



Junos[®] OS for EX Series Ethernet Switches

CLI User Guide for EX Series Switches

Release

14.1X53



Published: 2014-10-13

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, California 94089
USA
408-745-2000
www.juniper.net

Juniper Networks, Junos, Steel-Belted Radius, NetScreen, and ScreenOS are registered trademarks of Juniper Networks, Inc. in the United States and other countries. The Juniper Networks Logo, the Junos logo, and JunosE are trademarks of Juniper Networks, Inc. All other trademarks, service marks, registered trademarks, or registered service marks are the property of their respective owners.

Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.

Junos[®] OS for EX Series Ethernet Switches CLI User Guide for EX Series Switches
Release 14.1X53
Copyright © 2014, Juniper Networks, Inc.
All rights reserved.

The information in this document is current as of the date on the title page.

YEAR 2000 NOTICE

Juniper Networks hardware and software products are Year 2000 compliant. Junos OS has no known time-related limitations through the year 2038. However, the NTP application is known to have some difficulty in the year 2036.

END USER LICENSE AGREEMENT

The Juniper Networks product that is the subject of this technical documentation consists of (or is intended for use with) Juniper Networks software. Use of such software is subject to the terms and conditions of the End User License Agreement ("EULA") posted at <http://www.juniper.net/support/eula.html>. By downloading, installing or using such software, you agree to the terms and conditions of that EULA.

Table of Contents

	About the Documentation	xiii
	Documentation and Release Notes	xiii
	Supported Platforms	xiii
	Using the Examples in This Manual	xiii
	Merging a Full Example	xiv
	Merging a Snippet	xiv
	Documentation Conventions	xv
	Documentation Feedback	xvii
	Requesting Technical Support	xvii
	Self-Help Online Tools and Resources	xvii
	Opening a Case with JTAC	xviii
Part 1	Overview	
Chapter 1	Software Overview	3
	Understanding Software Infrastructure and Processes	3
	Routing Engine and Packet Forwarding Engine	3
	Junos OS Processes	4
Chapter 2	User Interfaces	7
	CLI User Interface Overview	7
	CLI Overview	7
	CLI Help and Command Completion	7
	CLI Command Modes	8
	EX Series Switches Hardware and CLI Terminology Mapping	9
Part 2	Configuration	
Chapter 3	Configuration Tasks	13
	Using the J-Web CLI Terminal	13
	Configuring the Web Browser	13
	Setting Domain Name, Hostname, and Name Server	14
	Enabling SSH on your system	14
	Sample Configuration on an EX Series Switch	14

Chapter 4	Statement Hierarchies	17
	[edit access] Configuration Statement Hierarchy on EX Series Switches	20
	Supported Statements in the [edit access] Hierarchy Level	20
	Unsupported Statements in the [edit access] Hierarchy Level	22
	[edit accounting-options] Configuration Statement Hierarchy on EX Series	
	Switches	23
	Supported Statements in the [edit accounting-options] Hierarchy Level	23
	Unsupported Statements in the [edit accounting-options] Hierarchy	
	Level	24
	[edit chassis] Configuration Statement Hierarchy on EX Series Switches	24
	Supported Statements in the [edit chassis] Hierarchy Level	25
	[edit class-of-service] Configuration Statement Hierarchy on EX Series	
	Switches	26
	Supported Statements in the [edit class-of-service] Hierarchy Level	26
	Unsupported Statements in the [edit class-of-service] Hierarchy Level	28
	[edit ethernet-switching-options] Configuration Statement Hierarchy on EX	
	Series Switches	29
	Supported Statements in the [edit ethernet-switching-options] Hierarchy	
	Level	29
	Unsupported Statements in the [edit ethernet-switching-options] Hierarchy	
	Level	32
	[edit event-options] Configuration Statement Hierarchy on EX Series	
	Switches	32
	Supported Statements in the [edit event-options] Hierarchy Level	32
	Unsupported Statements in the [edit event-options] Hierarchy Level	34
	[edit firewall] Configuration Statement Hierarchy on EX Series Switches	34
	Supported Statements in the [edit firewall] Hierarchy Level	34
	Unsupported Statements in the [edit firewall] Hierarchy Level	35
	[edit forwarding-options] Configuration Statement Hierarchy on EX Series	
	Switches	36
	Supported Statements in the [edit forwarding-options] Hierarchy Level	36
	Unsupported Statements in the [edit forwarding-options] Hierarchy	
	Level	38
	[edit interfaces] Configuration Statement Hierarchy on EX Series Switches	40
	[edit interfaces ae] Configuration Statement Hierarchy on EX Series	
	Switches	41
	Supported Statements in the [edit interfaces ae] Hierarchy Level	41
	Unsupported Statements in the [edit interfaces ae] Hierarchy Level	44
	[edit interfaces ge] Configuration Statement Hierarchy on EX Series	
	Switches	44
	Supported Statements in the [edit interfaces ge] Hierarchy Level	45
	Unsupported Statements in the [edit interfaces ge] Hierarchy Level	48
	[edit interfaces gr] Configuration Statement Hierarchy on EX Series	
	Switches	48
	Supported Statements in the [edit interfaces gr] Hierarchy Level	48
	Unsupported Statements in the [edit interfaces gr] Hierarchy Level	51

[edit interfaces interface-range] Configuration Statement Hierarchy on EX Series	
Switches	51
Supported Statements in the [edit interfaces interface-range] Hierarchy	
Level	51
Unsupported Statements in the [edit interfaces interface-range] Hierarchy	
Level	55
[edit interfaces lo] Configuration Statement Hierarchy on EX Series	
Switches	58
Supported Statements in the [edit interfaces lo] Hierarchy Level	59
Unsupported Statements in the [edit interfaces lo] Hierarchy Level	61
[edit interfaces me] Configuration Statement Hierarchy on EX Series	
Switches	61
Supported Statements in the [edit interfaces me] Hierarchy Level	62
Unsupported Statements in the [edit interfaces me] Hierarchy Level	64
[edit interfaces vlan] Configuration Statement Hierarchy on EX Series	
Switches	65
Supported Statements in the [edit interfaces vlan] Hierarchy Level	65
Unsupported Statements in the [edit interfaces vlan] Hierarchy Level	68
[edit interfaces vme] Configuration Statement Hierarchy on EX Series	
Switches	68
Supported Statements in the [edit interfaces vme] Hierarchy Level	68
Unsupported Statements in the [edit interfaces vme] Hierarchy Level	71
[edit interfaces xe] Configuration Statement Hierarchy on EX Series	
Switches	71
Supported Statements in the [edit interfaces xe] Hierarchy Level	71
Unsupported Statements in the [edit interfaces xe] Hierarchy Level	75
[edit poe] Configuration Statement Hierarchy on EX Series Switches	75
Supported Statements in the [edit poe] Hierarchy Level	75
Unsupported Statements in the [edit poe] Hierarchy Level	76
[edit policy-options] Configuration Statement Hierarchy on EX Series	
Switches	76
Supported Statements in the [edit policy-options] Hierarchy Level	77
Unsupported Statements in the [edit policy-options] Hierarchy Level	87
[edit protocols] Configuration Statement Hierarchy on EX Series Switches	87
[edit protocols bfd] Configuration Statement Hierarchy on EX Series	
Switches	89
Supported Statements in the [edit protocols bfd] Hierarchy Level	89
Unsupported Statements in the [edit protocols bfd] Hierarchy Level	90
[edit protocols bgp] Configuration Statement Hierarchy on EX Series	
Switches	90
Supported Statements in the [edit protocols bgp] Hierarchy Level	90
Unsupported Statements in the [edit protocols bgp] Hierarchy Level	99
[edit protocols connections] Configuration Statement Hierarchy on EX Series	
Switches	100
Supported Statements in the [edit protocols connections] Hierarchy	
Level	100
Unsupported Statements in the [edit protocols connections] Hierarchy	
Level	101

[edit protocols dcbx] Configuration Statement Hierarchy on EX Series	
Switches	101
Supported Statements in the [edit protocols dcbx] Hierarchy Level	101
Unsupported Statements in the [edit protocols dcbx] Hierarchy Level	102
[edit protocols dot1x] Configuration Statement Hierarchy on EX Series	
Switches	102
Supported Statements in the [edit protocols dot1x] Hierarchy Level	103
Unsupported Statements in the [edit protocols dot1x] Hierarchy Level	104
[edit protocols igmp] Configuration Statement Hierarchy on EX Series	
Switches	104
Supported Statements in the [edit protocols igmp] Hierarchy Level	104
Unsupported Statements in the [edit protocols igmp] Hierarchy Level	105
[edit protocols igmp-snooping] Configuration Statement Hierarchy on EX Series	
Switches	105
Supported Statements in the [edit protocols igmp-snooping] Hierarchy Level	106
Unsupported Statements in the [edit protocols igmp-snooping] Hierarchy Level	106
[edit protocols isis] Configuration Statement Hierarchy on EX Series	
Switches	107
Supported Statements in the [edit protocols isis] Hierarchy Level	107
Unsupported Statements in the [edit protocols isis] Hierarchy Level	109
[edit protocols lacp] Configuration Statement Hierarchy on EX Series	
Switches	110
Supported Statements in the [edit protocols lacp] Hierarchy Level	110
Unsupported Statements in the [edit protocols lacp] Hierarchy Level	110
[edit protocols link-management] Configuration Statement Hierarchy on EX Series	
Switches	110
Supported Statements in the [edit protocols link-management] Hierarchy Level	111
Unsupported Statements in the [edit protocols link-management] Hierarchy Level	112
[edit protocols lldp] Configuration Statement Hierarchy on EX Series	
Switches	112
Supported Statements in the [edit protocols lldp] Hierarchy Level	112
Unsupported Statements in the [edit protocols lldp] Hierarchy Level	113
[edit protocols lldp-med] Configuration Statement Hierarchy on EX Series	
Switches	113
Supported Statements in the [edit protocols lldp-med] Hierarchy Level	113
Unsupported Statements in the [edit protocols lldp-med] Hierarchy Level	114
[edit protocols mld] Configuration Statement Hierarchy on EX Series	
Switches	114
Supported Statements in the [edit protocols mld] Hierarchy Level	115
Unsupported Statements in the [edit protocols mld] Hierarchy Level	115

[edit protocols mld-snooping] Configuration Statement Hierarchy on EX Series	
Switches	116
Supported Statements in the [edit protocols mld-snooping] Hierarchy	
Level	116
Unsupported Statements in the [edit protocols mld-snooping] Hierarchy	
Level	117
[edit protocols mpls] Configuration Statement Hierarchy on EX Series	
Switches	117
Supported Statements in the [edit protocols mpls] Hierarchy Level	117
Unsupported Statements in the [edit protocols mpls] Hierarchy Level	118
[edit protocols msdp] Configuration Statement Hierarchy on EX Series	
Switches	128
Supported Statements in the [edit protocols msdp] Hierarchy Level	129
Unsupported Statements in the [edit protocols msdp] Hierarchy Level	130
[edit protocols mstp] Configuration Statement Hierarchy on EX Series	
Switches	131
Supported Statements in the [edit protocols mstp] Hierarchy Level	131
Unsupported Statements in the [edit protocols mstp] Hierarchy Level	132
[edit protocols mvrp] Configuration Statement Hierarchy on EX Series	
Switches	132
Supported Statements in the [edit protocols mvrp] Hierarchy Level	132
Unsupported Statements in the [edit protocols mvrp] Hierarchy Level	133
[edit protocols neighbor-discovery] Configuration Statement Hierarchy on EX	
Series Switches	133
Supported Statements in the [edit protocols neighbor-discovery] Hierarchy	
Level	134
Unsupported Statements in the [edit neighbor-discovery] Hierarchy	
Level	134
[edit protocols oam] Configuration Statement Hierarchy on EX Series	
Switches	134
Supported Statements in the [edit protocols oam] Hierarchy Level	135
Unsupported Statements in the [edit protocols oam] Hierarchy Level	137
[edit protocols ospf] Configuration Statement Hierarchy on EX Series	
Switches	137
Supported Statements in the [edit protocols ospf] Hierarchy Level	137
Unsupported Statements in the [edit protocols ospf] Hierarchy Level	140
[edit protocols ospf3] Configuration Statement Hierarchy on EX Series	
Switches	140
Supported Statements in the [edit protocols ospf3] Hierarchy Level	141
Unsupported Statements in the [edit protocols ospf3] Hierarchy Level	143
[edit protocols pim] Configuration Statement Hierarchy on EX Series	
Switches	144
Supported Statements in the [edit protocols pim] Hierarchy Level	144
Unsupported Statements in the [edit protocols pim] Hierarchy Level	147
[edit protocols rip] Configuration Statement Hierarchy on EX Series	
Switches	147
Supported Statements in the [edit protocols rip] Hierarchy Level	147
Unsupported Statements in the [edit protocols rip] Hierarchy Level	149

[edit protocols ripng] Configuration Statement Hierarchy on EX Series	
Switches	149
Supported Statements in the [edit protocols ripng] Hierarchy Level	150
Unsupported Statements in the [edit protocols ripng] Hierarchy Level	151
[edit protocols router-advertisement] Configuration Statement Hierarchy on	
EX Series Switches	151
Supported Statements in the [edit protocols router-advertisement]	
Hierarchy Level	151
Unsupported Statements in the [edit protocols router-advertisement]	
Hierarchy Level	152
[edit protocols router-discovery] Configuration Statement Hierarchy on EX	
Series Switches	152
Supported Statements in the [edit protocols router-discovery] Hierarchy	
Level	152
Unsupported Statements in the [edit protocols router-discovery] Hierarchy	
Level	153
[edit protocols rstp] Configuration Statement Hierarchy on EX Series	
Switches	153
Supported Statements in the [edit protocols rstp] Hierarchy Level	153
Unsupported Statements in the [edit protocols rstp] Hierarchy Level	154
[edit protocols rsvp] Configuration Statement Hierarchy on EX Series	
Switches	154
Supported Statements in the [edit protocols rsvp] Hierarchy Level	155
Unsupported Statements in the [edit protocols rsvp] Hierarchy Level	155
[edit protocols sflow] Configuration Statement Hierarchy on EX Series	
Switches	158
Supported Statements in the [edit protocols sflow] Hierarchy Level	159
Unsupported Statements in the [edit sflow] Hierarchy Level	159
[edit protocols stp] Configuration Statement Hierarchy on EX Series	
Switches	160
Supported Statements in the [edit protocols stp] Hierarchy Level	160
Unsupported Statements in the [edit protocols stp] Hierarchy Level	161
[edit protocols uplink-failure-detection] Configuration Statement Hierarchy on	
EX Series Switches	161
Supported Statements in the [edit protocols uplink-failure-detection]	
Hierarchy Level	161
Unsupported Statements in the [edit protocols uplink-failure-detection]	
Hierarchy Level	162
[edit protocols vrrp] Configuration Statement Hierarchy on EX Series	
Switches	162
Supported Statements in the [edit protocols vrrp] Hierarchy Level	162
Unsupported Statements in the [edit protocols vrrp] Hierarchy Level	163
[edit protocols vstp] Configuration Statement Hierarchy on EX Series	
Switches	163
Supported Statements in the [edit protocols vstp] Hierarchy Level	163
Unsupported Statements in the [edit protocols vstp] Hierarchy Level	164

[edit redundant-power-system] Configuration Statement Hierarchy on EX Series	
Switches	164
Supported Statements in the [edit redundant-power-system] Hierarchy	
Level	165
Unsupported Statements in the [edit redundant-power-system] Hierarchy	
Level	165
[edit routing-options] Configuration Statement Hierarchy on EX Series	
Switches	165
Supported Statements in the [edit routing-options] Hierarchy Level	166
Unsupported Statements in the [edit routing-options] Hierarchy Level	182
[edit security] Configuration Statement Hierarchy on EX Series Switches	182
Supported Statements in the [edit security] Hierarchy Level	182
Unsupported Statements in the [edit security] Hierarchy Level	185
[edit services] Configuration Statement Hierarchy on EX Series Switches	185
Supported Statements in the [edit services] Hierarchy Level	186
Unsupported Statements in the [edit services] Hierarchy Level	188
[edit snmp] Configuration Statement Hierarchy on EX Series Switches	188
Supported Statements in the [edit snmp] Hierarchy Level	189
Unsupported Statements in the [edit snmp] Hierarchy Level	193
[edit system] Configuration Statement Hierarchy on EX Series Switches	195
Supported Statements in the [edit system] Hierarchy Level	195
Unsupported Statements in the [edit system] Hierarchy Level	208
[edit virtual-chassis] Configuration Statement Hierarchy	208
Supported Statements in the [edit virtual-chassis] Hierarchy Level	208
Unsupported Statements in the [edit virtual-chassis] Hierarchy Level	209
[edit vlans] Configuration Statement Hierarchy on EX Series Switches	210
Supported Statements in the [edit vlans] Hierarchy Level	210
Unsupported Statements in the [edit vlans] Hierarchy Level	211

Part 3

Chapter 5

Administration

Operational Commands	215
set cli directory	216
set cli idle-timeout	217
set cli prompt	218
set cli restart-on-upgrade	219
set cli screen-length	220
set cli screen-width	221
set cli timestamp	222
start shell	223

List of Tables

	About the Documentation	xiii
	Table 1: Notice Icons	xv
	Table 2: Text and Syntax Conventions	xv
Part 1	Overview	
Chapter 1	Software Overview	3
	Table 3: Junos OS Processes	4
Part 2	Configuration	
Chapter 4	Statement Hierarchies	17
	Table 4: Unsupported [edit access] Configuration Statements on EX Series Switches	22
	Table 5: Unsupported [edit forwarding-options] Configuration Statements on EX Series Switches	38
	Table 6: Unsupported [edit interfaces ae] Configuration Statements on EX Series Switches	44
	Table 7: Unsupported [edit interfaces interface-range] Configuration Statements for EX Series Switches	55
	Table 8: Unsupported [edit interfaces lo] Configuration Statements for EX Series Switches	61
	Table 9: Unsupported [edit interfaces me] Configuration Statements for EX Series Switches	64
	Table 10: Unsupported [edit protocols bgp] Configuration Statements on EX Series Switches	99
	Table 11: Unsupported [edit protocols connections] Configuration Statements on EX Series Switches	101
	Table 12: Unsupported [edit protocols dcbx] Configuration Statements on EX Series Switches	102
	Table 13: Unsupported [edit protocols isis] Configuration Statements on EX Series Switches	109
	Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches	118
	Table 15: Unsupported [edit protocols mvrp] Configuration Statements on EX Series Switches	133
	Table 16: Unsupported [edit protocols ospf] Configuration Statements on EX Series Switches	140
	Table 17: Unsupported [edit protocols ospf 3] Configuration Statements on EX Series Switches	143

