast {
                (disable | enable);
                rib-group rib-group;
            }
        }
        traceoptions {
            file name <replace> <size size> <files number> <no-stamp>
                <(world-readable | no-world-readable)>;
            flag flag <flag-modifier> <disable>;
        }
    }
}

```

Hierarchy Level [edit routing-options],
[edit routing-instances *routing-instance-name* routing-options]

Description Export routes between routing instances.

Options (disable | enable)— Disable or enable auto-export.
Default: Enable

family—Address family.

inet—Internet Protocol Version 4 (IPv4) address family.

multicast—Multicast routing information.

unicast—Unicast routing information.

The remaining statements are explained separately in this chapter.

Usage Guidelines See “Configure Policy-Based Export for Routing Instances” on page 160.

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

autonomous-system

Statement	<code>autonomous-system <i>autonomous-system</i> <loops <i>number</i>>;</code>
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Specify the router's AS number.
Options	<i>autonomous-system</i> —AS number. Use a number assigned to you by the Network Information Center (NIC). Range: 1 through 65,535 <i>loops <i>number</i></i> —(Optional) How many times this AS number can appear in an AS path. Range: 1 through 65,535 Default: 1 (AS number can appear once)
Usage Guidelines	See “Configure the AS Number” on page 77.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

brief

Syntax	(brief full);
Hierarchy Level	[edit routing-options (aggregate generate) (defaults route)], [edit routing-options rib <i>routing-table-name</i> (aggregate generate) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options (aggregate generate) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> (aggregate generate) (defaults route)]
Description	Configure all AS numbers from all contributing paths to be included in the aggregate or generated route's path. brief—Include only the longest common leading sequences from the contributing AS paths. If doing this results in AS numbers being omitted from the aggregate route, the BGP atomic_attribute path attribute is included with the aggregate route. full—Include all AS numbers from all contributing paths in the aggregate or generated route's path.
Default	full
Usage Guidelines	See “Configure Aggregate Routes” on page 58 and “Configure Generated Routes” on page 66.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	aggregate on page 94, generate on page 103

color

See preference on page 115

community

Syntax	community ([<i>community-ids</i>] no-advertise no-export no-export-subconfed none);
Hierarchy Level	[edit routing-options (aggregate generate static) (defaults route)], [edit routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)]

Description Associate BGP community information with a static, aggregate, or generated route.

Options *community-ids*—One or more community identifiers. The *community-ids* format varies according to the type of attribute that you use.

The BGP community attribute format is *as-number* :*community-value*:

as-number—AS number of the community member. It can be a value from 0 through 65535.

community-value—Identifier of the community member. It can be a number from 0 through 65535.

For more information about BGP community attributes, see the *JUNOS Internet Software Configuration Guide: Policy Framework*.

For specifying the BGP community attribute only, you also can specify *community-ids* as one of the following well-known community names defined in RFC 1997:

no-advertise—Routes containing this community name are not advertised to other BGP peers.

no-export—Routes containing this community name are not advertised outside a BGP confederation boundary.

no-export-subconfed—Routes containing this community name are not advertised to external BGP peers, including peers in other members' ASs inside a BGP confederation.

none—Explicitly exclude BGP community information with a static route. Include this option when configuring an individual route in the route portion to override a community option specified in the defaults portion.

The BGP extended communities attribute format is *type:administrator:assigned-number*:

type is the type of extended community and can be either a target, origin, or domain-id community. The target community identifies the destination to which the route is going. The origin community identifies where the route originated. The domain-id community identifies the OSPF domain where the route originated.

administrator is the administrator. It is either an autonomous system (AS) number or an IPv4 address prefix, depending on the type of extended community.

assigned-number identifies the local provider.

For more information about BGP Extended Communities Attribute, see the *JUNOS Internet Software Configuration Guide: Policy Framework*.

- Usage Guidelines** See “Configure Static Routes” on page 41, “Configure Aggregate Routes” on page 58, and “Configure Generated Routes” on page 66.
- Required Privilege Level** routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.
- See Also** aggregate on page 94, generate on page 103, static on page 124

confederation

- Statement** confederation *confederation-autonomous-system* members [*autonomous-systems*];
- Hierarchy Level** [edit routing-options],
[edit routing-instances *routing-instance-name* routing-options]
- Description** Specify the router’s confederation AS number.
- Options** *autonomous-system*—AS numbers of the confederation members.
Range: 1 through 65,535
- confederation-autonomous-system*—Confederation AS number. Use one of the numbers assigned to you by the NIC.
Range: 1 through 65,535
- Usage Guidelines** See “Configure AS Confederation Members” on page 78.