Table 18: Unsupported [edit protocols-rip] Configuration Statements on EX Series Switches	149
Table 19: Unsupported [edit protocols rsvp] Configuration Statements on EX Series Switches	155
Table 20: Unsupported [edit routing-options] Configuration Statements on EX Series Switches	182
Table 21: Unsupported [edit security] Configuration Statements on EX Series Switches	185
Table 22: Unsupported [edit services] Configuration Statements on EX Series Switches	188
Table 23: Unsupported [edit snmp] Configuration Statements on EX Series Switches	193
Table 24: Unsupported [edit system] Configuration Statements on EX Series Switches	208
Table 25: Unsupported [edit vlans] Configuration Statements on EX Series Switches	211

About the Documentation

- Documentation and Release Notes on page xiii
- Supported Platforms on page xiii
- Using the Examples in This Manual on page xiii
- Documentation Conventions on page xv
- Documentation Feedback on page xvii
- Requesting Technical Support on page xvii

Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

Supported Platforms

For the features described in this document, the following platforms are supported:

- EX Series

Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

```
system {
  scripts {
    commit {
      file ex-script.xml;
    }
  }
}
interfaces {
  fxp0 {
    disable;
    unit 0 {
      family inet {
        address 10.0.0.1/24;
      }
    }
  }
}
```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

```
[edit]
user@host# load merge /var/tmp/ex-script.conf
load complete
```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

```
commit {
  file ex-script-snippet.xml; }
```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:

```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see the *CLI User Guide*.

Documentation Conventions

Table 1 on page xv defines notice icons used in this guide.

Table 1: Notice Icons







Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 2 on page xv defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> show chassis alarms No alarms currently active
<i>Italic text like this</i>	<ul style="list-style-type: none">Introduces or emphasizes important new terms.Identifies guide names.Identifies RFC and Internet draft titles.	<ul style="list-style-type: none">A policy <i>term</i> is a named structure that defines match conditions and actions.<i>Junos OS CLI User Guide</i>RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name domain-name
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none">To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level.The console port is labeled CONSOLE.
< > (angle brackets)	Encloses optional keywords or variables.	stub <default-metric metric>;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	broadcast multicast (string1 string2 string3)
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	rsvp { # Required for dynamic MPLS only
[] (square brackets)	Encloses a variable for which you can substitute one or more values.	community name members [community-ids]
Indentation and braces ({ })	Identifies a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop address; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none">In the Logical Interfaces box, select All Interfaces.To cancel the configuration, click Cancel.

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select Protocols>Ospf .

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- Online feedback rating system—On any page at the Juniper Networks Technical Documentation site at <http://www.juniper.net/techpubs/index.html>, simply click the stars to rate the content, and use the pop-up form to provide us with information about your experience. Alternately, you can use the online feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>

- Download the latest versions of software and review release notes:
<http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:
<http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html>.

PART 1

Overview

- [Software Overview on page 3](#)
- [User Interfaces on page 7](#)

CHAPTER 1

Software Overview

- [Understanding Software Infrastructure and Processes on page 3](#)

Understanding Software Infrastructure and Processes

Each switch runs the Juniper Networks Junos operating system (Junos OS) for Juniper Networks EX Series Ethernet Switches on its general-purpose processors. Junos OS includes processes for Internet Protocol (IP) routing and for managing interfaces, networks, and the chassis.

The Junos OS runs on the Routing Engine. The Routing Engine kernel coordinates communication among the Junos OS processes and provides a link to the Packet Forwarding Engine.

With the J-Web interface and the command-line interface (CLI) to the Junos OS, you configure switching features and routing protocols and set the properties of network interfaces on your switch. After activating a software configuration, use either the J-Web or CLI user interface to monitor the switch, manage operations, and diagnose protocol and network connectivity problems.

- [Routing Engine and Packet Forwarding Engine on page 3](#)
- [Junos OS Processes on page 4](#)

Routing Engine and Packet Forwarding Engine

A switch has two primary software processing components:

- **Packet Forwarding Engine**—Processes packets; applies filters, routing policies, and other features; and forwards packets to the next hop along the route to their final destination.
- **Routing Engine**—Provides three main functions:
 - Creates the packet forwarding switch fabric for the switch, providing route lookup, filtering, and switching on incoming data packets, then directing outbound packets to the appropriate interface for transmission to the network
 - Maintains the routing tables used by the switch and controls the routing protocols that run on the switch.

- Provides control and monitoring functions for the switch, including controlling power and monitoring system status.

Junos OS Processes

The Junos OS running on the Routing Engine and Packet Forwarding Engine consists of multiple processes that are responsible for individual functions.

The separation of functions provides operational stability, because each process accesses its own protected memory space. In addition, because each process is a separate software package, you can selectively upgrade all or part of the Junos OS, for added flexibility.

[Table 3 on page 4](#) describes the primary Junos OS processes.

Table 3: Junos OS Processes

Process	Name	Description
Chassis process	chassisd	<p>Detects hardware on the system that is used to configure network interfaces.</p> <p>Monitors the physical status of hardware components and field-replaceable units (FRUs), detecting when environment sensors such as temperature sensors are triggered.</p> <p>Relays signals and interrupts—for example, when devices are taken offline, so that the system can close sessions and shut down gracefully.</p>
Ethernet switching process	eswd	<p>Handles Layer 2 switching functionality such as MAC address learning, Spanning Tree protocol and access port security. The process is also responsible for managing Ethernet switching interfaces, VLANs, and VLAN interfaces.</p> <p>Manages Ethernet switching interfaces, VLANs, and VLAN interfaces.</p>
Forwarding process	pfem	<p>Defines how routing protocols operate on the switch. The overall performance of the switch is largely determined by the effectiveness of the forwarding process.</p>
Interface process	dcd	<p>Configures and monitors network interfaces by defining physical characteristics such as link encapsulation, hold times, and keepalive timers.</p>
Management process	mgd	<p>Provides communication between the other processes and an interface to the configuration database.</p> <p>Populates the configuration database with configuration information and retrieves the information when queried by other processes to ensure that the system operates as configured.</p> <p>Interacts with the other processes when commands are issued through one of the user interfaces on the switch.</p> <p>If a process terminates or fails to start when called, the management process attempts to restart it a limited number of times to prevent thrashing and logs any failure information for further investigation.</p>
Routing protocol process	rpd	<p>Defines how routing protocols such as RIP, OSPF, and BGP operate on the device, including selecting routes and maintaining forwarding tables.</p>

- Related Documentation**
- For more information about processes, see *Junos OS Network Operations Guide*
 - For more information about basic system parameters, supported protocols, and software processes, see *Junos OS System Basics Configuration Guide*

CHAPTER 2

User Interfaces

- [CLI User Interface Overview on page 7](#)
- [EX Series Switches Hardware and CLI Terminology Mapping on page 9](#)

CLI User Interface Overview

You can use two interfaces to monitor, configure, troubleshoot, and manage a Juniper Networks EX Series Ethernet Switch: the J-Web graphical user interface and the Junos operating system (Junos OS) command-line interface (CLI). Both of these user interfaces are shipped with the switch. This topic describes the CLI. For information about the J-Web user interface, see *J-Web User Interface for EX Series Switches Overview*.

- [CLI Overview on page 7](#)
- [CLI Help and Command Completion on page 7](#)
- [CLI Command Modes on page 8](#)

CLI Overview

Junos operating system (Junos OS) CLI is a Juniper Networks specific command shell that runs on top of a UNIX-based operating system kernel. The CLI provides command help and command completion.

The CLI also provides a variety of UNIX utilities, such as Emacs-style keyboard sequences that allow you to move around on a command line and scroll through recently executed commands, regular expression matching to locate and replace values and identifiers in a configuration, filter command output, or log file entries, store and archive router files on a UNIX-based file system, and exit from the CLI environment and create a UNIX C shell or Bourne shell to navigate the file system, manage switch processes, and so on.

CLI Help and Command Completion

To access CLI Help, type a question mark (?) at any level of the hierarchy. The system displays a list of the available commands or statements and a short description of each.

To complete a command, statement, or option that you have partially typed, press the Tab key or the Spacebar. If the partially typed letters uniquely identify a command, the complete command name appears. Otherwise, a beep indicates that you have entered an ambiguous command and the possible completions are displayed. This completion

feature also applies to other strings, such as filenames, interface names, usernames, and configuration statements.

CLI Command Modes

The CLI has two modes, operational mode and configuration mode.

In operational mode, you enter commands to monitor and troubleshoot switch hardware and software and network connectivity. Operational mode is indicated by the `>` prompt—for example, `user@switch>`.

In configuration mode, you can define all properties of the Juniper Networks Junos operating system (Junos OS), including interfaces, VLANs, Virtual Chassis information, routing protocols, user access, and several system hardware properties.

To enter configuration mode, enter the **configure** command:

```
user@switch> configure
```

Configuration mode is indicated by the `#` prompt, and includes the current location in the configuration hierarchy—for example:

```
[edit interfaces ge-0/0/12]  
user@switch#
```

In configuration mode, you are actually viewing and changing the candidate configuration file. The candidate configuration allows you to make configuration changes without causing operational changes to the current operating configuration, called the active configuration. When you commit the changes you added to the candidate configuration, the system updates the active configuration. Candidate configurations enable you to alter your configuration without causing potential damage to your current network operations.

To activate your configuration changes, enter the **commit** command.

To return to operational mode, go to the top of the configuration hierarchy and then quit—for example:

```
[edit interfaces ge-0/0/12]  
user@switch# top  
[edit]  
user@switch# exit
```

You can also activate your configuration changes and exit configuration mode with a single command, **commit and-quit**. This command succeeds only if there are no mistakes or syntax errors in the configuration.



TIP: When you commit the candidate configuration, you can require an explicit confirmation for the commit to become permanent by using the **commit confirmed** command. This is useful for verifying that a configuration change works correctly and does not prevent management access to the switch. After you issue the **commit confirmed** command, you must issue another

commit command within the defined period of time (10 minutes by default) or the system reverts to the previous configuration.

.....

- Related Documentation**
- *EX Series Switch Software Features Overview*
 - *Junos OS CLI User Guide*

EX Series Switches Hardware and CLI Terminology Mapping

The terms used to describe hardware components in EX Series switches documentation are sometimes different from the terms used in the Junos OS command line interface (CLI).

See the following topics to map the hardware terms used in EX Series switches documentation to the corresponding terms used in the CLI:

- *EX2200 Switch Hardware and CLI Terminology Mapping*
- *EX3200 Switch Hardware and CLI Terminology Mapping*
- *EX4200 Switch Hardware and CLI Terminology Mapping*
- *EX4500 Switch Hardware and CLI Terminology Mapping*
- *EX6210 Switch Hardware and CLI Terminology Mapping*
- *EX8208 Switch Hardware and CLI Terminology Mapping*
- *EX8216 Switch Hardware and CLI Terminology Mapping*

- Related Documentation**
- *EX2200 Switches Hardware Overview*
 - *EX3200 Switches Hardware Overview*
 - *EX4200 Switches Hardware Overview*
 - *EX4500 Switches Hardware Overview*
 - *EX6210 Switch Hardware Overview*
 - *EX8208 Switch Hardware Overview*
 - *EX8216 Switch Hardware Overview*

PART 2

Configuration

- [Configuration Tasks on page 13](#)
- [Statement Hierarchies on page 17](#)

CHAPTER 3

Configuration Tasks

- Using the J-Web CLI Terminal on page 13

Using the J-Web CLI Terminal



NOTE: This topic applies only to the J-Web Application package.

The J-Web CLI terminal provides access to the Junos OS command-line interface (CLI) through the J-Web interface. The functionality and behavior of the CLI available through the CLI Terminal page is the same as that of the Junos OS CLI available through the switch console. The CLI terminal supports all CLI commands and other features such as CLI help and autocompletion. Using the CLI terminal page, you can fully configure, monitor, and manage the switch.

This topic covers:

- Configuring the Web Browser on page 13
- Setting Domain Name, Hostname, and Name Server on page 14
- Enabling SSH on your system on page 14
- Sample Configuration on an EX Series Switch on page 14

Configuring the Web Browser

Configure your Web browser as follows:

- Install Java Runtime Environment (JRE) version 1.4 or later on your system. JRE is a software package that must be installed on the client system to run Java applications. You can download the latest version of JRE from the Java software website <http://www.java.com/>. Installing JRE installs Java plug-ins, which once installed, load automatically and transparently to render Java applets.



NOTE: By default Mozilla Firefox has blocked JRE versions earlier than 1.6.0_31 and 1.7.0 through 1.7.0_2. However, Mozilla Firefox users can still click **Add-ons > Plugin** to enable Java.

- Set your browser to support and enable Java applets. To know more about checking the status of java applets in your browser see http://java.com/en/download/help/enable_browser.xml.

Setting Domain Name, Hostname, and Name Server

Configure the domain name and hostname of the switch on your system. Ensure that the DNS server setting is correct. DNS name resolution must happen properly. Ensure that there is connectivity between the client and the management device.

You can set the domain name, hostname, and the DNS name server either through the J-Web interface or the CLI:

- To set through the J-Web interface:

See *Configuring System Identity for an EX Series Switch (J-Web Procedure)* for more information.

- To set through the CLI:

set system domain-name *domain-name*

set system host-name *host-name*

set system name-server *dns-ip-address*

Enabling SSH on your system

SSH provides a secure method of logging in to the switch, and encrypting traffic so that it is not intercepted. If SSH is not enabled on the system, the CLI terminal page displays the error message:

To enable SSH on your system, do the following:

set system services ssh

Sample Configuration on an EX Series Switch

1. Type the **configure** command to enter the configuration mode:

user@switch> configure

2. Log in as host:

user@switch# set system host-name host

3. Configure the encrypted password; for example:

**user@switch# set system root-authentication encrypted-password
"\$1\$mr3D4eVf\$mc7y54e6hk4JulpwWPao6."**

4. Map the hostname to the IP address:

user@switch# set system static-host-mapping host inet 10.9.221.31

5. Configure the IP address for the DNS server:

user@switch# set system name-server 10.0.220.1

6. Enable the system services by using:

set system services:user@switch# set system services ssh

7. Select **Troubleshoot > CLI Terminal**. The password window is displayed.
8. Enter the password, and click **OK**. The CLI Terminal window appears on the J-Web page.



NOTE: If you exit from the CLI terminal, the connection is lost. Click **CLI Terminal** if you want to connect again.

**Related
Documentation**

- [CLI User Interface Overview on page 7](#)
- [Understanding J-Web Configuration Tools](#)

CHAPTER 4

Statement Hierarchies

- [\[edit access\] Configuration Statement Hierarchy on EX Series Switches on page 20](#)
- [\[edit accounting-options\] Configuration Statement Hierarchy on EX Series Switches on page 23](#)
- [\[edit chassis\] Configuration Statement Hierarchy on EX Series Switches on page 24](#)
- [\[edit class-of-service\] Configuration Statement Hierarchy on EX Series Switches on page 26](#)
- [\[edit ethernet-switching-options\] Configuration Statement Hierarchy on EX Series Switches on page 29](#)
- [\[edit event-options\] Configuration Statement Hierarchy on EX Series Switches on page 32](#)
- [\[edit firewall\] Configuration Statement Hierarchy on EX Series Switches on page 34](#)
- [\[edit forwarding-options\] Configuration Statement Hierarchy on EX Series Switches on page 36](#)
- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)
- [\[edit interfaces ae\] Configuration Statement Hierarchy on EX Series Switches on page 41](#)
- [\[edit interfaces ge\] Configuration Statement Hierarchy on EX Series Switches on page 44](#)
- [\[edit interfaces gr\] Configuration Statement Hierarchy on EX Series Switches on page 48](#)
- [\[edit interfaces interface-range\] Configuration Statement Hierarchy on EX Series Switches on page 51](#)
- [\[edit interfaces lo\] Configuration Statement Hierarchy on EX Series Switches on page 58](#)
- [\[edit interfaces me\] Configuration Statement Hierarchy on EX Series Switches on page 61](#)
- [\[edit interfaces vlan\] Configuration Statement Hierarchy on EX Series Switches on page 65](#)
- [\[edit interfaces vme\] Configuration Statement Hierarchy on EX Series Switches on page 68](#)
- [\[edit interfaces xe\] Configuration Statement Hierarchy on EX Series Switches on page 71](#)
- [\[edit poe\] Configuration Statement Hierarchy on EX Series Switches on page 75](#)

- [\[edit policy-options\] Configuration Statement Hierarchy on EX Series Switches on page 76](#)
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)
- [\[edit protocols bfd\] Configuration Statement Hierarchy on EX Series Switches on page 89](#)
- [\[edit protocols bgp\] Configuration Statement Hierarchy on EX Series Switches on page 90](#)
- [\[edit protocols connections\] Configuration Statement Hierarchy on EX Series Switches on page 100](#)
- [\[edit protocols dcbx\] Configuration Statement Hierarchy on EX Series Switches on page 101](#)
- [\[edit protocols dot1x\] Configuration Statement Hierarchy on EX Series Switches on page 102](#)
- [\[edit protocols igmp\] Configuration Statement Hierarchy on EX Series Switches on page 104](#)
- [\[edit protocols igmp-snooping\] Configuration Statement Hierarchy on EX Series Switches on page 105](#)
- [\[edit protocols isis\] Configuration Statement Hierarchy on EX Series Switches on page 107](#)
- [\[edit protocols lacp\] Configuration Statement Hierarchy on EX Series Switches on page 110](#)
- [\[edit protocols link-management\] Configuration Statement Hierarchy on EX Series Switches on page 110](#)
- [\[edit protocols lldp\] Configuration Statement Hierarchy on EX Series Switches on page 112](#)
- [\[edit protocols lldp-med\] Configuration Statement Hierarchy on EX Series Switches on page 113](#)
- [\[edit protocols mld\] Configuration Statement Hierarchy on EX Series Switches on page 114](#)
- [\[edit protocols mld-snooping\] Configuration Statement Hierarchy on EX Series Switches on page 116](#)
- [\[edit protocols mpls\] Configuration Statement Hierarchy on EX Series Switches on page 117](#)
- [\[edit protocols msdp\] Configuration Statement Hierarchy on EX Series Switches on page 128](#)
- [\[edit protocols mstp\] Configuration Statement Hierarchy on EX Series Switches on page 131](#)
- [\[edit protocols mvrp\] Configuration Statement Hierarchy on EX Series Switches on page 132](#)
- [\[edit protocols neighbor-discovery\] Configuration Statement Hierarchy on EX Series Switches on page 133](#)

- [\[edit protocols oam\] Configuration Statement Hierarchy on EX Series Switches on page 134](#)
- [\[edit protocols ospf\] Configuration Statement Hierarchy on EX Series Switches on page 137](#)
- [\[edit protocols ospf3\] Configuration Statement Hierarchy on EX Series Switches on page 140](#)
- [\[edit protocols pim\] Configuration Statement Hierarchy on EX Series Switches on page 144](#)
- [\[edit protocols rip\] Configuration Statement Hierarchy on EX Series Switches on page 147](#)
- [\[edit protocols ripng\] Configuration Statement Hierarchy on EX Series Switches on page 149](#)
- [\[edit protocols router-advertisement\] Configuration Statement Hierarchy on EX Series Switches on page 151](#)
- [\[edit protocols router-discovery\] Configuration Statement Hierarchy on EX Series Switches on page 152](#)
- [\[edit protocols rstp\] Configuration Statement Hierarchy on EX Series Switches on page 153](#)
- [\[edit protocols rsvp\] Configuration Statement Hierarchy on EX Series Switches on page 154](#)
- [\[edit protocols sflow\] Configuration Statement Hierarchy on EX Series Switches on page 158](#)
- [\[edit protocols stp\] Configuration Statement Hierarchy on EX Series Switches on page 160](#)
- [\[edit protocols uplink-failure-detection\] Configuration Statement Hierarchy on EX Series Switches on page 161](#)
- [\[edit protocols vrrp\] Configuration Statement Hierarchy on EX Series Switches on page 162](#)
- [\[edit protocols vstp\] Configuration Statement Hierarchy on EX Series Switches on page 163](#)
- [\[edit redundant-power-system\] Configuration Statement Hierarchy on EX Series Switches on page 164](#)
- [\[edit routing-options\] Configuration Statement Hierarchy on EX Series Switches on page 165](#)
- [\[edit security\] Configuration Statement Hierarchy on EX Series Switches on page 182](#)
- [\[edit services\] Configuration Statement Hierarchy on EX Series Switches on page 185](#)
- [\[edit snmp\] Configuration Statement Hierarchy on EX Series Switches on page 188](#)
- [\[edit system\] Configuration Statement Hierarchy on EX Series Switches on page 195](#)
- [\[edit virtual-chassis\] Configuration Statement Hierarchy on page 208](#)
- [\[edit vlans\] Configuration Statement Hierarchy on EX Series Switches on page 210](#)

[edit access] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit access]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit access\] Hierarchy Level on page 20](#)
- [Unsupported Statements in the \[edit access\] Hierarchy Level on page 22](#)

Supported Statements in the [edit access] Hierarchy Level

The following hierarchy shows the **[edit access]** configuration statements supported on EX Series switches:

```
access {
  address-assignment {
    abated-utilization percentage;
    abated-utilization-v6 percentage;
    high-utilization percentage;
    high-utilization-v6 percentage;
    pool pool-name {
      family inet {
        dhcp-attributes {
          boot-file filename;
          boot-server hostname;
          domain-name domain-name;
          grace-period seconds;
          maximum-lease-time (seconds | infinite);
          name-server {
            address;
          }
          netbios-node-type (b-node | h-node | m-node | p-node);
          option option-index (array (byte | flag | integer | ip-address | short | string |
            unsigned-integer | unsigned-short) [ type-values ] | byte 8-bit-value |
            flag (false | off | on | true) | integer signed-32-bit-value | ip-address address |
            short signed-16-bit-value | string text-string | unsigned-integer 32-bit-value |
            unsigned-short 16-bit-value);
          router {
            address;
          }
          server-identifier ipv4-address;
          tftp-server hostname;
          wins-server {
            address;
          }
        }
      }
    }
  }
}
```

```

    }
  }
  host hostname {
    hardware-address mac-address;
    ip-address ip-address;
  }
  network ip-prefix </prefix-length>;
  range name {
    high upper-limit;
    low lower-limit;
  }
}
link pool-name;
}
}
address-pool pool-name {
  address address-or-prefix;
  address-range <low lower-limit> <high upper-limit>;
}
profile profile-name {
  accounting (Access Profile) {
    accounting-stop-on-access-deny;
    accounting-stop-on-failure;
    coa-immediate-update;
    immediate-update;
    order (radius | none);
    statistics (time | volume-time);
  }
}
authentication-order (ldap | password | radius);
client client-name {
  chap-secret chap-secret;
  firewall-user {
    password password;
  }
  no-rfc2486;
  pap-password password;
}
radius {
  accounting-server server-address;
  attributes {
    exclude [exclude-options];
    ignore [ignore-options];
  }
  authentication-server server-address;
}
radius-options {
  revert-interval interval;
}
session-options {
  client-group [group-names];
  client-idle-timeout minutes;
  client-session-timeout minutes;
}
radius-options {
  revert-interval interval;
}

```

```

    }
    radius-server server-address {
        port port-number;
        retry attempts;
        routing-instance instance-name;
        secret password;
        source-address address;
        timeout minutes;
    }
}

```

Unsupported Statements in the [edit access] Hierarchy Level

All statements in the [edit access] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 4: Unsupported [edit access] Configuration Statements on EX Series Switches

Statement	Hierarchy Level
NOTE: Variables, such as <i>filename</i> , are not shown in the statements or hierarchies.	
aaa	[edit access terminate-code]
administrative-reset	[edit access terminate-code aaa shutdown]
authentication-denied	[edit access terminate-code aaa deny]
client-request	[edit access terminate-code aaa dhcp]
compliance	[edit access ppp-options]
deny	[edit access terminate-code aaa]
dhcp	[edit access terminate-code]
group-profile	[edit access]
ike	[edit access profile client]
initiate-dead-peer-detection	[edit access profile client ike]
lost-carrier	[edit access terminate-code dhcp]
nak	[edit access terminate-code dhcp]
nas-logout	[edit access terminate-code dhcp]
no-offers	[edit access terminate-code dhcp]
no-resources	[edit access terminate-code aaa deny]

Table 4: Unsupported [edit access] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy Level
ppp-options	[edit access]
preference	[edit access profile client ike reverse-route]
remote-reset	[edit access terminate-code aaa shutdown]
rfc	[edit access ppp-options compliance]
reverse-route	[edit access profile client ike]
server-request-timeout	[edit access terminate-code aaa deny]
shutdown	[edit access terminate-code aaa]
terminate-code	[edit access]

**Related
Documentation**

- *Example: Connecting a RADIUS Server for 802.1X to an EX Series Switch*
- *Configuring 802.1X RADIUS Accounting (CLI Procedure)*
- *Security Features for EX Series Switches Overview*

[edit accounting-options] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit accounting-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit accounting-options\] Hierarchy Level on page 23](#)
- [Unsupported Statements in the \[edit accounting-options\] Hierarchy Level on page 24](#)

Supported Statements in the [edit accounting-options] Hierarchy Level

The following hierarchy shows the **[edit accounting-options]** configuration statements supported on EX Series switches:

```
accounting-options {
  class-usage-profile profile-name {
```

```
destination-classes destination-class-name;  
file filename;  
interval minutes;  
source-classes source-class-name;  
}  
file {  
    archive-sites site-url {  
        password password;  
    }  
    files number;  
    size bytes;  
    start-time time;  
    transfer-interval minutes;  
}  
filter-profile profile-name {  
    counters counter-name;  
    file filename;  
    interval minutes;  
}  
interface-profile profile-name {  
    fields [interface-profile-fields];  
    file file-name;  
    interval minutes;  
}  
mib-profile profile-name {  
    file filename;  
    interval minutes;  
    object-names [mib-object-names];  
    operation [snmp-operations];  
}  
routing-engine-profile profile-name {  
    fields [field-names];  
    file filename;  
    interval minutes;  
}  
}
```

Unsupported Statements in the [edit accounting-options] Hierarchy Level

All statements in the [edit accounting-options] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- *Network Management Administration Guide for Routing Devices*
 - *SNMP MIBs and Traps Reference*

[edit chassis] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit chassis] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.

- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit chassis\] Hierarchy Level on page 25](#)

Supported Statements in the [edit chassis] Hierarchy Level

The following hierarchy shows the **[edit chassis]** configuration statements supported on EX Series switches:

```
chassis {
  aggregated-devices {
    ethernet {
      device-count number;
      lacp {
        link-protection non-revertive;
        system-priority system-priority-number
      }
    }
  }
  alarm {
    ethernet {
      link-down (ignore | red | yellow);
    }
    management-ethernet {
      link-down (ignore | red | yellow);
    }
  }
  container-devices {
    device-count device-count-number;
  }
  disk-partition {
    /config {
      level (full | high) {
        free-space (free-space-threshold-value | mb | percent);
      }
    }
  }
  /var {
    level (full | high) {
      free-space (free-space-threshold-value | mb | percent);
    }
  }
}
fpc slot-number {
  pic pic-number {
    no-multi-rate;
    q-pic-large-buffer (large-scale | small-scale);
  }
}
```

```

maximum-ecmp maximum-ecmp-routes;
lcd-menu {
    fpc slot-number {
        menu-item menu-name;
        disable;
    }
    pseudowire-service {
        device-count device-count-number;
    }
    psu {
        redundancy {
            n-plus-n;
        }
        redundancy {
            graceful-switchover;
        }
    }
    slow-pfe-alarm;
}

```

Related Documentation

- [Configuring Aggregated Ethernet Links \(CLI Procedure\)](#)
- [Configuring the LCD Panel on EX Series Switches \(CLI Procedure\)](#)
- [Configuring Graceful Routing Engine Switchover in a Virtual Chassis \(CLI Procedure\)](#)
- [Configuring Power Supply Redundancy \(CLI Procedure\)](#)
- [Configuring the Power Priority of Line Cards \(CLI Procedure\)](#)
- [Configuring Line-Card Upgrade Groups for Nonstop Software Upgrade \(CLI Procedure\)](#)

[\[edit class-of-service\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit class-of-service]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit class-of-service\] Hierarchy Level on page 26](#)
- [Unsupported Statements in the \[edit class-of-service\] Hierarchy Level on page 28](#)

Supported Statements in the [edit class-of-service] Hierarchy Level

The following hierarchy shows the **[edit class-of-service]** configuration statements supported on EX Series switches:

```

class-of-service {
    classifiers {

```

```

(dscp | dscp-ipv6 | ieee-802.1 | inet-precedence) classifier-name {
    forwarding-class class-name {
        loss-priority (high | low | medium-high | medium-low) {
            code-points [ aliases ] [ 6 bit-patterns ];
        }
    }
    import (classifier-name | default);
}
}
code-point-aliases {
    (dscp | dscp-ipv6 | ieee-802.1 | inet-precedence) {
        alias-name bits;
    }
}
drop-profiles {
    profile-name {
        interpolate {
            drop-probability [ values ];
            fill-level [ values ]
        }
    }
}
forwarding-classes {
    class class-name
    queue queue-number;
}
interfaces interface-name {
    scheduler-map map-name;
    shaping-rate rate;
    unit (logical-unit-number | * ) {
        classifiers {
            (dscp | dscp-ipv6 | ieee-802.1 | inet-precedence) (classifier-name | default);
        }
        forwarding-class class-name ;
    }
}
rewrite-rules {
    (dscp | dscp-ipv6 | ieee-802.1 | inet-precedence) (rewrite-rule-name | default);
}
}
rewrite-rules {
    (dscp | dscp-ipv6 | ieee-802.1 | inet-precedence ) rewrite-name {
        import (default | rewrite-name);
        forwarding-class class-name {
            loss-priority (high | low | medium-high | medium-low) code-point (alias | bits);
        }
    }
}
scheduler-maps {
    map-name {
        forwarding-class class-name {
            scheduler scheduler-name;
        }
    }
}
schedulers {

```

```

scheduler-name {
    buffer-size (exact | percent percentage | remainder);
    drop-profile-map {
        loss-priority (any | high | medium-high | medium-low);
        protocol any;
        {
            drop-profile profile-name
        }
    }
    excess-rate {
        percent percentage;
    }
    priority (low | strict-high);
    shaping-rate (rate | percent percentage);
    transmit-rate (EX Series Switches) (rate | percent percentage | remainder) ;
}
}
shared-buffer {
    percent;
}
traceoptions {
    file (file-name | files files | match match | no-world-readable | size size | world-readable);
    flag ( all | asynch | chassis-scheduler | cos-adjustment | dynamic | hardware-database
        | init | parse | performance-monitor | process | restart | route-socket | show | snmp |
        util);
    no-remote-trace;
}
tri-color;
}

```

Unsupported Statements in the [edit class-of-service] Hierarchy Level

All statements in the [edit class-of-service] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [Example: Configuring CoS on EX Series Switches](#)
- [Defining CoS Code-Point Aliases \(CLI Procedure\) or Defining CoS Code-Point Aliases \(J-Web Procedure\)](#)
- [Defining CoS Classifiers \(CLI Procedure\) or Defining CoS Classifiers \(J-Web Procedure\)](#)
- [Defining CoS Forwarding Classes \(CLI Procedure\) or Defining CoS Forwarding Classes \(J-Web Procedure\)](#)
- [Configuring CoS Tail Drop Profiles \(CLI Procedure\)](#)
- [Defining CoS Schedulers and Scheduler Maps \(CLI Procedure\) or Defining CoS Schedulers \(J-Web Procedure\)](#)
- [Defining CoS Rewrite Rules \(CLI Procedure\) or Defining CoS Rewrite Rules \(J-Web Procedure\)](#)

[edit ethernet-switching-options] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit ethernet-switching-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit ethernet-switching-options\] Hierarchy Level on page 29](#)
- [Unsupported Statements in the \[edit ethernet-switching-options\] Hierarchy Level on page 32](#)

Supported Statements in the [edit ethernet-switching-options] Hierarchy Level

The following hierarchy shows the **[edit ethernet-switching-options]** configuration statements supported on EX Series switches:

```
ethernet-switching-options {
  analyzer {
    name {
      input {
        egress {
          interface (all | interface-name);
        }
        ingress {
          interface (all | interface-name);
          vlan (vlan-id | vlan-name);
        }
      }
    }
    loss-priority priority;
    output {
      interface interface-name;
      vlan (vlan-id | vlan-name);
    }
    ratio number;
  }
}
authentication-whitelist {
  interface;
  vlan-assignment;
}
bpdu-block {
  disable-timeout timeout;
```

```
    interface (all | [interface-name]) {
        (disable | drop | shutdown);
    }
}
dot1q-tunneling {
    ether-type (0x8100 | 0x88a8 | 0x9100);
}
interfaces interface-name {
    no-mac-learning;
}
mac-lookup-length number-of-entries;
}
mac-notification {
    notification-interval seconds;
}
mac-table-aging-time seconds;
port-error-disable {
    disable-timeout timeout;
}
redundant-trunk-group {
    group name {
        description;
        interface interface-name {
            primary;
        }
        preempt-cutover-timer seconds;
    }
}
secure-access-port {
    dhcp-snooping-file {
        location local_pathname | remote_URL;
        timeout seconds;
        write-interval seconds;
    }
    interface (all | interface-name) {
        allowed-mac {
            mac-address-list;
        }
        (dhcp-trusted | no-dhcp-trusted );
        fcoe-trusted;
        mac-limit limit action action;
        no-allowed-mac-log;
        static-ip ip-address {
            mac mac-address;
            vlan vlan-name;
        }
    }
}
uac-policy;
}
vlan (all | vlan-name) {
    (arp-inspection | no-arp-inspection );
    dhcp-option82 {
        disable;
        circuit-id {
            prefix hostname;
            use-interface-description;
        }
    }
}
```



```

        use-vlan-id;
    }
    remote-id {
        prefix (hostname | mac | none);
        use-interface-description;
        use-string string;
    }
    vendor-id [string];
}
(examine-dhcp | no-examine-dhcp);
examine-fip {
    fc-map fc-map-value;
}
(ip-source-guard | no-ip-source-guard);
mac-move-limit limit action action;
}
}
static {
    vlan vlan-id {
        mac mac-address next-hop interface-name;
    }
}
storm-control {
    action-shutdown;
    interface (all | interface-name) {
        bandwidth bandwidth;
        multicast;
        no-broadcast;
        no-multicast;
        no-registered-multicast;
        no-unknown-unicast;
        no-unregistered-multicast;
    }
}
traceoptions {
    file filename <files number> <no-stamp> <replace> <size size> <world-readable |
        no-world-readable>;
    flag flag <disable>;
}
unknown-unicast-forwarding {
    vlan (all | vlan-name) {
        interface interface-name;
    }
}
}
voip {
    interface (all | [interface-name | access-ports]) {
        forwarding-class (assured-forwarding | best-effort | expedited-forwarding |
            network-control);
        vlan vlan-name;
    }
}
}
}

```

Unsupported Statements in the [edit ethernet-switching-options] Hierarchy Level

All statements in the **[edit ethernet-switching-options]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Setting Up Q-in-Q Tunneling on EX Series Switches*
- *Example: Configuring Redundant Trunk Links for Faster Recovery*
- *Configuring MAC Table Aging (CLI Procedure)*
- *Configuring MAC Notification (CLI Procedure)*
- *Configuring Q-in-Q Tunneling (CLI Procedure)*
- *Configuring Redundant Trunk Links for Faster Recovery (CLI Procedure)*
- *Configuring Nonstop Bridging on EX Series Switches (CLI Procedure)*

[edit event-options] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit event-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit event-options\] Hierarchy Level on page 32](#)
- [Unsupported Statements in the \[edit event-options\] Hierarchy Level on page 34](#)

Supported Statements in the [edit event-options] Hierarchy Level

The following hierarchy shows the **[edit event-options]** configuration statements supported on EX Series switches:

```
event-options {
  destinations {
    destination-name {
      archive-sites {
        url <password password>;
      }
      transfer-delay seconds;
    }
  }
  event-script {
    file filename {
```

```

checksum (md5 | sha-256 | sha1) hash;
refresh;
refresh-from url;
remote-execution {
    remote-hostname {
        passphrase user-password;
        username user-login;
    }
}
source url;
}
refresh;
refresh-from url;
traceoptions {
    file <filename> <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag;
    no-remote-trace;
}
}
generate-event event-name {
    time-interval seconds;
    time-of-day hh:mm:ss;
}
policy policy-name {
    attributes-match {
        event1.attribute-name equals event2.attribute-name;
        event.attribute-name matches regular-expression;
        event1.attribute-name starts-with event2.attribute-name;
    }
}
events [ events ];
then {
    event-script filename {
        arguments {
            argument-name argument-value;
        }
        destination destination-name {
            retry-count number retry-interval seconds;
            transfer-delay seconds;
        }
        output-filename filename;
        output-format (text | xml);
        user-name username;
    }
}
execute-commands {
    commands {
        "command";
    }
    destination destination-name {
        retry-count number retry-interval seconds;
        transfer-delay seconds;
    }
    output-filename filename;
    output-format (text | xml);
    user-name username;
}
}

```

```
ignore;
raise-trap;
upload filename (filename | committed) destination destination-name {
    retry-count number retry-interval seconds;
    transfer-delay seconds;
    user-name username;
}
}
within seconds {
    events [ events ];
    not events [ events ];
    trigger (after number | on number | until number);
}
}
traceoptions {
    file <filename> <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
    flag flag;
    no-remote-trace;
}
}
```

Unsupported Statements in the [edit event-options] Hierarchy Level

All statements in the **[edit event-options]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [Event Scripts Overview](#)

[edit firewall] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit firewall]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit firewall\] Hierarchy Level on page 34](#)
- [Unsupported Statements in the \[edit firewall\] Hierarchy Level on page 35](#)

Supported Statements in the [edit firewall] Hierarchy Level

The following hierarchy shows the **[edit firewall]** configuration statements supported on EX Series switches:

```

firewall {
  family family-name {
    filter filter-name {
      interface-specific;
      term term-name {
        from {
          match-conditions;
        }
        then {
          action;
          action-modifiers;
        }
      }
    }
  }
}
policer policer-name {
  filter-specific;
  if-exceeding {
    bandwidth-limit bps;
    burst-size-limit bytes;
  }
  then {
    policer-action;
  }
}
three-color-policer policer-name {
  action {
    loss-priority high then discard;
  }
  filter-specific;
  single-rate {
    (color-aware | color-blind);
    committed-burst-size bytes;
    committed-information-rate bps;
    excess-burst-size bytes;
  }
  two-rate {
    (color-aware | color-blind);
    committed-burst-size bytes;
    committed-information-rate bps;
    peak-information-rate bps;
    peak-burst-size bytes;
  }
}
}

```

Unsupported Statements in the [edit firewall] Hierarchy Level

All statements in the [edit firewall] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [Example: Configuring Firewall Filters for Port, VLAN, and Router Traffic on EX Series Switches](#)
- [Configuring Firewall Filters \(CLI Procedure\)](#)

- *Configuring Policers to Control Traffic Rates (CLI Procedure)*
- *Firewall Filter Configuration Statements Supported by Junos OS for EX Series Switches*
- *Firewall Filters for EX Series Switches Overview*

[\[edit forwarding-options\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit forwarding-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit forwarding-options\] Hierarchy Level on page 36](#)
- [Unsupported Statements in the \[edit forwarding-options\] Hierarchy Level on page 38](#)

Supported Statements in the [edit forwarding-options] Hierarchy Level

The following hierarchy shows the **[edit forwarding-options]** configuration statements supported on EX Series switches:

```
forwarding-options {
  dhcp-relay {
    group group-name {
      interface interface-name {
        overrides {
          always-write-giaddr;
          always-write-option-82;
          client-discover-match <option60-and-option82>;
          interface-client-limit number;
          layer2-unicast-replies;
          no-arp;
          trust-option-82;
        }
      }
    }
    exclude {
      overrides {
        ...
      }
    }
    trace;
    upto upto-interface-name;
  }
  overrides {
    ...
  }
}
```

```

    }
    relay-option {
        ...
    }
}
relay-option-82 {
    circuit-id {
        prefix prefix;
        use-interface-description (logical | device);
    }
}
server-group {
    server-group-name {
        server-ip-address;
    }
}
}
helpers{
    bootp {
        client-response-ttl number;
        description text-description;
        dhcp-option82 {
            circuit-id {
                prefix (Circuit ID for Option 82) hostname;
                use-interface-description;
                use-vlan-id;
            }
            disable;
            remote-id {
                prefix hostname | mac | none;
                use-interface-description;
                use-string string;
            }
            vendor-id <string>;
        }
    }
    interface (interface-name | interface-group) {
        broadcast;
        client-response-ttl number;
        description text-description;
        dhcp-option82 {
            circuit-id {
                prefix (Circuit ID for Option 82) hostname;
                use-interface-description;
                use-vlan-id;
            }
            disable;
            remote-id {
                prefix hostname | mac | none;
                use-interface-description;
                use-string string;
            }
            vendor-id <string>;
        }
        maximum-hop-count number;
        minimum-wait-time seconds;
        no-listen;
    }
}

```

```

        server address {
            routing-instance [ routing-instance-names ];
        }
    }
    maximum-hop-count number;
    minimum-wait-time seconds;
    no-listen;
    relay-agent-option;
    server address {
        routing-instance [ routing-instance-names ];
    }
    source-address-giaddr;
}

```

Unsupported Statements in the [edit forwarding-options] Hierarchy Level

All statements in the [edit forwarding-options] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 5: Unsupported [edit forwarding-options] Configuration Statements on EX Series Switches

Statement	Hierarchy Level
NOTE: Variables, such as <i>filename</i> , are not shown in the statements or hierarchies.	
accounting	[edit forwarding-options]
aggregate-export-interval	[edit forwarding-options accounting output]
broadcast	[edit forwarding-options helpers domain interface] [edit forwarding-options helpers port interface] [edit forwarding-options helpers tftp interface]
description	[edit forwarding-options helpers domain] [edit forwarding-options helpers domain interface] [edit forwarding-options helpers port interface] [edit forwarding-options helpers tftp] [edit forwarding-options helpers tftp interface]
domain	[edit forwarding-options helpers]
engine-id	[edit forwarding-options accounting output interface]
file	[edit forwarding-options helpers traceoption]
flag	[edit forwarding-options helpers traceoption]
flow-active-timeout	[edit forwarding-options accounting output]
flow-inactive-timeout	[edit forwarding-options accounting output]
hash-seed	[edit forwarding-options load-balance per-prefix]

Table 5: Unsupported [edit forwarding-options] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy Level
indexed-next-hop	[edit forwarding-options load-balance]
interface	[edit forwarding-options accounting output] [edit forwarding-options helpers domain] [edit forwarding-options helpers port] [edit forwarding-options helpers tftp]
level	[edit forwarding-options helpers traceoption]
load-balance	[edit forwarding-options]
no-listen	[edit forwarding-options helpers domain interface] [edit forwarding-options helpers port interface] [edit forwarding-options helpers tftp interface]
no-remote-trace	[edit forwarding-options helpers traceoption]
output	[edit forwarding-options accounting]
per-prefix	[edit forwarding-options load-balance]
port	[edit forwarding-options helpers]
routing-instance	[edit forwarding-options helpers domain interface server] [edit forwarding-options helpers domain server] [edit forwarding-options helpers port interface server] [edit forwarding-options helpers rtsdb-client-traceoptions] [edit forwarding-options helpers tftp interface server] [edit forwarding-options helpers tftp server]
rtsdb-client-traceoptions	[edit forwarding-options helpers]
server	[edit forwarding-options helpers domain] [edit forwarding-options helpers domain interface] [edit forwarding-options helpers port] [edit forwarding-options helpers port interface] [edit forwarding-options helpers tftp] [edit forwarding-options helpers tftp interface]
source-address	[edit forwarding-options accounting output interface]
tftp	[edit forwarding-options helpers]
traceoptions	[edit forwarding-options helpers]

Related Documentation • *Example: Setting Up DHCP Option 82 with a Switch as a Relay Agent Between Clients and a DHCP Server*

- *Setting Up DHCP Option 82 with the Switch as a Relay Agent Between Clients and DHCP Server (CLI Procedure)*
- *DHCP/BOOTP Relay for Switches Overview*
- For more information about the `[edit forwarding-options]` hierarchy and its options, see *Junos OS Policy Framework Configuration Guide*

`[edit interfaces]` Configuration Statement Hierarchy on EX Series Switches

Each of the following topics lists the statements at a subhierarchy of the `[edit interfaces]` hierarchy:

- `[edit interfaces ae]` Configuration Statement Hierarchy on EX Series Switches on page 41
- `[edit interfaces ge]` Configuration Statement Hierarchy on EX Series Switches on page 44
- `[edit interfaces gr]` Configuration Statement Hierarchy on EX Series Switches on page 48
- `[edit interfaces interface-range]` Configuration Statement Hierarchy on EX Series Switches on page 51
- `[edit interfaces lo]` Configuration Statement Hierarchy on EX Series Switches on page 58
- `[edit interfaces me]` Configuration Statement Hierarchy on EX Series Switches on page 61
- `[edit interfaces vlan]` Configuration Statement Hierarchy on EX Series Switches on page 65
- `[edit interfaces vme]` Configuration Statement Hierarchy on EX Series Switches on page 68
- `[edit interfaces xe]` Configuration Statement Hierarchy on EX Series Switches on page 71

Related Documentation

- *EX Series Switches Interfaces Overview*
- *Configuring Aggregated Ethernet Links (CLI Procedure)*
- *Configuring Gigabit Ethernet Interfaces (CLI Procedure)*
- *Configuring a Layer 3 Subinterface (CLI Procedure)*
- *Configuring Routed VLAN Interfaces (CLI Procedure)*
- *Configuring the Virtual Management Ethernet Interface for Global Management of an EX Series Virtual Chassis (CLI Procedure)*
- *Junos OS Interfaces Fundamentals Configuration Guide*
- *Junos OS Ethernet Interfaces Configuration Guide*

[edit interfaces ae] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit interfaces ae]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces ae\] Hierarchy Level on page 41](#)
- [Unsupported Statements in the \[edit interfaces ae\] Hierarchy Level on page 44](#)

Supported Statements in the [edit interfaces ae] Hierarchy Level

The following hierarchy shows the **[edit interfaces ae]** configuration statements supported on EX Series switches.

```

interfaces {
  ae-fpc/pic/port {
    accounting-profile name;
    aggregated-ether-options {
      ethernet-switch-profile {
        tag-protocol-id identifier;
      }
      (flow-control | no-flow-control);
      lacp {
        (active | passive);
        admin-key key;
        periodic interval;
        system-id mac-address;
      }
      (link-protection | no-link-protection);
      link-speed speed;
      (loopback | no-loopback);
      minimum-links number;
    }
    description text;
    disable;
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    mtu bytes;
    no-gratuitous-arp-request;
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;

```

```

arp-resp;
bandwidth rate;
description text;
disable;
family ccc;
family ethernet-switching {
    filter {
        input filter-name;
        output filter-name;
    }
    native-vlan-id vlan-id-number;
    port-mode (access | trunk);
    vlan {
        members [ members ];
    }
}
family inet {
    address ipv4-address {
        arp ip-address (mac | multicast-mac) mac-address <publish>;
        broadcast address;
        preferred;
        primary;
        vrrp-group group-number {
            (accept-data | no-accept-data);
            advertise-interval seconds;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            (preempt | no-preempt) {
                hold-time seconds;
            }
            priority number;
            track {
                interface interface-name {
                    bandwidth-threshold bandwidth;
                    priority-cost number;
                }
                priority-hold-time seconds;
                route ip-address/mask routing-instance instance-name priority-cost cost;
            }
            virtual-address [ addresses ];
            virtual-link-local-address address;
            vrrp-inherit-from {
                active-group group-number;
                active-interface interface-name;
            }
        }
    }
}
dhcp {
    client-identifier (ascii client-id | hexadecimal client-id);
    lease-time (seconds | infinte);
    retransmission-attempt number;
    retransmission-interval sections;
    server-address ip-address;
    update-server server;
    vendor-id id;
}

```

```

}
filter {
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
no-redirects;
primary;
rpf-check;
targeted-broadcast;
}
family inet6 {
    address address {
        eui-64;
        ndp ip-address (mac | multicast-mac) mac-address <publish>;
        preferred;
        primary;
        vrrp-inet6-group group-id {
            accept-data | no-accept-data;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            inet6-advertise-interval milliseconds;
            preempt | no-preempt {
                hold-time seconds;
            }
            priority number;
            track {
                interface interface-name {
                    bandwidth-threshold bandwidth priority-cost number;
                    priority-cost number;
                }
                priority-hold-time seconds;
                route ( address | routing-instance routing-instance-name );
            }
            virtual-inet6-address [addresses];
            virtual-link-local-address ipv6-address;
        }
        vrrp-inherit-from {
            active-group group-name;
            active-interface interface-name;
        }
    }
    (dad-disable | no-dad-disable);
    filter {
        input filter-name;
        output filter-name;
    }
    mtu bytes;
    no-neighbor-learn;
    policer {
        input policer-name;
        output policer-name;
    }
    rpf-check;
}

```

```

    }
    family iso {
        address interface-address;
        mtu bytes;
    }
    family mpls {
        mtu bytes;
    }
    proxy-arp (restricted | unrestricted);
    (traps | no-traps);
    vlan-id (VLAN Tagging and Layer 3 Subinterfaces) vlan-id-number;
}
vlan-tagging;
}
}

```

Unsupported Statements in the [edit interfaces ae] Hierarchy Level

All statements in the **[edit interfaces ae]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 6: Unsupported [edit interfaces ae] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>interface-range</i> , are not shown in the statements or hierarchies.	
family fibre-channel	[edit interfaces ae unit]
source-address-filter	[edit interfaces ae aggregated-ether-options]
source-address-filtering no-source-address-filtering	[edit interfaces ae aggregated-ether-options]

Related Documentation • [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[\[edit interfaces ge\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit interfaces ge]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces ge\] Hierarchy Level on page 45](#)
- [Unsupported Statements in the \[edit interfaces ge\] Hierarchy Level on page 48](#)

Supported Statements in the [edit interfaces ge] Hierarchy Level

The following hierarchy shows the **[edit interfaces ge]** configuration statements supported on EX Series switches.

```

interfaces {
  ge-fpc/pic/port {
    accounting-profile name;
    description text;
    disable;
    ether-options {
      802.3ad {
        aex;
        (backup | primary);
        lacp {
          force-up;
        }
      }
      (auto-negotiation | no-auto-negotiation);
      (flow-control | no-flow-control);
      ieee-802-3az-eee;
      link-mode mode;
      (loopback | no-loopback);
      speed (auto-negotiation | speed);
    }
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    mtu bytes;
    no-gratuitous-arp-request;
    optics-options {
      alarm alarm-type;
      warning alarm-type;
      wavelength nanometers;
    }
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      arp-resp;
      bandwidth rate;
      description text;
      disable;
      family ccc;
      family ethernet-switching {
        filter {
          input filter-name;
          output filter-name;
        }
      }
    }
  }
}

```

```
native-vlan-id vlan-id-number;  
port-mode (access | trunk);  
vlan {  
    members [ members];  
}  
}  
family inet {  
    address ipv4-address {  
        arp ip-address (mac | multicast-mac) mac-address <publish>;  
        broadcast address;  
        preferred;  
        primary;  
        vrrp-group group-number {  
            (accept-data | no-accept-data);  
            advertise-interval seconds;  
            authentication-key key;  
            authentication-type authentication;  
            fast-interval milliseconds;  
            (preempt | no-preempt) {  
                hold-time seconds;  
            }  
            priority number;  
            track {  
                interface interface-name {  
                    bandwidth-threshold bandwidth;  
                    priority-cost number;  
                }  
                priority-hold-time seconds;  
                route ip-address/mask routing-instance instance-name priority-cost cost;  
            }  
            virtual-address [ addresses ];  
            virtual-link-local-address address;  
            vrrp-inherit-from {  
                active-group group-number;  
                active-interface interface-name;  
            }  
        }  
    }  
}  
dhcp {  
    client-identifier (ascii client-id | hexadecimal client-id);  
    lease-time (seconds | infinte);  
    retransmission-attempt number;  
    retransmission-interval sections;  
    server-address ip-address;  
    update-server  
    vendor-id  
}  
filter {  
    input filter-name;  
    output filter-name;  
}  
mtu bytes;  
no-neighbor-learn;  
no-redirects;  
primary;  
rpf-check;
```



```

    targeted-broadcast;
}
family inet6 {
  address address {
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
    vrrp-inet6-group group-id {
      accept-data | no-accept-data;
      authentication-key key;
      authentication-type authentication;
      fast-interval milliseconds;
      inet6-advertise-interval milliseconds;
      preempt | no-preempt {
        hold-time seconds;
      }
      priority number;
      track {
        interface interface-name {
          bandwidth-threshold bandwidth priority-cost number;
          priority-cost number;
        }
        priority-hold-time seconds;
        route ( address | routing-instance routing-instance-name );
      }
      virtual-inet6-address [addresses];
      virtual-link-local-address ipv6-address;
      vrrp-inherit-from {
        active-group group-name;
        active-interface interface-name;
      }
    }
  }
}
(dad-disable | no-dad-disable);
filter {
  group group-name;
  input filter-name;
  output filter-name;
}
mtu bytes;
no-neighbor-learn;
policer {
  input policer-name;
  output policer-name;
}
rpf-check;
}
family iso {
  address interface-address;
  mtu bytes;
}
family mpls {
  mtu bytes;
}
proxy-arp (restricted | unrestricted);

```

```
        swap-by-poppush;  
        (traps | no-traps);  
        vlan-id vlan-id-number;  
    }  
    vlan-tagging;  
}  
}
```

Unsupported Statements in the [edit interfaces ge] Hierarchy Level

All statements in the **[edit interfaces ge]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation • [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[edit interfaces gr] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit interfaces gr]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces gr\] Hierarchy Level on page 48](#)
- [Unsupported Statements in the \[edit interfaces gr\] Hierarchy Level on page 51](#)

Supported Statements in the [edit interfaces gr] Hierarchy Level

The following hierarchy shows the **[edit interfaces gr]** configuration statements supported on EX Series switches.