- Required Privilege Level** routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

discard

- Syntax** discard;
- Hierarchy Level** [edit routing-options (aggregate | generate) (defaults | route)],
[edit routing-options rib *routing-table-name* (aggregate | generate) (defaults | route)],
[edit routing-instances *routing-instance-name* routing-options (aggregate | generate) (defaults | route)],
[edit routing-instances *routing-instance-name* routing-options rib *routing-table-name* (aggregate | generate) (defaults | route)]
- Description** Do not forward packets addressed to this destination. Instead, drop the packets, do not send ICMP unreachable messages to the packets’ originators, and install a reject route for this destination into the routing table.
- Default** When an aggregate route becomes active, it is installed in the routing table with a reject next hop, which means that ICMP unreachable messages are sent.
- Usage Guidelines** See “Configure Aggregate Routes” on page 58 and “Configure Generated Routes” on page 66.
- Required Privilege Level** routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.
- See Also** aggregate on page 94, generate on page 103

export

Statement	export [<i>policy-names</i>];
Hierarchy Level	[edit routing-options forwarding-table], [edit routing-instances <i>routing-instance-name</i> routing-options forwarding-table]
Description	Apply one or more policies to routes being exported from the routing table into the forwarding table.
Options	<i>policy-name</i> —Name of one or more policies.
Usage Guidelines	See “Configure Per-Packet Load Balancing” on page 83 and the <i>JUNOS Internet Software Configuration Guide: Policy Framework</i> .
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

export-rib

Syntax	export-rib <i>routing-table-name</i> ;
Hierarchy Level	[edit routing-options rib-groups <i>group-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options rib-group <i>group-name</i>]
Description	Name of the routing table from which the JUNOS software should export routing information.
Options	<i>routing-table-name</i> —Routing table group name.
Usage Guidelines	See “Create Routing Table Groups” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	import-rib on page 105, rib-groups on page 120

fate-sharing

Syntax	<pre>fate-sharing { group <i>group-name</i>; cost <i>value</i>; from <i>address</i> <to <i>address</i>>; }</pre>
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	<p>Specify a backup path in case the primary path becomes unusable.</p> <p>You specify one or more objects within a group. The objects can be a LAN interface, a router ID, or a point-to-point link. Sequence is insignificant.</p> <p>Changing the fate-sharing database does not affect existing established LSP until the next reoptimization of CSPF. The fate-sharing database does affect fast-reroute detour path computations.</p>
Options	<p>group <i>group-name</i>—Each fate-sharing group must have a name, which can be up to 32 characters long and can contain letters, digits, periods (.) and hyphens (-). You can define up to 512 groups.</p> <p>cost <i>value</i>—Cost assigned to the group. Range: 1 through 65,535 Default: 1</p> <p>from <i>address</i>—Address of ingress router.</p> <p>to <i>address</i>—Address of egress router. For point-to-point link objects, you must specify both a from and to address.</p>
Usage Guidelines	See the <i>JUNOS Internet Software Configuration Guide: MPLS Applications</i> .
Required Privilege Level	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>

filter

Syntax	filter { input <i>filter-name</i> ; }
Hierarchy Level	[edit routing-options rib <i>routing-table-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i>]
Description	Name of the routing table from which the JUNOS software should export routing information.
Options	input <i>filter-name</i> —Forwarding table filter name.
Usage Guidelines	See “Apply a Filter to a Forwarding Table” on page 75.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

forwarding-table

Statement	forwarding-table { export [<i>policy-names</i>]; unicast-reverse-path (active-paths feasible-paths); }
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Configure information about the router’s forwarding table.
Option	The statement is explained separately.
Usage Guidelines	See “Configure Per-Packet Load Balancing” on page 83.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

full

See brief on page 97

generate

Syntax	<pre> generate { defaults { generate-options; } route destination-prefix { policy policy-name; generate-options; } } </pre>
Hierarchy Level	<pre> [edit routing-options], [edit routing-options rib routing-table-name], [edit routing-instances routing-instance-name routing-options], [edit routing-instances routing-instance-name routing-options rib routing-table-name] </pre>
Description	Configure generated routes, which are used as routes of last resort.