```
interfaces {  
  gr-fpc/pic/port {  
    accounting-profile name;  
    description text;  
    disable;  
    hold-time up milliseconds down milliseconds;  
    traceoptions {  
      flag flag;  
    }  
    (traps | no-traps);  
    unit logical-unit-number {  
      accounting-profile name;  
      bandwidth rate;  
      description text;  
    }  
  }  
}
```

```

disable;
family ccc;
family inet {
  accounting {
    destination-class-usage;
    source-class-usage {
      direction;
    }
  }
  address ipv4-address {
    destination address;
    preferred;
    primary;
    vrrp-group group-number {
      (accept-data | no-accept-data);
      advertise-interval seconds;
      authentication-key key;
      authentication-type authentication;
      fast-interval milliseconds;
      (preempt | no-preempt) {
        hold-time seconds;
      }
      priority number;
      track {
        interface interface-name {
          bandwidth-threshold bandwidth;
          priority-cost number;
        }
        priority-hold-time seconds;
        route ip-address/mask routing-instance instance-name priority-cost cost;
      }
      virtual-address [ addresses ];
      virtual-link-local-address address;
      vrrp-inherit-from {
        active-group group-number;
        active-interface interface-name;
      }
    }
  }
}
dhcp {
  client-identifier (ascii client-id | hexadecimal client-id);
  lease-time (seconds | infinite);
  retransmission-attempt number;
  retransmission-interval seconds;
  server-address ip-address;
  update-server
  vendor-id
}
filter {
  input filter-name;
  output filter-name;
}
mtu bytes;
no-neighbor-learn;
no-redirects;
primary;

```

```

    rpf-check;
    targeted-broadcast;
}
family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            direction;
        }
    }
}
address address {
    destination address;
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
    vrrp-inet6-group group-id {
        accept-data | no-accept-data;
        authentication-key key;
        authentication-type authentication;
        fast-interval milliseconds;
        inet6-advertise-interval milliseconds;
        preempt | no-preempt {
            hold-time seconds;
        }
    }
    priority number;
    track {
        interface interface-name {
            bandwidth-threshold bandwidth priority-cost number;
            priority-cost number;
        }
        priority-hold-time seconds;
        route ( address | routing-instance routing-instance-name );
    }
    virtual-inet6-address [addresses];
    virtual-link-local-address ipv6-address;
    vrrp-inherit-from {
        active-group group-name;
        active-interface interface-name;
    }
}
}
(dad-disable | no-dad-disable);
filter {
    group group-name;
    input filter-name;
    output filter-name;
}
mtu bytes;
nd6-stale-time seconds;
no-neighbor-learn;
policer {
    input policer-name;
    output policer-name;
}
}
rpf-check;

```

```

    }
    family iso {
        address interface-address;
        mtu bytes;
    }
    family mpls {
        mtu bytes;
    }
    (traps | no-traps);
    tunnel {
        destination destination-address;
        flow-label label;
        source source-address;
        ttl number;
    }
}
}
}

```

Unsupported Statements in the [edit interfaces gr] Hierarchy Level

All statements in the [edit interfaces gr] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation • [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[edit interfaces interface-range] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit interfaces interface-range] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces interface-range\] Hierarchy Level on page 51](#)
- [Unsupported Statements in the \[edit interfaces interface-range\] Hierarchy Level on page 55](#)

Supported Statements in the [edit interfaces interface-range] Hierarchy Level

The following hierarchy shows the [edit interfaces interface-range] configuration statements supported on EX Series switches.

```

interfaces {
interface-range name {
    accounting-profile name;
    aggregated-ether-options {
        ethernet-switch-profile {
            tag-protocol-id identifier ;
        }
        (flow-control | no-flow-control);
        ieee-802-3az-eee;
        lacp {
            (active | passive);
            admin-key key;
            periodic interval;
            system-id mac-address;
        }
        (link-protection | no-link-protection);
        link-speed speed;
        (loopback | no-loopback);
        minimum-links number;
        rebalance-periodic;
        source-address-filter filter;
        source-filtering | no-source-filtering;
    }
    description text;
    disable;
    ether-options {
        802.3ad {
            aex;
            (backup | primary);
            lacp {
                force-up;
            }
        }
        (auto-negotiation | no-auto-negotiation);
        (flow-control | no-flow-control);
        link-mode mode;
        (loopback | no-loopback);
        speed (auto-negotiation | speed);
    }
    framing;
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    member interface-name;
    member-range starting-interface name to ending-interface name;
    mtu bytes;
    no-gratuitous-arp-request;
    optics-options {
        alarm alarm-type;
        warning alarm-type;
        wavelength nanometers;
    }
    services-options;
    speed speed;
    traceoptions {
        flag flag;
    }
}

```

```

(traps | no-traps);
unit logical-unit-number {
    accept-source-mac;
    accounting-profile name;
    arp-resp;
    bandwidth rate;
    description text;
    disable;
    family ccc;
    family ethernet-switching {
        filter {
            input filter-name;
            output filter-name;
        }
        native-vlan-id vlan-id-number;
        port-mode (access | trunk);
        vlan {
            members [ members ];
        }
    }
}
family inet {
    accounting {
        destination-class-usage;
        source-class-usage;
    }
    address ipv4-address {
        arp ip-address (mac | multicast-mac) mac-address <publish>;
        broadcast address;
        destination-class-usage;
        destination-profile;
        master-only;
        preferred;
        primary;
        vrrp-group group-number {
            (accept-data | no-accept-data);
            advertise-interval seconds;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            (preempt | no-preempt) {
                hold-time seconds;
            }
            priority number;
            track {
                interface interface-name {
                    bandwidth-threshold bandwidth;
                    priority-cost number;
                }
                priority-hold-time seconds;
                route ip-address/mask routing-instance instance-name priority-cost cost;
            }
        }
        virtual-address [ addresses ];
        virtual-link-local-address address;
        vrrp-inherit-from {
            active-group group-number;
            active-interface interface-name;
        }
    }
}

```

```

    }
  }
}
dhcp {
  client-identifier (ascii client-id | hexadecimal client-id);
  lease-time (seconds | infinte);
  retransmission-attempt number;
  retransmission-interval seconds;
  server-address ip-address;
  update-server
  vendor-id
}
filter {
  input filter-name;
  output filter-name;
}
ipsec-sa;
mtu bytes;
multicast-only;
negotiate-address;
next-hop-tunnel;
no-neighbor-learn;
no-redirects;
primary;
receive-option-packets;
rpf-check;
targeted-broadcast;
}
family inet6 {
  accounting {
    destination-class-usage;
    source-class-usage;
  }
  address address {
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
    vrrp-inet6-group group-id {
      accept-data | no-accept-data;
      authentication-key key;
      authentication-type authentication;
      fast-interval milliseconds;
      inet6-advertise-interval milliseconds;
      preempt | no-preempt {
        hold-time seconds;
      }
      priority number;
      track {
        interface interface-name {
          bandwidth-threshold bandwidth priority-cost number;
          priority-cost number;
        }
        priority-hold-time seconds;
        route ( address | routing-instance routing-instance-name );
      }
    }
  }
}

```



```

        virtual-inet6-address [addresses];
        virtual-link-local-address ipv6-address;
    }
    vrrp-inherit-from {
        active-group group-name;
        active-interface interface-name;
    }
}
(dad-disable | no-dad-disable);
filter {
    group group-name;
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
policer {
    input policer-name;
    output policer-name;
}
rpf-check;
}
family iso {
    address interface-address;
    mtu bytes;
}
family mpls {
    mtu bytes;
}
interface-shared-with;
interleave-fragments;
inverse-arp;
link-layer-overhead;
minimum-links;
mtu;
proxy-arp (restricted | unrestricted);
swap-by-poppush;
(traps | no-traps);
vlan-id vlan-id-number;
}
vlan-tagging;
}

```

Unsupported Statements in the [edit interfaces interface-range] Hierarchy Level

All statements in the [edit interfaces interface-range] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 7: Unsupported [edit interfaces interface-range] Configuration Statements for EX Series Switches

Statement	Hierarchy
-----------	-----------

NOTE: Variables, such as *interface-range*, are not shown in the statements or hierarchies.

Table 7: Unsupported [edit interfaces interface-range] Configuration Statements for EX Series Switches (*continued*)

Statement	Hierarchy
aggregated-sonet-options and all substatements	[edit interfaces interface-range]
allow-any-vci	[edit interfaces interface-range unit]
atm-l2circuit-mode	[edit interfaces interface-range unit]
atm-options and all substatements	[edit interfaces interface-range]
cell-bundle-size	[edit interfaces interface-range unit]
clear-don't-fragment-bit	[edit interfaces interface-range unit]
clocking	[edit interfaces interface-range]
compression-device	[edit interfaces interface-range unit]
container-options and all substatements	[edit interfaces interface-range]
copy-tos-to-outer-ip-header	[edit interfaces interface-range unit]
dce	[edit interfaces interface-range]
disable-mlppp-inter-ppp-pfc	[edit interfaces interface-range unit]
dlci	[edit interfaces interface-range unit]
drop-timeout	[edit interfaces interface-range unit]
ds0-options and all substatements	[edit interfaces interface-range]
e1-options and all substatements	[edit interfaces interface-range]
e3-options and all substatements	[edit interfaces interface-range]
epd-threshold	[edit interfaces interface-range unit]
family mlfr-end-to-end and all substatements	[edit interfaces interface-range unit]
family mlfr-uni-uni and all substatements	[edit interfaces interface-range unit]
family mlppp and all substatements	[edit interfaces interface-range unit]
fragment-threshold	[edit interfaces interface-range unit]
ggsn-options and all substatements	[edit interfaces interface-range]

Table 7: Unsupported [edit interfaces interface-range] Configuration Statements for EX Series Switches (*continued*)

Statement	Hierarchy
keepalives no-keepalives	[edit interfaces interface-range] [edit interfaces interface-range unit]
lmi	[edit interfaces interface-range]
lsq-failure-options	[edit interfaces interface-range]
mlfr-uni-nni-bundle-options and all substatements	[edit interfaces interface-range]
mrru	[edit interfaces interface-range unit]
multicast-dlci	[edit interfaces interface-range unit]
multilink-max-classes	[edit interfaces interface-range unit]
multipoint	[edit interfaces interface-range unit]
multipoint-destination	[edit interfaces interface-range unit family inet address]
multiservice-options and all substatements	[edit interfaces interface-range]
oam-liveness	[edit interfaces interface-range unit]
oam-period	[edit interfaces interface-range unit]
passive-monitor-mode	[edit interfaces interface-range unit]
peer-unit	[edit interfaces interface-range unit]
plp-to-clp	[edit interfaces interface-range unit]
point-to-point	[edit interfaces interface-range unit]
ppp-options and all substatements	[edit interfaces interface-range] [edit interfaces interface-range unit]
receive-lsp	[edit interfaces interface-range unit]
satop-options and all substatements	[edit interfaces interface-range]
serial-options and all substatements	[edit interfaces interface-range]
service-domain	[edit interfaces interface-range unit]
shaping	[edit interfaces interface-range unit]

Table 7: Unsupported [edit interfaces interface-range] Configuration Statements for EX Series Switches (*continued*)

Statement	Hierarchy
short-sequence	[edit interfaces interface-range unit]
shdsl-options and all substatements	[edit interfaces interface-range]
t1-options and all substatements	[edit interfaces interface-range]
t3-options and all substatements	[edit interfaces interface-range]
transmit-lsp	[edit interfaces interface-range unit]
transmit-weight	[edit interfaces interface-range unit]
trunk-id	[edit interfaces interface-range unit]
tunnel	[edit interfaces interface-range unit]
vci	[edit interfaces interface-range unit]
vci-range	[edit interfaces interface-range unit]
vpi	[edit interfaces interface-range unit]

Related Documentation • [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[\[edit interfaces lo\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit interfaces lo]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces lo\] Hierarchy Level on page 59](#)
- [Unsupported Statements in the \[edit interfaces lo\] Hierarchy Level on page 61](#)

Supported Statements in the [edit interfaces lo] Hierarchy Level

The following hierarchy shows the [edit interfaces lo] configuration statements supported on EX Series switches.

```

interfaces {
  lo0 {
    accounting-profile name;
    description text;
    disable;
    hold-time down milliseconds up milliseconds ;
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      arp-resp;
      bandwidth rate;
      description text;
      disable;
      family ccc;
      family inet {
        address ipv4-address {
          preferred;
          primary;
          vrrp-group group-number {
            (accept-data | no-accept-data);
            advertise-interval seconds;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            (preempt | no-preempt) {
              hold-time seconds;
            }
          }
          priority number;
          track {
            interface interface-name {
              bandwidth-threshold bandwidth;
              priority-cost number;
            }
            priority-hold-time seconds;
            route ip-address/mask routing-instance instance-name priority-cost cost;
          }
          virtual-address [ addresses ];
          virtual-link-local-address address;
          vrrp-inherit-from {
            active-group group-number;
            active-interface interface-name;
          }
        }
      }
    }
  }
  dhcp {
    client-identifier (ascii client-id | hexadecimal client-id);
    lease-time (seconds | infinte);
  }
}

```

```

        retransmission-attempt number;
        retransmission-interval sections;
        server-address ip-address;
        update-server
        vendor-id
    }
    filter {
        input filter-name;
        output filter-name;
    }
    no-neighbor-learn;
    no-redirects;
    primary;
}
family inet6 {
    address address {
        preferred;
        primary;
        vrrp-inet6-group group-id {
            accept-data | no-accept-data;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            inet6-advertise-interval milliseconds;
            preempt | no-preempt {
                hold-time seconds;
            }
        }
        priority number;
        track {
            interface interface-name {
                bandwidth-threshold bandwidth priority-cost number;
                priority-cost number;
            }
            priority-hold-time seconds;
            route ( address | routing-instance routing-instance-name );
        }
        virtual-inet6-address [addresses];
        virtual-link-local-address ipv6-address;
        vrrp-inherit-from {
            active-group group-name;
            active-interface interface-name;
        }
    }
}
(dad-disable | no-dad-disable);
filter {
    group group-name;
    input filter-name;
    output filter-name;
}
no-neighbor-learn;
policer {
    input policer-name;
    output policer-name;
}
}
family iso {

```

```
        address interface-address;
    }
    family mpls;
    (traps | no-traps);
}
}
```

Unsupported Statements in the [edit interfaces lo] Hierarchy Level

All statements in the [edit interfaces lo] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 8: Unsupported [edit interfaces lo] Configuration Statements for EX Series Switches

Statement	Hierarchy
layer2-policer	[edit interfaces lo unit]
any	[edit interfaces lo unit family]
tcc	[edit interfaces lo unit family]
policer	[edit interfaces lo unit family inet]
unnumbered-address	[edit interfaces lo unit family inet]

- Related Documentation
- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)
 - [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches](#)

[edit interfaces me] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit interfaces me] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces me\] Hierarchy Level on page 62](#)
- [Unsupported Statements in the \[edit interfaces me\] Hierarchy Level on page 64](#)

Supported Statements in the [edit interfaces me] Hierarchy Level

The following hierarchy shows the [edit interfaces me] configuration statements supported on EX Series switches.

```
interfaces {
  me0 {
    accounting-profile name;
    description text;
    disable;
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    no-gratuitous-arp-request;
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      arp-resp;
      bandwidth rate;
      description text;
      disable;
      family ethernet-switching {
        filter {
          input filter-name;
          output filter-name;
        }
        native-vlan-id vlan-id-number;
        port-mode (access | trunk);
        vlan {
          members [ members ];
        }
      }
    }
    family inet {
      accounting {
        destination-class-usage;
        source-class-usage {
          input;
          output;
        }
      }
    }
    address ipv4-address {
      arp ip-address (mac | multicast-mac) mac-address <publish>;
      broadcast address;
      master-only;
      preferred;
      primary;
    }
    dhcp {
      client-identifier (ascii client-id | hexadecimal client-id);
      lease-time (seconds | infinte);
      retransmission-attempt number;
      retransmission-interval sections;
      server-address ip-address;
    }
  }
}
```



```

        update-server
        vendor-id
    }
    filter {
        input filter-name;
        output filter-name;
    }
    mtu bytes;
    no-neighbor-learn;
    primary;
    rpf-check;
}
family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
}
address address {
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
}
(dad-disable | no-dad-disable);
filter {
    group group-name;
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
policer {
    input policer-name;
    output policer-name;
}
rpf-check;
}
family iso {
    address interface-address;
    mtu bytes;
}
family mpls {
    mtu bytes;
}
swap-by-poppush;
(traps | no-traps);
vlan-id vlan-id-number;
}
vlan-tagging;
}
}

```

Unsupported Statements in the [edit interfaces me] Hierarchy Level

All statements in the **[edit interfaces me]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 9: Unsupported [edit interfaces me] Configuration Statements for EX Series Switches

Statement	Hierarchy
encapsulation	[edit interfaces me]
link-mode	[edit interfaces me]
encapsulation	[edit interfaces me unit]
layer2-policer	[edit interfaces me unit]
native-inner-vlan-id	[edit interfaces me unit]
vlan-id-list	[edit interfaces me unit]
vlan-id-range	[edit interfaces me unit]
ccc	[edit interfaces me unit family]
tcc	[edit interfaces me unit family]
vpls	[edit interfaces me unit family]
no-redirects	[edit interfaces me unit family inet]
policer	[edit interfaces me unit family inet]
sampling	[edit interfaces me unit family inet]
service	[edit interfaces me unit family inet]
unnumbered-address	[edit interfaces me unit family inet]
vrrp-group	[edit interfaces me unit family inet address]
service	[edit interfaces me unit family inet6]
vrrp-inet6-group	[edit interfaces me unit family inet6 address]

- Related Documentation**
- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)
 - [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches](#)

[edit interfaces vlan] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit interfaces vlan]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces vlan\] Hierarchy Level on page 65](#)
- [Unsupported Statements in the \[edit interfaces vlan\] Hierarchy Level on page 68](#)

Supported Statements in the [edit interfaces vlan] Hierarchy Level

The following hierarchy shows the **[edit interfaces vlan]** configuration statements supported on EX Series switches.

```

interfaces {
  vlan {
    accounting-profile name;
    description text;
    disable;
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    mtu bytes;
    no-gratuitous-arp-request;
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      arp-resp;
      bandwidth rate;
      description text;
      disable;
      family inet {
        accounting {
          destination-class-usage;
          source-class-usage {
            input;
            output;
          }
        }
      }
      address ipv4-address {
        arp ip-address (mac | multicast-mac) mac-address <publish>;
        broadcast address;
      }
    }
  }
}

```

```

master-only;
preferred;
primary;
vrrp-group group-number {
    (accept-data | no-accept-data);
    advertise-interval seconds;
    authentication-key key;
    authentication-type authentication;
    fast-interval milliseconds;
    (preempt | no-preempt) {
        hold-time seconds;
    }
    priority number;
    track {
        interface interface-name {
            bandwidth-threshold bandwidth;
            priority-cost number;
        }
        priority-hold-time seconds;
        route ip-address/mask routing-instance instance-name priority-cost cost;
    }
    virtual-address [ addresses ];
    virtual-link-local-address address;
    vrrp-inherit-from {
        active-group group-number;
        active-interface interface-name;
    }
}
}
dhcp {
    client-identifier (ascii client-id | hexadecimal client-id);
    lease-time (seconds | infinte);
    retransmission-attempt number;
    retransmission-interval sections;
    server-address ip-address;
    update-server
    vendor-id
}
filter {
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
primary;
rpf-check;
}
family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
}
address address {

```

```

eui-64;
ndp ip-address (mac | multicast-mac) mac-address <publish>;
preferred;
primary;
vrrp-inet6-group group-id {
    accept-data | no-accept-data;
    authentication-key key;
    authentication-type authentication;
    fast-interval milliseconds;
    inet6-advertise-interval milliseconds;
    preempt | no-preempt {
        hold-time seconds;
    }
    priority number;
    track {
        interface interface-name {
            bandwidth-threshold bandwidth priority-cost number;
            priority-cost number;
        }
        priority-hold-time seconds;
        route ( address | routing-instance routing-instance-name );
    }
    virtual-inet6-address [addresses];
    virtual-link-local-address ipv6-address;
    vrrp-inherit-from {
        active-group group-name;
        active-interface interface-name;
    }
}
}
(dad-disable | no-dad-disable);
filter {
    group group-name;
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
policer {
    input policer-name;
    output policer-name;
}
rpf-check;
}
family iso {
    address interface-address;
    mtu bytes;
}
family mpls {
    mtu bytes;
}
}
proxy-arp (restricted | unrestricted);
(traps | no-traps);
}
}
}

```

Unsupported Statements in the [edit interfaces vlan] Hierarchy Level

All statements in the **[edit interfaces vlan]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[edit interfaces vme] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit interfaces vme]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces vme\] Hierarchy Level on page 68](#)
- [Unsupported Statements in the \[edit interfaces vme\] Hierarchy Level on page 71](#)

Supported Statements in the [edit interfaces vme] Hierarchy Level

The following hierarchy shows the **[edit interfaces vme]** configuration statements supported on EX Series switches.