Options	<p><i>generate-options</i>—Additional information about generated routes, which is included with the route when it is installed in the routing table. Specify zero or more of the following options in <i>generate-options</i>. Each option is explained separately.</p> <p>(active passive);</p> <p>as-path < <i>as-path</i>> < origin (egp igp incomplete)> < atomic-aggregate> < aggregator <i>as-number in-address</i>>;</p> <p>community [<i>community-ids</i>]</p> <p>discard;</p> <p>(brief full);</p> <p>(metric metric2 metric3 metric4) <i>value</i> < type <i>type</i>> ;</p> <p>(preference preference2 color color2) <i>preference</i> < type <i>type</i>> ;</p> <p>tag <i>string</i>;</p> <p>defaults—Configure default aggregate route.</p> <p>route <i>destination-prefix</i>—Configure non-default aggregate route:</p> <p>default—For the default route to the destination. This is equivalent to specifying an IP address of 0.0.0.0/0.</p> <p><i>destination-prefix/prefix-length</i>—<i>destination-prefix</i> is the network portion of the IP address, and <i>prefix-length</i> is the destination prefix length.</p> <p>The policy statement is explained separately.</p>
Usage Guidelines	See “Configure Generated Routes” on page 66.
Required Privilege Level	<pre> routing—To view this statement in the configuration. routing-control—To add this statement to the configuration. </pre>

graceful-restart

Statement	graceful-restart { disable; path-selection-defer-time-limit <i>time-limit</i> ; }
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Configure graceful restart.
Options	disable—Disable graceful restart. <i>time-limit</i> —Grace period for graceful restart, in seconds. Range: 1 through 600
Usage Guidelines	See “Configure Graceful Restart” on page 87.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

import-policy

Syntax	import-policy [<i>policy-names</i>];
Hierarchy Level	[edit routing-options rib-groups <i>group-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options rib-group <i>group-name</i>]
Description	Apply one or more policies to routes imported into the routing table group. The import-policy statement complements the import-rib statement and cannot be used unless you first specify the routing tables to which routes are being imported.
Options	<i>policy-name</i> —Name of one or more policies.
Usage Guidelines	See “Create Routing Table Groups” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	export-rib on page 100, rib-groups on page 120

import-rib

Syntax	import-rib [<i>routing-table-names</i>];
Hierarchy Level	[edit routing-options rib-group <i>group-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options rib-group <i>group-name</i>]
Description	Name of the routing table into which the JUNOS software should import routing information. The first routing table name you enter is the primary routing table. Any additional names you enter identify secondary routing tables. When a protocol imports routes, it imports them into the primary and any secondary routing tables. If the primary route is deleted, the secondary route also is deleted. For IPv4 import routing tables, the primary routing table must be inet.0 or routing-instance-name.inet.0. For IPv6 import routing tables, the primary routing table must be inet6.0.
Options	<i>routing-table-names</i> —Name of one or more routing tables.
Usage Guidelines	See “Create Routing Table Groups” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	export-rib on page 100, rib-groups on page 120

input

Syntax	input;
Hierarchy Level	[edit routing-options rib <i>routing-table-name</i> filter]
Description	Name of the input filter.
Options	<i>filter-name</i> —Name of the input filter.
Usage Guidelines	See “Apply a Filter to a Forwarding Table” on page 75.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

install

Syntax	(install no-install);
Hierarchy Level	[edit routing-options static (defaults route)], [edit routing-options rib <i>routing-table-name</i> static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> static (defaults route)]
Description	Configure whether the JUNOS software installs all static routes into the forwarding table. Even if you configure a route so it is not installed in the forwarding table, the route is still eligible to be exported from the routing table to other protocols.
Options	install—Have the JUNOS software explicitly install all static routes into the forwarding table. Doing this greatly reduces the time required to restart a system that has many routes in its routing table. no-install—Do not install the route into the forwarding table, even if it is the route with the lowest preference.
Default	install
Usage Guidelines	See “Configure Static Routes” on page 41.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	static on page 124

instance-export

Statement	instance-export [<i>policy-names</i>];
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Apply one or more policies to routes being exported from a routing instance.
Options	<i>policy-names</i> —Name of one or more export policies.
Usage Guidelines	See “Configure Policy-Based Export for Routing Instances” on page 160 and the <i>JUNOS Internet Software Configuration Guide: Policy Framework</i> .
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

instance-import

Statement	instance-import [<i>policy-names</i>];
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Apply one or more policies to routes being imported into a routing instance.
Options	<i>policy-names</i> —Name of one or more import policies.
Usage Guidelines	See “Configure Policy-Based Export for Routing Instances” on page 160 and the <i>JUNOS Internet Software Configuration Guide: Policy Framework</i> .
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

interface

Syntax	interface [<i>interface-names</i>];
Hierarchy Level	[edit routing-options multicast scope <i>scope-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options multicast scope <i>scope-name</i>]
Description	Configure the interfaces on which to enable multicast scoping.
Options	<i>interface-names</i> —Name of the interface. To configure all interfaces, you can specify all. For details about specifying interfaces, see the <i>JUNOS Internet Software Configuration Guide: Network Interfaces and Class of Service</i> .
Usage Guidelines	See “Configure Multicast Scoping” on page 82.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	multicast on page 112

interface-routes

```

Syntax interface-routes {
            family (inet | inet6) {
                export {
                    lan
                    point-to-point;
                }
            }
            rib-group group-name;
        }

```

Hierarchy Level [edit routing-options],
[edit routing-instances *routing-instance-name* routing-options]

Description Associate a routing table group with the router's interfaces and specify routing table groups into which interface routes are imported.

Options inet—Specify IPv4 address family.
inet6—Specify IPv6 address family.
lan—Export LAN routes.
point-to-point—Export point-to-point routes.

The remaining statement is explained separately.

Usage Guidelines See “Configure How Interface Routes Are Imported into Routing Tables” on page 81.

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

See Also rib-groups on page 120

lsp-next-hop

Syntax	lsp-next-hop <i>lsp-name</i> { metric <i>metric</i> ; preference <i>preference</i> ; }
Hierarchy Level	[edit routing-options static route <i>destination-prefix</i>], [edit routing-instances <i>routing-instance-name</i> routing-options static route <i>destination-prefix</i>]
Description	Specify an LSP as the next hop for a static route, and configure an independent metric or preference on that next-hop LSP.
Options	<i>lsp-name</i> —Name of the next-hop LSP. <i>metric</i> —Metric value. Range: 1 through 65,535 <i>preference</i> —Preference value. A lower number indicates a more preferred route. Range: 1 through 255 Default: 5
Usage Guidelines	See “Specify an LSP as the Next Hop for a Static Route” on page 46.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

martians

Syntax	<pre> martians { destination-prefix match-type <allow>; } </pre>
Hierarchy Level	<pre> [edit routing-options], [edit routing-options rib routing-table-name], [edit routing-instances routing-instance-name routing-options], [edit routing-instances routing-instance-name routing-options rib routing-table-name] </pre>
Description	Configure martian addresses.
Options	<p>allow—(Optional) Explicitly allow a subset of a range of addresses that has been disallowed.</p> <p><i>destination-prefix</i>—Destination route you are configuring:</p> <p><i>destination-prefix/prefix-length</i>—<i>destination-prefix</i> is the network portion of the IP address, and <i>prefix-length</i> is the destination prefix length.</p> <p>default—Default route to use when routing packets that do not match a network or host in the routing table. This is equivalent to specifying the IP address 0.0.0.0/0.</p> <p><i>match-type</i>—Criteria that the destination must match:</p> <p>exact—Exactly match the route’s mask length.</p> <p>longer—The route’s mask length is greater than the specified mask length.</p> <p>orlonger—The route’s mask length is equal to or greater than the specified mask length.</p> <p>through <i>destination-prefix</i>—The route matches the first prefix, the route matches the second prefix for the number of bits in the route, and the number of bits in the route is less than or equal to the number of bits in the second prefix.</p> <p>upto <i>prefix-length</i>—The route’s mask length falls between the two destination prefix lengths, inclusive.</p> <p>Default: exact</p>
Usage Guidelines	See “Configure Martian Addresses” on page 73.
Required Privilege Level	<pre> routing—To view this statement in the configuration. routing-control—To add this statement to the configuration. </pre>

maximum-routes

Statement	maximum-routes <i>route-limit</i> <log-only threshold <i>value</i> >;
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Configure an upper limit for the number of routes installed in a routing table.
Options	<i>route-limit</i> —Route limit. If this limit is reached, a warning is triggered and any additional routes are rejected. Range: 1 through 4,294,967,295 Default: Not set log-only—(Optional) Sets the route limit as an advisory limit. An advisory limit triggers only a warning, and additional routes are not rejected. threshold <i>value</i> —(Optional) Threshold value for the mandatory limit that triggers a warning. Range: 1 through 100
Usage Guidelines	See “Configure a Route Limit for Routing Tables” on page 169.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

metric

metric (Aggregate, Generated, or Static Route)

Syntax	(metric metric2 metric3 metric4) <i>metric</i> <type <i>type</i> >;
Hierarchy Level	[edit routing-options (aggregate generate static) (defaults route)]
Description	Metric value for an aggregate, generated, or static route. You can specify up to four metric values, starting with <i>metric</i> (for the first metric value) and continuing with <i>metric2</i> , <i>metric3</i> , and <i>metric4</i> .