```
interfaces {
  vme {
    accounting-profile name;
    description text;
    disable;
    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    mtu bytes;
    no-gratuitous-arp-request;
    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      arp-resp;
      bandwidth rate;
      description text;
      disable;
      family inet {
        accounting {
```

```

destination-class-usage;
source-class-usage {
    input;
    output;
}
}
address ipv4-address {
    arp ip-address (mac | multicast-mac) mac-address <publish>;
    broadcast address;
    master-only;
    preferred;
    primary;
    vrrp-group group-number {
        (accept-data | no-accept-data);
        advertise-interval seconds;
        authentication-key key;
        authentication-type authentication;
        fast-interval milliseconds;
        (preempt | no-preempt) {
            hold-time seconds;
        }
        priority number;
        track {
            interface interface-name {
                bandwidth-threshold bandwidth;
                priority-cost number;
            }
            priority-hold-time seconds;
            route ip-address/mask routing-instance instance-name priority-cost cost;
        }
        virtual-address [ addresses ];
        virtual-link-local-address address;
        vrrp-inherit-from {
            active-group group-number;
            active-interface interface-name;
        }
    }
}
dhcp {
    client-identifier (ascii client-id | hexadecimal client-id);
    lease-time (seconds | infinte);
    retransmission-attempt number;
    retransmission-interval sections;
    server-address ip-address;
    update-server
    vendor-id
}
filter {
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
primary;
rpf-check;
}

```

```

family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
    address address {
        eui-64;
        ndp ip-address (mac | multicast-mac) mac-address <publish>;
        preferred;
        primary;
        vrrp-inet6-group group-id {
            accept-data | no-accept-data;
            authentication-key key;
            authentication-type authentication;
            fast-interval milliseconds;
            inet6-advertise-interval milliseconds;
            preempt | no-preempt {
                hold-time seconds;
            }
            priority number;
            track {
                interface interface-name {
                    bandwidth-threshold bandwidth priority-cost number;
                    priority-cost number;
                }
                priority-hold-time seconds;
                route ( address | routing-instance routing-instance-name );
            }
            virtual-inet6-address [addresses];
            virtual-link-local-address ipv6-address;
            vrrp-inherit-from {
                active-group group-name;
                active-interface interface-name;
            }
        }
    }
    (dad-disable | no-dad-disable);
    filter {
        group group-name;
        input filter-name;
        output filter-name;
    }
    mtu bytes;
    no-neighbor-learn;
    policer {
        input policer-name;
        output policer-name;
    }
    rpf-check;
}
family iso {
    address interface-address;
    mtu bytes;

```



```

    }
    family mpls {
        mtu bytes;
    }
    (traps | no-traps);
    vlan-id vlan-id-number;
}
vlan-tagging;
}
}

```

Unsupported Statements in the [edit interfaces vme] Hierarchy Level

All statements in the **[edit interfaces vme]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)
- [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches](#)

[edit interfaces xe] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit interfaces xe]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit interfaces xe\] Hierarchy Level on page 71](#)
- [Unsupported Statements in the \[edit interfaces xe\] Hierarchy Level on page 75](#)

Supported Statements in the [edit interfaces xe] Hierarchy Level

The following hierarchy shows the **[edit interfaces xe]** configuration statements supported on EX Series switches.

```

interfaces {
  xe-fpc/pic/port {
    accounting-profile name;
    clocking (external | internal);
    description text;
    disable;
    ether-options {
      802.3ad {
        aex;

```

```

        (backup | primary);
        lacp {
            force-up;
        }
    }
    (flow-control | no-flow-control);
    (loopback | no-loopback);
}
framing (lan-phy | wan-phy);
(gratuitous-arp-reply | no-gratuitous-arp-reply);
hold-time up milliseconds down milliseconds;
mtu bytes;
no-gratuitous-arp-request;
optics-options {
    alarm alarm-type;
    warning alarm-type;
    wavelength nanometers;
}
traceoptions {
    flag flag;
}
(traps | no-traps);
unit logical-unit-number {
    accounting-profile name;
    bandwidth rate;
    description text;
    disable;
    family ccc;
    family ethernet-switching {
        filter {
            input filter-name;
            output filter-name;
        }
        native-vlan-id vlan-id-number;
        port-mode (access | trunk);
        vlan {
            members [ members ];
        }
    }
}
family inet {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
}
address ipv4-address {
    arp ip-address (mac | multicast-mac) mac-address <publish>;
    broadcast address;
    preferred;
    primary;
    vrrp-group group-number {
        (accept-data | no-accept-data);
        advertise-interval seconds;
        authentication-key key;
    }
}

```

```

    authentication-type authentication;
    fast-interval milliseconds;
    (preempt | no-preempt) {
        hold-time seconds;
    }
    priority number;
    track {
        interface interface-name {
            bandwidth-threshold bandwidth;
            priority-cost number;
        }
        priority-hold-time seconds;
        route ip-address/mask routing-instance instance-name priority-cost cost;
    }
    virtual-address [ addresses ];
    virtual-link-local-address address;
    vrrp-inherit-from {
        active-group group-number;
        active-interface interface-name;
    }
}
}
dhcp {
    client-identifier (ascii client-id | hexadecimal client-id);
    lease-time (seconds | infinite);
    retransmission-attempt number;
    retransmission-interval seconds;
    server-address ip-address;
    update-server
    vendor-id
}
filter {
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
no-redirects;
primary;
rpf-check;
targeted-broadcast;
}
family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
}
address address {
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
    vrrp-inet6-group group-id {

```

```

    accept-data | no-accept-data;
    authentication-key key;
    authentication-type authentication;
    fast-interval milliseconds;
    inet6-advertise-interval milliseconds;
    preempt | no-preempt {
        hold-time seconds;
    }
    priority number;
    track {
        interface interface-name {
            bandwidth-threshold bandwidth priority-cost number;
            priority-cost number;
        }
        priority-hold-time seconds;
        route ( address | routing-instance routing-instance-name );
    }
    virtual-inet6-address [addresses];
    virtual-link-local-address ipv6-address;
    vrrp-inherit-from {
        active-group group-name;
        active-interface interface-name;
    }
    }
    }
    (dad-disable | no-dad-disable);
    filter {
        group group-name;
        input filter-name;
        output filter-name;
    }
    mtu bytes;
    no-neighbor-learn;
    policer {
        input policer-name;
        output policer-name;
    }
    rpf-check;
    }
    family iso {
        address interface-address;
        mtu bytes;
    }
    family mpls {
        mtu bytes;
    }
    proxy-arp (restricted | unrestricted);
    swap-by-poppush;
    (traps | no-traps);
    vlan-id (VLAN Tagging and Layer 3 Subinterfaces) vlan-id-number;
    }
    vlan-tagging;
    }
}

```

Unsupported Statements in the [edit interfaces xe] Hierarchy Level

All statements in the **[edit interfaces xe]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation • [\[edit interfaces\] Configuration Statement Hierarchy on EX Series Switches on page 40](#)

[edit poe] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit poe]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit poe\] Hierarchy Level on page 75](#)
- [Unsupported Statements in the \[edit poe\] Hierarchy Level on page 76](#)

Supported Statements in the [edit poe] Hierarchy Level

The following hierarchy shows the **[edit poe]** configuration statements supported on EX Series switches except for EX6200 and EX8200 switches:

```
poe {
  guard-band watts;
  interface (all | interface-name) {
    disable;
    maximum-power watts;
    priority (high | low);
    telemetries {
      disable;
      duration hours;
      interval minutes;
    }
  }
  lldp-priority;
  management (class | static);
  notification-control {
    fpc slot-number {
      disable;
    }
  }
}
```

The following hierarchy shows the **[edit poe]** configuration statements supported on EX Series switches for EX6200 and EX8200 switches:

```
poe {
  fpc (all | slot-number) {
    guard-band watts;
    lldp-priority;
    management (class | static);
    maximum-power watts;
  }
  interface (all | interface-name) {
    af-mode;
    disable;
    maximum-power watts;
    priority (high | low);
    telemetries {
      disable;
      duration hours;
      interval minutes;
    }
  }
}
notification-control {
  fpc slot-number {
    disable;
  }
}
```

Unsupported Statements in the **[edit poe]** Hierarchy Level

All statements in the **[edit poe]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Configuring PoE Interfaces with Different Priorities on an EX Series Switch*
- *Example: Configuring PoE on an EX6200 or EX8200 Switch*
- *Configuring PoE (CLI Procedure)*
- *Understanding PoE on EX Series Switches*

[edit policy-options] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit policy-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).
- [Supported Statements in the \[edit policy-options\] Hierarchy Level on page 77](#)
- [Unsupported Statements in the \[edit policy-options\] Hierarchy Level on page 87](#)

Supported Statements in the [edit policy-options] Hierarchy Level

The following hierarchy shows the **[edit policy-options]** configuration statements supported on EX Series switches:

```

policy-options {
  as-path name regular-expression {
    dynamic-db;
  }
  as-path-group group-name {
    as-path name regular-expression;
    dynamic-db;
  }
  community name {
    dynamic-db;
    invert-match;
    members [ community-ids ];
  }
  condition condition-name {
    dynamic-db;
    if-route-exists address table table-name;
  }
  damping name {
    disable;
    half-life minutes;
    max-suppress minutes;
    reuse number;
    suppress number;
  }
  policy-statement policy-name {
    dynamic-db;
    from {
      aggregate-contributor;
      area area-id;
      as-path [ regular-expression-names ];
      as-path-group [ as-path-group-names ];
      color preference;
      color2 preference;
      community [ community-names ];
      condition [ conditions ];
      external {
        type (1 | 2);
      }
      family family-name;
      instance instance-name;
      interface [ interface-names ];
      level isis-level;
      local-preference value;
      metric metric-value;
    }
  }
}

```

```

metric2 metric-value;
metric3 metric-value;
metric4 metric-value;
multicast-scope (scope-value | global | link-local | node-local | organization-local |
  site-local) (orhigher | orlower);
neighbor [ ip-addresses ];
next-hop [ ip-addresses ];
origin (egp | igp | incomplete);
policy [ policy-names ];
preference preference;
preference2 preference;
prefix-list prefix-list-name;
prefix-list-filter prefix-list-name (exact | longer | orlonger) {
  (accept | reject);
  as-path-expand (as-number | last-as) <count number>;
  as-path-prepend as-number;
  class class-name;
  color (preference | add number | subtract number);
  color2 (preference | add number | subtract number);
  community (add | delete | set | + | - | =) community-name;
  cos-next-hop-map map-name;
  damping list-name;
  default-action (accept | reject);
  destination-class class-name;
  dynamic-db;
  external {
    type (1 | 2);
  }
  forwarding-class class-name;
  install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
    <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
      static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ]) >;
  label-allocation (per-nexthop | per-table);
  load-balance per-packet;
  local-preference (preference | add number | subtract number);
  map-to-interface (interface-name | self);
  metric (metric-value | add number | igp <metric-offset> |
    minimum-igp <metric-offset> | subtract number | ... the following complex
    expression ...);
  expression {
    metric (multiplier number | offset number | multiplier number offset number);
    metric2 (multiplier number | offset number | multiplier number offset number);
  }
  metric2 (metric-value | add number | subtract number);
  metric3 (metric-value | add number | subtract number);
  metric4 (metric-value | add number | subtract number);
  next (policy | term);
  next-hop (ip-address | discard | next-table routing-table-name | peer-address |
    reject | self);
  origin (egp | igp | incomplete);
  preference (preference | add number | subtract number);
  preference2 (preference | add number | subtract number);
  priority (high | low | medium);
  source-class class-name;
  ssm-source source;

```



```

tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
}
protocol [ protocol-names ];
rib routing-table-name;
route-filter ip-prefix</prefix-length> (exact | longer | orlonger |
through ip-prefix</prefix-length> | upto /prefix-length) {
(accept | reject);
as-path-expand (as-number | last-as) <count number>;
as-path-prepend as-number;
class class-name;
color (preference | add number | subtract number);
color2 (preference | add number | subtract number);
community (add | delete | set | + | - | =) community-name;
cos-next-hop-map map-name;
damping list-name;
default-action (accept | reject);
destination-class class-name;
dynamic-db;
external {
type (1 | 2);
}
forwarding-class class-name;
install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
<except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
label-allocation (per-nexthop | per-table);
load-balance per-packet;
local-preference (preference | add number | subtract number);
map-to-interface (interface-name | self);
metric (metric-value | add number | igp <metric-offset> |
minimum-igp <metric-offset> | subtract number | ... the following complex
expression ...);
expression {
metric (multiplier number | offset number | multiplier number offset number);
metric2 (multiplier number | offset number | multiplier number offset number);
}
metric2 (metric-value | add number | subtract number);
metric3 (metric-value | add number | subtract number);
metric4 (metric-value | add number | subtract number);
next (policy | term);
next-hop (ip-address | discard | next-table routing-table-name | peer-address |
reject | self);
origin (egp | igp | incomplete);
preference (preference | add number | subtract number);
preference2 (preference | add number | subtract number);
priority (high | low | medium);
source-class class-name;
ssm-source source;
tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
}
route-type (external | internal);

```

```

source-address-filter ip-prefix</prefix-length> (exact | longer | orlonger |
  through ip-prefix</prefix-length> | upto /prefix-length) {
  route-filter ip-prefix</prefix-length> (exact | longer | orlonger |
    through ip-prefix</prefix-length> | upto /prefix-length) {
    (accept | reject);
  as-path-expand (as-number | last-as) <count number>;
  as-path-prepend as-number;
  class class-name;
  color (preference | add number | subtract number);
  color2 (preference | add number | subtract number);
  community (add | delete | set | + | - | =) community-name;
  cos-next-hop-map map-name;
  damping list-name;
  default-action (accept | reject);
  destination-class class-name;
  dynamic-db;
  external {
    type (1 | 2);
  }
  forwarding-class class-name;
  install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
    <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
      static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
  label-allocation (per-nexthop | per-table);
  load-balance per-packet;
  local-preference (preference | add number | subtract number);
  map-to-interface (interface-name | self);
  metric (metric-value | add number | igp <metric-offset> |
    minimum-igp <metric-offset> | subtract number | ... the following complex
    expression ...);
  expression {
    metric (multiplier number | offset number | multiplier number offset number);
    metric2 (multiplier number | offset number | multiplier number offset number);
  }
  metric2 (metric-value | add number | subtract number);
  metric3 (metric-value | add number | subtract number);
  metric4 (metric-value | add number | subtract number);
  next (policy | term);
  next-hop (ip-address | discard | next-table routing-table-name | peer-address |
    reject | self);
  origin (egp | igp | incomplete);
  preference (preference | add number | subtract number);
  preference2 (preference | add number | subtract number);
  priority (high | low | medium);
  source-class class-name;
  ssm-source source;
  tag (tag-number | add number | subtract number);
  tag2 (tag-number | add number | subtract number);
  trace;
}
tag [ tag-numbers ];
tag2 tag-number;
}
term term-name {
  from {

```

```

aggregate-contributor;
area area-id;
as-path [ regular-expression-names ];
as-path-group [ as-path-group-names ];
color preference;
color2 preference;
community [ community-names ];
community-count number;
condition [ conditions ];
external {
    type (1 | 2);
}
family family-name;
instance instance-name;
interface [ interface-names ];
level isis-level;
local-preference value;
metric metric-value;
metric2 metric-value;
metric3 metric-value;
metric4 metric-value;
multicast-scope (scope-value | global | link-local | node-local | organization-local
    | site-local) (orhigher | orlower);
neighbor [ ip-addresses ];
next-hop [ ip-addresses ];
next-hop-type type;
origin (egp | igp | incomplete);
policy [ policy-names ];
preference preference;
preference2 preference;
prefix-list prefix-list-name;
prefix-list-filter prefix-list-name (exact | longer | orlonger) {
    (accept | reject);
    as-path-expand (as-number | last-as) <count number>;
    as-path-prepend as-number;
    class class-name;
    color (preference | add number | subtract number);
    color2 (preference | add number | subtract number);
    community (add | delete | set | + | - | =) community-name;
    cos-next-hop-map map-name;
    damping list-name;
    default-action (accept | reject);
    destination-class class-name;
    dynamic-db;
    external {
        type (1 | 2);
    }
    forwarding-class class-name;
    install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
        static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
        <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
            static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
    label-allocation (per-nexthop | per-table);
    load-balance per-packet;
    local-preference (preference | add number | subtract number);
    map-to-interface (interface-name | self);

```