Options	<i>metric</i> —Metric value. Range: 1 through 65,535 type <i>type</i> —(Optional) Type of route. Range: 1 through 16
Usage Guidelines	See Specify the Route Metric on page 50, Specify the Route Metric on page 61, and Specify the Route Metric on page 69.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	aggregate on page 94, generate on page 103, static on page 124

metric (Qualified Next Hop on Static Route)

Syntax	<code>metric <i>metric</i>;</code>
Hierarchy Level	[edit routing-options static route <i>destination-prefix</i> qualified-next-hop]
Description	Metric value for a static route.
Options	<i>metric</i> —Metric value. Range: 1 through 65,535
Usage Guidelines	See “Specify an Independent Preference for a Static Route” on page 44.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	qualified-next-hop on page 116, static on page 124

multicast

Syntax	<pre> multicast { scope <i>scope-name</i> { interface [<i>interface-names</i>]; prefix <i>destination-prefix</i>; } ssm-groups { <i>address</i> } } </pre>
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Configure generic multicast properties.
Options	The statements are explained separately in this chapter.
Usage Guidelines	See “Configure Multicast Scoping” on page 82. See “Configure Additional Source-Specific Multicast Groups” on page 83.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

no-install

See install on page 106

no-readvertise

See readvertise on page 116

no-retain

See retain on page 118

no-resolve

See resolve on page 117

options

Syntax options {
 syslog (level *level* | upto level);
 }

Hierarchy Level [edit routing-options],
 [edit routing-instances *routing-instance-name* routing-options]

Description Configure the types of system logging messages sent about the routing protocols process to the system message logging file. These messages are also displayed on the system console. You can log messages at a particular level, or up to and including a particular level.

Options level *level*—Severity of the message. It can be one or more of the following levels, in order of decreasing urgency:

 emergency—Panic or other conditions that cause the system to become unusable

 alert—Conditions that should be corrected immediately, such as a corrupted system database

 critical—Critical conditions, such as hard drive errors

 error—Standard error conditions

 warning—System warning messages

 notice—Conditions that are not error conditions, but that might warrant special handling

 info—Informational messages

 debug—Software debugging messages

Default: info

 upto level—Log all messages up to a particular level.

Usage Guidelines See “Configure Logging for the Routing Protocol Process” on page 88.

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

See Also syslog in the *JUNOS Internet Software Configuration Guide: Getting Started*

passive

See active on page 93

policy

Syntax `policy policy-name;`

Hierarchy Level [edit routing-options (aggregate | generate) (defaults | route)],
 [edit routing-options rib *routing-table-name* (aggregate | generate) (defaults | route)],
 [edit routing-instances *routing-instance-name* routing-options
 (aggregate | generate) (defaults | route)],
 [edit routing-instances *routing-instance-name* routing-options rib *routing-table-name*
 (aggregate | generate) (defaults | route)]

Description Associate a routing policy when configuring an aggregate or generated route's destination prefix in the routes part of the aggregate or generate statement. Doing so provides the equivalent of an import routing policy filter for the destination prefix. That is, each potential contributor to an aggregate route, along with any aggregate options, is passed through the policy filter. The policy then can accept or reject the route as a contributor to the aggregate route and, if the contributor is accepted, the policy can modify the default preferences. The contributor with the numerically smallest prefix becomes the most preferred, or *primary*, contributor. A rejected contributor still can contribute to less specific aggregate route. If you do not specify a policy filter, all candidate routes contribute to an aggregate route.

Options *policy-name*—Name of a routing policy.

Usage Guidelines See “Configure Aggregate Routes” on page 58 and “Configure Generated Routes” on page 66.

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

See Also aggregate on page 94, generate on page 103

preference

Syntax	<code>(preference preference2 color color2) preference <type type>;</code>
Hierarchy Level	[edit routing-options (aggregate generate static) (defaults route)], [edit routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options (aggregate generate static) (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> (aggregate generate static) (defaults route)]
Description	Preference value for a static, aggregated, or generated route. You also can specify a secondary preference value (preference2) as well as colors, which are even finer-grained preference values (color and color2).
Options	<i>preference</i> —Preference value. A lower number indicates a more preferred route. Range: 1 through 255 Default: 5 (for static routes), 130 (for aggregate and generated routes) <i>type</i> —(Optional) Type of route. Range: 1 through 16
Usage Guidelines	See “Configure Static Routes” on page 41, “Configure Aggregate Routes” on page 58, and “Configure Generated Routes” on page 66.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	aggregate on page 94, generate on page 103, static on page 124

prefix

Syntax	<code>prefix destination-prefix;</code>
Hierarchy Level	[edit routing-options multicast scope <i>scope-name</i>], [edit routing-instances <i>routing-instance-name</i> routing-options multicast scope <i>scope-name</i>]
Description	Configure the prefix for multicast scopes.