```

metric (metric-value | add number | igp <metric-offset> |
  minimum-igp <metric-offset> | subtract number | ... the following complex
  expression ...);
expression {
  metric (multiplier number | offset number | multiplier number offset number);
  metric2 (multiplier number | offset number | multiplier number offset number);
}
metric2 (metric-value | add number | subtract number);
metric3 (metric-value | add number | subtract number);
metric4 (metric-value | add number | subtract number);
next (policy | term);
next-hop (ip-address | discard | next-table routing-table-name | peer-address |
  reject | self);
origin (egp | igp | incomplete);
preference (preference | add number | subtract number);
preference2 (preference | add number | subtract number);
priority (high | low | medium);
source-class class-name;
ssm-source source;
tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
}
protocol [ protocol-names ];
rib routing-table-name;
source-address-filter ip-prefix</prefix-length> (exact | longer | orlonger |
  through ip-prefix</prefix-length> | upto /prefix-length) {
  route-filter ip-prefix</prefix-length> (exact | longer | orlonger |
    through ip-prefix</prefix-length> | upto /prefix-length) {
    (accept | reject);
  }
}
as-path-expand (as-number | last-as) <count number>;
as-path-prepend as-number;
class class-name;
color (preference | add number | subtract number);
color2 (preference | add number | subtract number);
community (add | delete | set | + | - | =) community-name;
cos-next-hop-map map-name;
damping list-name;
default-action (accept | reject);
destination-class class-name;
dynamic-db;
external {
  type (1 | 2);
}
forwarding-class class-name;
install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
  static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
  <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
label-allocation (per-nexthop | per-table);
load-balance per-packet;
local-preference (preference | add number | subtract number);
map-to-interface (interface-name | self);
metric (metric-value | add number | igp <metric-offset> |
  minimum-igp <metric-offset> | subtract number | ... the following complex
  expression ...);

```

```

    expression {
        metric (multiplier number | offset number | multiplier number offset number);
        metric2 (multiplier number | offset number | multiplier number offset number);
    }
    metric2 (metric-value | add number | subtract number);
    metric3 (metric-value | add number | subtract number);
    metric4 (metric-value | add number | subtract number);
    next (policy | term);
    next-hop (ip-address | discard | next-table routing-table-name | peer-address |
        reject | self);
    origin (egp | igp | incomplete);
    preference (preference | add number | subtract number);
    preference2 (preference | add number | subtract number);
    priority (high | low | medium);
    source-class class-name;
    ssm-source source;
    tag (tag-number | add number | subtract number);
    tag2 (tag-number | add number | subtract number);
    trace;
}
route-type (external | internal);
source-address-filter ip-prefix </prefix-length> (exact | longer | orlonger |
    through ip-prefix </prefix-length> | upto </prefix-length>) {
    route-filter ip-prefix </prefix-length> (exact | longer | orlonger |
        through ip-prefix </prefix-length> | upto </prefix-length>) {
        (accept | reject);
    }
}
as-path-expand (as-number | last-as) <count number>;
as-path-prepend as-number;
class class-name;
color (preference | add number | subtract number);
color2 (preference | add number | subtract number);
community (add | delete | set | + | - | =) community-name;
cos-next-hop-map map-name;
damping list-name;
default-action (accept | reject);
destination-class class-name;
dynamic-db;
external {
    type (1 | 2);
}
forwarding-class class-name;
install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
    <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
        static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
label-allocation (per-nexthop | per-table);
load-balance per-packet;
local-preference (preference | add number | subtract number);
map-to-interface (interface-name | self);
metric (metric-value | add number | igp <metric-offset> |
    minimum-igp <metric-offset> | subtract number | ... the following complex
    expression ...);
expression {
    metric (multiplier number | offset number | multiplier number offset number);
    metric2 (multiplier number | offset number | multiplier number offset number);
}

```

```

metric2 (metric-value | add number | subtract number);
metric3 (metric-value | add number | subtract number);
metric4 (metric-value | add number | subtract number);
next (policy | term);
next-hop (ip-address | discard | next-table routing-table-name | peer-address |
    reject | self);
origin (egp | igp | incomplete);
preference (preference | add number | subtract number);
preference2 (preference | add number | subtract number);
priority (high | low | medium);
source-class class-name;
ssm-source source;
tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
}
state;
tag [ tag-numbers ];
tag2 tag-number;
}
then {
    (accept | reject);
    as-path-expand (as-number | last-as) <count number>;
    as-path-prepend as-number;
    class class-name;
    color (preference | add number | subtract number);
    color2 (preference | add number | subtract number);
    community (add | delete | set | + | - | =) community-name;
    cos-next-hop-map map-name;
    damping list-name;
    default-action (accept | reject);
    destination-class class-name;
    external {
        type (1 | 2);
    }
    forwarding-class class-name;
    install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
        static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
        <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
            static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
    label-allocation (per-nexthop | per-table);
    load-balance per-packet;
    local-preference (preference | add number | subtract number);
    map-to-interface (interface-name | self);
    metric (metric-value | add number | igp <metric-offset> |
        minimum-igp <metric-offset> | subtract number | ... the following complex
        expression ...);
    expression {
        metric (multiplier number | offset number | multiplier number offset number);
        metric2 (multiplier number | offset number | multiplier number offset number);
    }
    metric2 (metric-value | add number | subtract number);
    metric3 (metric-value | add number | subtract number);
    metric4 (metric-value | add number | subtract number);
    next (policy | term);

```

```

    next-hop (ip-address | discard | next-table routing-table-name | peer-address |
        reject | self);
    origin (egp | igp | incomplete);
    preference (preference | add number | subtract number);
    preference2 (preference | add number | subtract number);
    priority (high | low | medium);
    source-class class-name;
    ssm-source source;
    tag (tag-number | add number | subtract number);
    tag2 (tag-number | add number | subtract number);
    trace;
}
to {
    area area-id;
    as-path [ regular-expression-names ];
    as-path-group [ as-path-group-names ];
    color preference;
    color2 preference;
    community [ community-names ];
    external {
        type (1 | 2);
    }
    family family-name;
    instance instance-name;
    interface [ interface-names ];
    level isis-level;
    local-preference value;
    metric metric-value;
    metric2 metric-value;
    metric3 metric-value;
    metric4 metric-value;
    neighbor [ ip-addresses ];
    next-hop [ ip-addresses ];
    origin (egp | igp | incomplete);
    policy [ policy-names ];
    preference preference;
    preference2 preference;
    protocol [ protocol-names ];
    rib routing-table-name;
    tag [ tag-numbers ];
    tag2 tag-number;
}
}
then {
    (accept | reject);
    as-path-expand (as-number | last-as) <count number>;
    as-path-prepend as-number;
    class class-name;
    color (preference | add number | subtract number);
    color2 (preference | add number | subtract number);
    community (add | delete | set | + | - | =) community-name;
    cos-next-hop-map map-name;
    damping list-name;
    default-action (accept | reject);
    destination-class class-name;
    external {

```

```

    type (1 | 2);
}
forwarding-class class-name;
install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])
    <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ])>;
label-allocation (per-nexthop | per-table);
load-balance per-packet;
local-preference (preference | add number | subtract number);
map-to-interface (interface-name | self);
metric (metric-value | add number | igp <metric-offset> |
    minimum-igp <metric-offset> | subtract number | ... the following complex expression
    ...);
expression {
    metric (multiplier number | offset number | multiplier number offset number);
    metric2 (multiplier number | offset number | multiplier number offset number);
}
metric2 (metric-value | add number | subtract number);
metric3 (metric-value | add number | subtract number);
metric4 (metric-value | add number | subtract number);
next (policy | term);
next-hop (ip-address | discard | next-table routing-table-name | peer-address | reject |
    self);
origin (egp | igp | incomplete);
preference (preference | add number | subtract number);
preference2 (preference | add number | subtract number);
priority (high | low | medium);
source-class class-name;
ssm-source source;
tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
}
to {
    area area-id;
    as-path [ regular-expression-names ];
    as-path-group [ as-path-group-names ];
    color preference;
    color2 preference;
    community [ community-names ];
    external {
        type (1 | 2);
    }
    family family-name;
    instance instance-name;
    interface [ interface-names ];
    level isis-level;
    local-preference value;
    metric metric-value;
    metric2 metric-value;
    metric3 metric-value;
    metric4 metric-value;
    neighbor [ ip-addresses ];
    next-hop [ ip-addresses ];
    origin (egp | igp | incomplete);

```



```

    policy [ policy-names ];
    preference preference;
    preference2 preference;
    protocol [ protocol-names ];
    rib routing-table-name;
    tag [ tag-numbers ];
    tag2 tag-number;
  }
}
prefix-list list-name {
  ip-prefix</prefix-length>;
  apply-path path;
  dynamic-db;
}
vsi-policy policy-name {
  from {
    vsi-manager identifier vsi-type identifier vsi-version version-number vsi-instance
    instance-name;
  }
  then {
    filter filter-name;
  }
}
}

```

Unsupported Statements in the [edit policy-options] Hierarchy Level

All statements in the **[edit policy-options]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation • [Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices](#)

[edit protocols] Configuration Statement Hierarchy on EX Series Switches

Each of the following topics lists the statements at a subhierarchy of the **[edit protocols]** hierarchy:

- [\[edit protocols bfd\] Configuration Statement Hierarchy on EX Series Switches on page 89](#)
- [\[edit protocols bgp\] Configuration Statement Hierarchy on EX Series Switches on page 90](#)
- [\[edit protocols connections\] Configuration Statement Hierarchy on EX Series Switches on page 100](#)
- [\[edit protocols dcbx\] Configuration Statement Hierarchy on EX Series Switches on page 101](#)
- [\[edit protocols dot1x\] Configuration Statement Hierarchy on EX Series Switches on page 102](#)

- [\[edit protocols igmp\] Configuration Statement Hierarchy on EX Series Switches on page 104](#)
- [\[edit protocols igmp-snooping\] Configuration Statement Hierarchy on EX Series Switches on page 105](#)
- [\[edit protocols isis\] Configuration Statement Hierarchy on EX Series Switches on page 107](#)
- [\[edit protocols lacp\] Configuration Statement Hierarchy on EX Series Switches on page 110](#)
- [\[edit protocols link-management\] Configuration Statement Hierarchy on EX Series Switches on page 110](#)
- [\[edit protocols lldp\] Configuration Statement Hierarchy on EX Series Switches on page 112](#)
- [\[edit protocols lldp-med\] Configuration Statement Hierarchy on EX Series Switches on page 113](#)
- [\[edit protocols mld\] Configuration Statement Hierarchy on EX Series Switches on page 114](#)
- [\[edit protocols mld-snooping\] Configuration Statement Hierarchy on EX Series Switches on page 116](#)
- [\[edit protocols mpls\] Configuration Statement Hierarchy on EX Series Switches on page 117](#)
- [\[edit protocols msdp\] Configuration Statement Hierarchy on EX Series Switches on page 128](#)
- [\[edit protocols mstp\] Configuration Statement Hierarchy on EX Series Switches on page 131](#)
- [\[edit protocols mvrp\] Configuration Statement Hierarchy on EX Series Switches on page 132](#)
- [\[edit protocols neighbor-discovery\] Configuration Statement Hierarchy on EX Series Switches on page 133](#)
- [\[edit protocols oam\] Configuration Statement Hierarchy on EX Series Switches on page 134](#)
- [\[edit protocols ospf\] Configuration Statement Hierarchy on EX Series Switches on page 137](#)
- [\[edit protocols ospf3\] Configuration Statement Hierarchy on EX Series Switches on page 140](#)
- [\[edit protocols pim\] Configuration Statement Hierarchy on EX Series Switches on page 144](#)
- [\[edit protocols rip\] Configuration Statement Hierarchy on EX Series Switches on page 147](#)
- [\[edit protocols ripng\] Configuration Statement Hierarchy on EX Series Switches on page 149](#)

- [\[edit protocols router-advertisement\]](#) Configuration Statement Hierarchy on EX Series Switches on page 151
- [\[edit protocols router-discovery\]](#) Configuration Statement Hierarchy on EX Series Switches on page 152
- [\[edit protocols rstp\]](#) Configuration Statement Hierarchy on EX Series Switches on page 153
- [\[edit protocols rsvp\]](#) Configuration Statement Hierarchy on EX Series Switches on page 154
- [\[edit protocols sflow\]](#) Configuration Statement Hierarchy on EX Series Switches on page 158
- [\[edit protocols stp\]](#) Configuration Statement Hierarchy on EX Series Switches on page 160
- [\[edit protocols uplink-failure-detection\]](#) Configuration Statement Hierarchy on EX Series Switches on page 161
- [\[edit protocols vrrp\]](#) Configuration Statement Hierarchy on EX Series Switches on page 162
- [\[edit protocols vstp\]](#) Configuration Statement Hierarchy on EX Series Switches on page 163

**Related
Documentation**

- [EX Series Switch Software Features Overview](#)
- [EX Series Virtual Chassis Software Features Overview](#)

[\[edit protocols bfd\]](#) Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [\[edit protocols bfd\]](#) hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit protocols bfd\] Hierarchy Level on page 89](#)
- [Unsupported Statements in the \[edit protocols bfd\] Hierarchy Level on page 90](#)

Supported Statements in the [\[edit protocols bfd\]](#) Hierarchy Level

The following hierarchy shows the [\[edit protocols bfd\]](#) configuration statements supported on EX Series switches:

```
protocols {
  bfd {
    no-issu-timer-negotiation;
    traceoptions {
      file <filename> <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
}
```

Unsupported Statements in the [edit protocols bfd] Hierarchy Level

All statements in the [edit protocols bfd] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- *Protocol-Independent Routing Properties Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols bgp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols bgp] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit protocols bgp\] Hierarchy Level on page 90](#)
- [Unsupported Statements in the \[edit protocols bgp\] Hierarchy Level on page 99](#)

Supported Statements in the [edit protocols bgp] Hierarchy Level

The following hierarchy shows the [edit protocols bgp] configuration statements supported on EX Series switches:

```
protocols {
  bgp {
    accept-remote-nexthop;
    advertise-external <conditional>;
    advertise-inactive;
    (advertise-peer-as | no-advertise-peer-as);
    authentication-algorithm (hmac-sha-1-96 | md5);
    authentication-key key;
```

```

bfd-liveness-detection {
  authentication {
    algorithm algorithm-name;
    loose-check;
  }
  detection-time {
    threshold milliseconds;
  }
  hold-down-interval milliseconds;
  minimum-interval milliseconds;
  minimum-receive-interval milliseconds;
  multiplier number;
  no-adaptation;
  session-mode (automatic | multihop | single-hop);
  transmit-interval {
    threshold milliseconds;
    minimum-interval milliseconds;
  }
  version (1 | automatic);
}
cluster cluster-identifier;
damping;
description text-description;
disable;
export [ policy-names ];
family inet {
  any {
    loops number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
  }
  flow {
    loops number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
  }
  multicast {
    loops number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
  }
  unicast {
    loops number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
  }
}

```

```

        rib-group group-name;
        topology name {
            community target identifier;
        }
    }
}
family inet6 {
    any {
        loops number;
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        rib-group group-name;
    }
    labeled-unicast {
        aggregate-label {
            community community-name;
        }
        explicit-null connected-only;
        loops number;
        per-group-label;
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
    }
    rib-group group-name;
    traffic-statistics {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        interval seconds;
    }
}
multicast {
    loops number;
    prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
}
unicast {
    loops number;
    prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
    topology name {
        community target identifier;
    }
}
} # end of [edit protocols bgp family]
graceful-restart {
    disable;

```

```

restart-time seconds;
stale-routes-time seconds;
}
group group-name {
  advertise-external <conditional>;
  advertise-inactive;
  (advertise-peer-as | no-advertise-peer-as);
  allow [ all ip-prefix </prefix-length> ];
  as-override;
  authentication-algorithm (hmac-sha-1-96 | md5);
  authentication-key key;
  bfd-liveness-detection {
    authentication {
      algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
        meticulous-keyed-sha-1 | simple-password);
      loose-check;
    }
    holddown-interval milliseconds;
    minimum-interval milliseconds;
    minimum-receive-interval milliseconds;
    multiplier number;
    no-adaptation;
    session-mode (automatic | multihop | single-hop);
    transmit-interval {
      minimum-interval milliseconds;
      threshold milliseconds;
    }
    version (1 | automatic);
  }
  cluster cluster-identifier;
  damping;
  description text-description;
  export [ policy-names ];
  family inet {
    any {
      loops number;
      prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
      }
      rib-group group-name;
    }
    flow {
      loops number;
      prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
      }
      rib-group group-name;
    }
  }
  multicast {
    loops number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
  }
}

```

```

        rib-group group-name;
    }
    unicast {
        loops number;
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        rib-group group-name;
        topology name {
            community target identifier;
        }
    }
}
family inet6 {
    any {
        loops number;
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        rib-group group-name;
    }
    labeled-unicast {
        aggregate-label {
            community community-name;
        }
        explicit-null connected-only;
        loops number;
        per-group-label;
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        rib-group group-name;
        traffic-statistics {
            file filename <files number> <size maximum-file-size> <world-readable |
                no-world-readable>;
            interval seconds;
        }
    }
}
multicast {
    loops number;
    prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
}
unicast {
    loops number;
    prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    rib-group group-name;
}

```



```

        topology name {
            community target identifier;
        }
    }
} # end of [edit protocols bgp group family]
graceful-restart {
    disable;
    restart-time seconds;
    stale-routes-time seconds;
}
hold-time seconds;
idle-after-switch-over (seconds | forever);
import [ policy-names ];
include-mp-next-hop;
keep (all | none);
local-interface interface-name;
local-preference local-preference;
log-updown;
metric-out (metric | igp (delay-med-update | offset) | minimum-igp offset);
mtu-discovery;
multihop {
    no-nexthop-change;
    ttl tll-value;
}
neighboraddress {
    advertise-external <conditional>;
    advertise-inactive;
    (advertise-peer-as | no-advertise-peer-as);
    as-override;
    authentication-algorithm algorithm;
    authentication-key key;
    bfd-liveness-detection {
        authentication {
            algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
                meticulous-keyed-sha-1 | simple-password);
            loose-check;
        }
        holddown-interval milliseconds;
        minimum-interval milliseconds;
        minimum-receive-interval milliseconds;
        multiplier number;
        no-adaptation;
        session-mode (automatic | multihop | single-hop);
        transmit-interval {
            minimum-interval milliseconds;
            threshold milliseconds;
        }
        version (1 | automatic);
    }
}
cluster cluster-identifier;
damping;
description text-description;
export [ policy-names ];
family {
    (inet | inet6 | inet-mvpn | inet6-mpvn | inet-vpn | inet6-vpn | iso-vpn | l2-vpn)
    {

```

```
(any | flow | multicast | unicast | signaling) {
  accepted-prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
  damping;
  prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
  rib-group group-name;
  topology name {
    community {
      target identifier;
    }
  }
}
}
flow {
  no-validate policy-name;
}
labeled-unicast {
  accepted-prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
  aggregate-label {
    community community-name;
  }
  explicit-null {
    connected-only;
  }
  prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
  resolve-vpn;
  rib inet.3;
  rib-group group-name;
  topology name {
    community {
      target identifier;
    }
  }
}
}
route-target {
  advertise-default;
  external-paths number;
  accepted-prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
  prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
  }
}
```