Options	<i>destination-prefix</i> —Prefix within the multicast scope.
Usage Guidelines	See “Configure Multicast Scoping” on page 82.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	multicast on page 112

qualified-next-hop

Syntax	qualified-next-hop <i>address</i> { metric <i>metric</i> ; preference <i>preference</i> ; }
Hierarchy Level	[edit routing-options static route <i>destination-prefix</i>], [edit routing-options rib inet6.0 static route <i>destination-prefix</i>], [edit routing-instances <i>routing-instance-name</i> routing-options static route <i>destination-prefix</i>]
Description	Configure an independent metric or preference on a static route.
Options	<i>address</i> —IPv4 or IPv6 address of the next hop. <i>metric</i> —Metric value. Range: 1 through 65,535 <i>preference</i> —Preference value. A lower number indicates a more preferred route. Range: 1 through 255 Default: 5
Usage Guidelines	See “Specify an Independent Preference for a Static Route” on page 44.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

readvertise

Syntax	(readvertise no-readvertise);
Hierarchy Level	[edit routing-options static (defaults route)], [edit routing-options rib <i>routing-table-name</i> static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> static (defaults route)]
Description	Configure whether static routes are eligible to be readvertised by routing protocols: readvertise—Readvertise static routes. no-readvertise—Mark a static route as being ineligible for readvertisement; include the no-readvertise option when configuring the route.
Default	readvertise
Usage Guidelines	See “Configure Static Routes” on page 41.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	static on page 124

resolution

Statement	<pre> resolution { tracefilter [<i>policy-names</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 routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Route next-hop resolution options.
Options	The statements are explained separately.
Usage Guidelines	See “Trace Route Resolution Operations” on page 90.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

resolve

Syntax	(resolve no-resolve);
Hierarchy Level	[edit routing-options static (defaults route)], [edit routing-options rib <i>routing-table-name</i> static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> static (defaults route)]
Description	<p>Configure statically configured routes to be resolved to a next hop that is not directly connected:</p> <p>resolve—Have a static route resolved to an IP prefix that is not a directly connected next-hop. In this case, the route is resolved through the inet.0 and inet.3 routing tables.</p> <p>no-resolve—Prevents a static route from being resolved to an IP prefix that is not a directly connected next-hop.</p>
Default	no-resolve
Usage Guidelines	See “Configure Static Routes” on page 41.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	static on page 124

retain

Syntax	(retain no-retain);
Hierarchy Level	[edit routing-options static (defaults route)], [edit routing-options rib <i>routing-table-name</i> static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options static (defaults route)], [edit routing-instances <i>routing-instance-name</i> routing-options rib <i>routing-table-name</i> static (defaults route)]
Description	Configure statically configured routes to be deleted from or retained in the forwarding table when the routing protocol process shuts down normally. <p>retain—Have a static route remain in the forwarding table when the routing protocol process shuts down normally. Doing this greatly reduces the time required to restart a system that has a large number of routes in its routing table.</p> <p>no-retain—Delete statically configured routes from the forwarding table when the routing protocol process shuts down normally.</p>
Default	no-retain
Usage Guidelines	See “Configure Static Routes” on page 41.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	static on page 124

rib

Syntax rib *routing-table-name* {
static {
defaults {
static-options;
}
rib-group *group-name*;
route *destination-prefix* {
next-hop;
static-options;
}
}
aggregate {
defaults {

```

        aggregate-options;
    }
    route destination-prefix {
        policy policy-name;
        aggregate-options;
    }

    generate {
        defaults {
            generate-options;
        }
        route destination-prefix {
            policy policy-name;
            generate-options;
        }
    }
    martians {
        destination-prefix match-type <allow>;
    }
}

```

Hierarchy Level [edit routing-options],
[edit routing-instances *routing-instance-name* routing-options]

Description Create a routing table.

Explicitly creating a routing table with the *routing-table-name* statement is optional if you are not adding any static, martian, aggregate, or generated routes to the routing table and if you also are creating a routing table group. Simply including the *rib-groups* statement to declare that a routing table is part of a routing table group is sufficient to create it.

Default If you do not specify a routing table name with the *routing-table-name* statement, the software uses the default routing tables, which are inet.0 for unicast routes and inet.1 for the multicast cache.

Options *routing-table-name*—Name of the routing table, in the following format:

protocol[.*identifier*]

protocol is the protocol family. It can be inet6 for the IPv6 family, inet for the IPv4 family, or iso for the ISO protocol family.

identifier is a positive integer that specifies the instance of the routing table.

Default: inet.0

The remaining statements are explained separately in this chapter.

Usage Guidelines See “Create Routing Tables” on page 39.

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

rib-group

Syntax	<code>rib-group group-name;</code>
Hierarchy Level	[edit routing-options interface-routes], [edit routing-options rib <i>routing-table-name</i> static], [edit routing-options static], [edit routing-instances <i>routing-instance-name</i> routing-options interface-routes]
Description	Configure which routing table groups interface routes are imported into.
Options	<i>group-name</i> —Name of the routing table group. The name must start with a letter and can include letters, numbers, and hyphens. It generally does not make sense to specify more than a single routing table group.
Usage Guidelines	See “Configure How Interface Routes Are Imported into Routing Tables” on page 81 and “Create Routing Table Groups” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	interface-routes on page 108, rib-groups on page 120

rib-groups

Syntax	<pre>rib-groups { group-name { import-policy [<i>policy-names</i>]; import-rib [<i>group-names</i>]; export-rib <i>group-name</i>; } }</pre>
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Group one or more routing tables to form a routing table group. A routing protocol can import routes into all the routing tables in the group and can export routes from a single routing table. Each routing table group must contain one or more routing tables that the JUNOS software uses when importing routes (specified in the import-rib statement) and optionally can contain one routing table group that the JUNOS software uses when exporting routes to the routing protocols (specified in the export-rib statement).
Options	<i>group-name</i> —Name of the routing table group. The name must start with a letter and can include letters, numbers, and hyphens. The remaining statements are explained separately.
Usage Guidelines	See “Create Routing Table Groups” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	rib-group on page 120

route-distinguisher-id

Statement	route-distinguisher-id <i>address</i> ;
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Configure a route distinguisher identifier for a routing instance, specifying an IP address. If a route distinguisher is configured for a particular routing instance, that value supersedes the route distinguisher configured by this statement.
Options	<i>address</i> —IP address.
Usage Guidelines	See “Configure Route Distinguisher” on page 87.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

route-record

Statement	route-record;
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Export the AS path and routing information to the traffic sampling process.
Usage Guidelines	See “Configure Route Recording for Flow Aggregation” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	<i>JUNOS Internet Software Configuration Guide: Network Interfaces and Class of Service</i> .

router-id

Statement	router-id <i>address</i> ;
Hierarchy Level	[edit routing-options], [edit routing-instances <i>routing-instance-name</i> routing-options]
Description	Specify the router's IP address.
Options	<i>address</i> —IP address of the router. Default: Address of the first interface encountered by the JUNOS software.
Usage Guidelines	See "Configure the Router Identifier" on page 78.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

routing-options

Statement	routing-options { ... }
Hierarchy Level	[edit], [edit routing-instances <i>routing-instance-name</i>]
Description	Configure protocol-independent routing properties.
Usage Guidelines	See "Protocol-Independent Routing Properties Overview" on page 33.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

scope

Syntax	scope <i>scope-name</i> { interface [<i>interface-names</i>]; prefix <i>destination-prefix</i> ; }
Hierarchy Level	[edit routing-options multicast], [edit routing-instances <i>routing-instance-name</i> routing-options multicast]
Description	Configure multicast scoping.
Options	<i>scope-names</i> —Name of the multicast scope. The remaining statements are explained separately in this chapter.
Usage Guidelines	See "Configure Multicast Scoping" on page 82.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	multicast on page 112

ssm-groups

Syntax	ssm-groups { <i>address</i> ; }
Hierarchy Level	[edit routing-options multicast], [edit routing-instances <i>routing-instance-name</i> routing-options multicast]
Description	Configure additional SSM groups.
Options	<i>address</i> —Address range of the additional SSM group.
Usage Guidelines	See “Configure Additional Source-Specific Multicast Groups” on page 83.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	multicast on page 112.

static

```

Syntax  static {
           defaults {
             static-options;
           }
           rib-group group-name;
           route destination-prefix {
             next-hop;
             qualified-next-hop address {
               metric metric;
               preference preference;
             }
             static-options;
           }
         }

```

Hierarchy Level [edit routing-options],
 [edit routing-options rib *routing-table-name*],
 [edit routing-instances *routing-instance-name* routing-options]

Description Configure static routes to be installed in the routing table. You can specify any number of routes within a single static statement, and you can specify any number of static statements in the configuration.

Options defaults—Configure default static route.

route *destination-prefix*—Destination of the generated route.

defaults—For the default route to the destination. This is equivalent to specifying an IP address of 0.0.0.0/0.

destination-prefix/prefix-length—*destination-prefix* is the network portion of the IP address, and *prefix-length* is the destination prefix length.

next-hop—How to reach the destination.

discard—Do not forward packets addressed to this destination. Instead, drop the packets, do not send ICMP unreachable messages to the packets' originators, and install a reject route for this destination into the routing table.

next-hop *address*—Reach the next-hop router by specifying an IP address or an interface name.

next-table *routing-table-name*—Name of the next routing table to the destination.

receive—Install a receive route for this destination into the routing table.

eject—Do not forward packets addressed to this destination. Instead, drop the packets, send ICMP unreachable messages to the packets' originators, and install a reject route for this destination into the routing table.

static-options—(Optional under route) Additional information about static routes, which is included with the route when it is installed in the routing table.

You can specify one or more of the following in *static-options*. Each of the options is explained separately.

(active | passive);

as-path < *as-path*> < origin (egp | igp | incomplete)> < atomic-aggregate>
< aggregator *as-number in-address*>;

community [*community-ids*]

(install | no-install);

(metric | metric2 | metric3 | metric4) *value* < type *type*> ;

(preference | preference2 | color | color2) *preference* < type *type*> ;

(readvertise | no-readvertise);

(resolve | no-resolve);

(no-retain | retain);

tag *string*;

The remaining statements are explained separately.

Usage Guidelines See “Configure Static Routes” on page 41.

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

tag

Syntax tag *string*;

Hierarchy Level [edit routing-options (aggregate | generate | static) (defaults | route)],
[edit routing-options rib *routing-table-name* (aggregate | generate | static) (defaults | route)],
[edit routing-instances *routing-instance-name* routing-options (aggregate | generate | static) (defaults | route)],
[edit routing-instances *routing-instance-name* routing-options rib *routing-table-name* (aggregate | generate | static) (defaults | route)]

Description Associate an OSPF tag with a static, aggregate, or generated route.

Options *string*—OSPF tag string.

Usage Guidelines See “Configure Static Routes” on page 41, “Configure Aggregate Routes” on page 58, and “Configure Generated Routes” on page 66.

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

See Also aggregate on page 94, generate on page 103, static on page 124

traceoptions

Syntax	<pre> 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	<p>[edit routing-options], [edit routing-options resolution], [edit routing-instances <i>routing-instance-name</i> routing-options]</p>
Description	<p>Define tracing operations that track all routing protocol functionality in the router.</p> <p>To specify more than one tracing operation, include multiple flag statements.</p>
Default	If you do not include this statement, no global tracing operations are performed.
Options	<p>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.</p> <p>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 <code>/var/log</code>. We recommend that you place global routing protocol tracing output in the file <code>routing-log</code>.</p> <p>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.</p> <p>If you specify a maximum number of files, you also must specify a maximum file size with the size option.</p> <p>Range: 2 through 1000 files Default: 2 files</p> <p>flag <i>flag</i>—Tracing operation to perform. To specify more than one tracing operation, include multiple flag statements. These are the global routing protocol tracing options:</p> <ul style="list-style-type: none"> all—All tracing operations config-internal—Configuration internals event—Event processing (resolution option only) flash—Flash processing (resolution option only) general—All normal operations and routing table changes (a combination of the normal and route trace operations) indirect—Indirect next-hop add/change/delete (resolution option only) kernel—Kernel communication (resolution option only) normal—All normal operations parse—Configuration parsing

policy—Routing policy operations and actions

regex-parse—Regular-expression parsing

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.

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 also must 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

Usage Guidelines See “Trace Global Routing Protocol Operations” on page 88.

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.

tracefilter

Syntax	tracefilter [<i>policy-names</i>];
Hierarchy Level	[edit routing-options resolution], [edit routing-instances <i>routing-instance-name</i> routing-options resolution]
Description	Define the routing policy that may be used to filter out trace output. In the routing policy filter, the following are supported from qualifiers: <ul style="list-style-type: none"> rib route-filter
Options	<i>policy-names</i> —Name of one or more policies.
Usage Guidelines	See “Trace Route Resolution Operations” on page 90.
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.

unicast-reverse-path

Statement	unicast-reverse-path (active-paths feasible-paths);
Hierarchy Level	[edit routing-options forwarding-table]
Description	Enable unicast reverse path-forwarding check.
Options	active-paths—Consider only active paths during the unicast reverse path check. feasible-paths—Consider all feasible paths during the unicast reverse path check.
Usage Guidelines	See “Enable Unicast Reverse Path-Forwarding Check” on page 86 and the <i>JUNOS Internet Software Configuration Guide: Network Interfaces and Class of Service</i> .
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.