```

    }
    signaling {
        prefix-limit {
            maximum number;
            teardown <percentage> <idle-timeout (forever | minutes)>;
        }
    }
}
graceful-restart {
    disable;
    restart-time seconds;
    stale-routes-time seconds;
}
hold-time seconds;
import [ policy-names ];
ipsec-sa ipsec-sa;
keep (all | none);
local-address address;
local-as autonomous-system <private>;
local-interface interface-name;
local-preference preference;
log-updown;
metric-out (metric | minimum-igp <offset> | igp <offset>);
mtu-discovery;
multihop <ttl-value>;
multipath {
    multiple-as;
}
no-aggregator-id;
no-client-reflect;
out-delay seconds;
passive;
peer-as autonomous-system;
preference preference;
tcp-mss segment-size;
traceoptions {
    file filename <files number> <size size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
}
no-aggregator-id;
no-client-reflect;
out-delay seconds;
outbound-route-filter {
    bgp-orf-cisco-mode;
    prefix-based {
        accept {
            inet;
            inet6;
        }
    }
}
}
passive;
peer-as autonomous-system;
preference preference;

```

```

        remove-private;
        tcp-mss segment-size;
        traceoptions {
            file filename <files number> <size maximum-file-size> <world-readable |
                no-world-readable>;
            flag flag <flag-modifier> <disable>;
        }
        type (external | internal);
    }
    hold-time seconds;
    idle-after-switch-over (seconds | forever);
    import [ policy-names ];
    include-mp-next-hop;
    keep (all | none);
    local-address address;
    local-as autonomous-system <loops number> <alias> <no-prepend-global-as>
        <private>;
    local-interface interface-name;
    local-preference local-preference;
    log-updown;
    metric-out (metric | igp (delay-med-update | offset) | minimum-igp offset);
    mtu-discovery;
    multihop {
        no-nexthop-change;
        ttl ttl-value;
    }
    multipath;
    no-aggregator-id;
    no-client-reflect;
    out-delay seconds;
    outbound-route-filter {
        bgp-orf-cisco-mode;
        prefix-based {
            accept {
                inet;
                inet6;
            }
        }
    }
    }
    passive;
    path-selection {
        always-compare-med;
        as-path-ignore;
    }
    peer-as autonomous-system;
    precision-timers | no-precision-timers;
    preference preference;
    remove-private;
    tcp-mss segment-size;
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
}

```

Unsupported Statements in the [edit protocols bgp] Hierarchy Level

All statements in the [edit protocols bgp] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 10: Unsupported [edit protocols bgp] Configuration Statements on EX Series Switches

Statement	Hierarchy Level
NOTE: Variables, such as <i>family-name</i> , are not shown in the statements or hierarchies.	
accepted-prefix-limit	[edit protocols bgp family]
add-path	[edit protocols bgp family]
authentication-key-chain	[edit protocols bgp] [edit protocols bgp group] [edit protocols bgp group neighbor]
cisco-non-deterministic	[edit protocols bgp path-selection]
eternal-router-id	[edit protocols bgp path-selection]
igp-multiplier	[edit protocols bgp path-selection]
ipsec-sa	[edit protocols bgp] [edit protocols bgp group]
key-chain	[edit protocols bgp bfd-liveness-detection authentication] [edit protocols bgp group bfd-liveness-detection authentication] [edit protocols bgp group neighbor bfd-liveness-detection authentication]
maximum	[edit protocols bgp family accepted-prefix-limit]
med-multiplier	[edit protocols bgp path-selection]
med-plus-igp	[edit protocols bgp path-selection]
no-validate	[edit protocols bgp family inet flow]
path-count	[edit protocols bgp family add-path send]
prefix-policy	[edit protocols bgp family add-path send]
receive	[edit protocols bgp family add-path]
send	[edit protocols bgp family add-path]
teardown	[edit protocols bgp family accepted-prefix-limit]

Table 10: Unsupported [edit protocols bgp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy Level
vpn-apply-export	[edit protocols bgp] [edit protocols bgp group neighbor]

- Related Documentation**
- *BGP Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols connections\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols connections]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols connections\] Hierarchy Level on page 100](#)
- [Unsupported Statements in the \[edit protocols connections\] Hierarchy Level on page 101](#)

Supported Statements in the [edit protocols connections] Hierarchy Level

The following hierarchy shows the **[edit protocols connections]** configuration statements supported on EX Series switches:

```

protocols {
  connections {
    interface-switch connection-name {
      interface interface-name.unit-number;
    }
    lsp-switch connection-name {
      receive-lsp label-switched-path;
      transmit-lsp label-switched-path;
    }
    remote-interface-switch connection-name {
      interface interface-name.unit-number;
      receive-lsp label-switched-path;
      transmit-lsp label-switched-path;
    }
  }
}

```

Unsupported Statements in the [edit protocols connections] Hierarchy Level

All statements in the [edit protocols connections] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 11: Unsupported [edit protocols connections] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>p2mp-receive-switch</i> , are not shown in the statements or hierarchies.	
p2mp-receive-switch	[edit protocols connections]
p2mp-transmit-switch	[edit protocols connections]

Related Documentation • [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols dcbx] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols dcbx] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols dcbx\] Hierarchy Level on page 101](#)
- [Unsupported Statements in the \[edit protocols dcbx\] Hierarchy Level on page 102](#)

Supported Statements in the [edit protocols dcbx] Hierarchy Level

The following hierarchy shows the [edit protocols dcbx] configuration statements supported on EX Series switches:

```
protocols {
  dcbx {
    disable;
    interface (all | interface-name) {
      application-map application-map-name;
      applications {
        fcoe {
```

```

        no-auto-negotiation;
    }
}
disable ;
priority-flow-control {
    no-auto-negotiation;
}
}
}
}

```

Unsupported Statements in the [edit protocols dcbx] Hierarchy Level

All statements in the **[edit protocols dcbx]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 12: Unsupported [edit protocols dcbx] Configuration Statements on EX Series Switches

Statement	Hierarchy
-----------	-----------

NOTE: Variables, such as *interface-name*, are not shown in the statements or hierarchies.

enhanced-transmission-selection	[edit protocols dcbx interface]
---------------------------------	---------------------------------

Related Documentation

- *Example: Configuring an FCoE Transit Switch*
- *Example: Configuring DCBX to Support an iSCSI Application*
- *Configuring Priority-Based Flow Control for an EX Series Switch (CLI Procedure)*
- *Disabling DCBX to Disable PFC Autonegotiation on EX Series Switches (CLI Procedure)*
- *Understanding Data Center Bridging Capability Exchange Protocol for EX Series Switches*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols dot1x] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols dot1x]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols dot1x\] Hierarchy Level on page 103](#)
- [Unsupported Statements in the \[edit protocols dot1x\] Hierarchy Level on page 104](#)

Supported Statements in the [edit protocols dot1x] Hierarchy Level

The following hierarchy shows the **[edit protocols dot1x]** configuration statements supported on EX Series switches:

```

protocols {
  dot1x {
    authenticator {
      authentication-profile-name access-profile-name;
      interface (all | [ interface-names ]) {
        disable;
        guest-vlan (vlan-id | vlan-name);
        mac-radius {
          flap-on-disconnect;
          restrict;
        }
        maximum-requests number;
        no-reauthentication;
        quiet-period seconds;
        reauthentication {
          interval seconds;
        }
        retries number;
        server-fail (deny | permit | use-cache | vlan-id | vlan-name);
        server-reject-vlan (vlan-id | vlan-name) {
          eapol-block;
          block-interval block-interval;
        }
        server-timeout seconds;
        supplicant (single | single-secure | multiple);
        supplicant-timeout seconds;
        transmit-period seconds;
      }
    }
    no-mac-table-binding {
      interface interface-names
      static mac-address
    }
    static mac-address {
      interface interface-names;
      vlan-assignment (vlan-id | vlan-name);
    }
  }
}
traceoptions {
  file filename <files number> <size size> <world-readable | no-world-readable> <match
    regex>;
  flag flag ;
}

```

Unsupported Statements in the `[edit protocols dot1x]` Hierarchy Level

All statements in the `[edit protocols dot1x]` hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Setting Up 802.1X in Conference Rooms to Provide Internet Access to Corporate Visitors on an EX Series Switch*
- *Example: Setting Up 802.1X for Single Supplicant or Multiple Supplicant Configurations on an EX Series Switch*
- *Example: Configuring 802.1X Authentication Options When the RADIUS Server is Unavailable to an EX Series Switch*
- *Example: Configuring Fallback Options on EX Series Switches for EAP-TTLS Authentication and Odyssey Access Clients*
- *Example: Configuring Static MAC Bypass of Authentication on an EX Series Switch*
- *802.1X for EX Series Switches Overview*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

`[edit protocols igmp]` Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the `[edit protocols igmp]` hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the `\[edit protocols igmp\]` Hierarchy Level on page 104](#)
- [Unsupported Statements in the `\[edit protocols igmp\]` Hierarchy Level on page 105](#)

Supported Statements in the `[edit protocols igmp]` Hierarchy Level

The following hierarchy shows the `[edit protocols igmp]` configuration statements supported on EX Series switches:

```
protocols {
  igmp {
    accounting;
    interface interface-name {
      (accounting | no-accounting);
    }
  }
}
```

```

disable;
group-policy [ policy-names ];
group-policy policy-name;
immediate-leave;
oif-map [ map-names ];
passive <allow-receive> <send-general-query> <send-group-query>;
promiscuous-mode;
ssm-map ssm-map-name;
static {
    group multicast-group-address {
        exclude;
        group-count number;
        group-increment increment;
        source ip-address {
            source-count number;
            source-increment increment;
        }
    }
}
version version;
}
maximum-transmit-rate packets-per-second;
query-interval seconds;
query-last-member-interval seconds;
query-response-interval seconds;
robust-count number;
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
    no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
}
}

```

Unsupported Statements in the [edit protocols igmp] Hierarchy Level

All statements in the [edit protocols igmp] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols igmp-snooping] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols igmp-snooping] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols igmp-snooping\] Hierarchy Level on page 106](#)
- [Unsupported Statements in the \[edit protocols igmp-snooping\] Hierarchy Level on page 106](#)

Supported Statements in the [edit protocols igmp-snooping] Hierarchy Level

The following hierarchy shows the **[edit protocols igmp-snooping]** configuration statements supported on EX Series switches:

```
protocols {
  igmp-snooping {
    vlan vlan-identifier {
      immediate-leave;
      interface (all | interface-name) {
        group-limit <1..65535>
        host-only-interface
        multicast-router-interface;
        immediate-leave;
        static {
          group multicast-ip-address; {
            source <>
          }
        }
      }
    }
  }
  proxy {
    source-address ip-address;
  }
  query-interval number;
  query-last-member-interval number;
  query-response-interval number;
  robust-count number;
  traceoptions {
    file filename <files number> <no-stamp> <replace> <size maximum-file-size>
      <world-readable | no-world-readable>;
    flag flag <flag-modifier> <disable>;
  }
}
```

Unsupported Statements in the [edit protocols igmp-snooping] Hierarchy Level

All statements in the **[edit protocols igmp-snooping]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols isis\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols isis]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols isis\] Hierarchy Level on page 107](#)
- [Unsupported Statements in the \[edit protocols isis\] Hierarchy Level on page 109](#)

Supported Statements in the **[edit protocols isis]** Hierarchy Level

The following hierarchy shows the **[edit protocols isis]** configuration statements supported on EX Series switches.

```

protocols {
  isis {
    disable;
    export [ policy-names ];
    graceful-restart {
      disable;
      helper-disable;
      restart-duration seconds;
    }
    ignore-attached-bit;
    interface interface-name {
      bfd-liveness-detection {
        authentication {
          algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
            meticulous-keyed-sha-1 | simple-password);
          loose-check;
        }
        detection-time {
          threshold milliseconds;
        }
        minimum-interval milliseconds;
        minimum-receive-interval milliseconds;
        multiplier number;
        no-adaptation;
        transmit-interval {
          minimum-interval milliseconds;

```

```
        threshold milliseconds;
    }
    version (0 | 1 | automatic);
}
checksum;
csnp-interval (seconds | disable);
disable;
hello-padding (adaptive | loose | strict);
disable;
}
level (1 | 2) {
    disable;
    hello-authentication-key key;
    hello-authentication-key-chain;
    hello-authentication-type authentication;
    hello-interval seconds;
    hold-time seconds;
    ipv4-multicast-metric number;
    ipv6-multicast-metric number;
    ipv6-unicast-metric number;
    metric metric;
    passive;
    priority number;
}
link-protection;
mesh-group (value | blocked);
no-adjacency-down-notification;
no-eligible-backup;
no-ipv4-multicast;
no-ipv6-multicast;
no-ipv6-unicast;
no-unicast-topology;
node-link-protection;
passive;
point-to-point;
}
level (1 | 2) {
    authentication-key key;
    authentication-type authentication;
    disable;
    external-preference preference;
    no-csnp-authentication;
    no-hello-authentication;
    no-psnp-authentication;
    preference preference;
    prefix-export-limit number;
    wide-metrics-only;
}
loose-authentication-check;
max-areas number;
no-adjacency-holddown;
no-authentication-check;
no-ipv4-routing;
no-ipv6-routing;
overload {
    advertise-high-metrics;
```

```
        allow-route-leaking;
        timeout seconds;
    }
    reference-bandwidth reference-bandwidth;
    rib-group {
        inet group-name;
        inet6 group-name;
    }
    spf-options {
        delay milliseconds;
        holddown milliseconds;
        rapid-runs number;
    }
    topologies {
        ipv4-multicast;
        ipv6-multicast;
        ipv6-unicast;
    }
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
}
```

Unsupported Statements in the [edit protocols isis] Hierarchy Level

All statements in the [edit protocols isis] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 13: Unsupported [edit protocols isis] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>filename</i> , are not shown in the statements or hierarchies.	
authentication-key-chain	[edit protocols isis level<1 2>]
lsp-interval	[edit protocols isis interface]
lsp-lifetime	[edit protocols isis]
key-chain	[edit protocols isis interface bfd-liveness-detection authentication]

- Related Documentation
- *IS-IS Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols lacp\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols lacp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols lacp\] Hierarchy Level on page 110](#)
- [Unsupported Statements in the \[edit protocols lacp\] Hierarchy Level on page 110](#)

Supported Statements in the [edit protocols lacp] Hierarchy Level

The following hierarchy shows the **[edit protocols lacp]** configuration statements supported on EX Series switches:

```
protocols {
  lacp {
    ppm {
      centralized
    }
    traceoptions {
      file <filename> <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
}
```

Unsupported Statements in the [edit protocols lacp] Hierarchy Level

All statements in the **[edit protocols lacp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols link-management\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols link-management]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols link-management\] Hierarchy Level on page 111](#)
- [Unsupported Statements in the \[edit protocols link-management\] Hierarchy Level on page 112](#)

Supported Statements in the [edit protocols link-management] Hierarchy Level

The following hierarchy shows the [edit protocols link-management] configuration statements supported on EX Series switches:

```

protocols {
  link-management {
    peer peer-name {
      address address;
      control-channel [ control-channel-interfaces ];
      lmp-control-channel interface-name {
        remote-address address;
      }
      lmp-protocol {
        hello-dead-interval milliseconds;
        hello-interval milliseconds;
        passive;
        retransmission-interval milliseconds;
        retry-limit number;
      }
      te-link [ te-link-names ];
    }
    te-link te-link-name {
      disable;
      interface interface-name {
        disable;
        local-address address;
        remote-address address;
        remote-id id-number;
      }
      label-switched-path lsp-name {
        disable;
        local-address address;
        remote-address address;
        remote-id id-number;
      }
      local-address address;
      remote-address address;
    }
  }
}

```

```

        remote-id id-number;
        te-metric metric;
    }
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag;
    }
}

```

Unsupported Statements in the [edit protocols link-management] Hierarchy Level

All statements in the [edit protocols link-management] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols lldp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols lldp] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols lldp\] Hierarchy Level on page 112](#)
- [Unsupported Statements in the \[edit protocols lldp\] Hierarchy Level on page 113](#)

Supported Statements in the [edit protocols lldp] Hierarchy Level

The following hierarchy shows the [edit protocols lldp] configuration statements supported on EX Series switches:

```

protocols {
  lldp {
    advertisement-interval seconds;
    disable;
    hold-multiplier seconds;
    interface (all | interface-name) {
      disable;
      power-negotiation {
        disable;
      }
    }
  }
}

```

```

    }
  }
}
lldp-configuration-notification-interval seconds;
management-address;
netbios-snooping;
ptopo-configuration-maximum-hold-time seconds;
ptopo-configuration-trap-interval seconds;
traceoptions {
  file filename <files number> <size maximum-file-size> <world-readable |
    no-world-readable>;
  flag flag <disable>;
}
transmit-delay seconds;
}
}

```

Unsupported Statements in the [edit protocols lldp] Hierarchy Level

All statements in the **[edit protocols lldp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols lldp-med] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols lldp-med]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols lldp-med\] Hierarchy Level on page 113](#)
- [Unsupported Statements in the \[edit protocols lldp-med\] Hierarchy Level on page 114](#)

Supported Statements in the [edit protocols lldp-med] Hierarchy Level

The following hierarchy shows the **[edit protocols lldp-med]** configuration statements supported on EX Series switches:

```

protocols {
  lldp-med {
    disable;
  }
}

```

```

fast-start number;
interface (all | interface-name) {
  disable;
  location {
    civic-based {
      ca-type {
        index {
          ca-value value;
        }
      }
      country-code code;
      what value;
    }
    elin number;
  }
}

```

Unsupported Statements in the [edit protocols lldp-med] Hierarchy Level

All statements in the [edit protocols lldp-med] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Setting Up VoIP with 802.1X and LLDP-MED on an EX Series Switch*
- *show lldp*
- *Configuring LLDP-MED (CLI Procedure)*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols mld] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols mld] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols mld\] Hierarchy Level on page 115](#)
- [Unsupported Statements in the \[edit protocols mld\] Hierarchy Level on page 115](#)

Supported Statements in the [edit protocols mld] Hierarchy Level

The following hierarchy shows the [edit protocols mld] configuration statements supported on EX Series switches:

```
protocols {
  mld {
    accounting;
    interface interface-name {
      (accounting | no-accounting);
      disable;
      group-limit number;
      group-policy [ policy-names ];
      immediate-leave;
      oif-map [ map-names ];
      passive <allow-receive> <send-general-query> <send-group-query>;
      ssm-map ssm-map-name;
      ssm-map-policy policy-name;
      static {
        group multicast-group-address {
          exclude;
          group-count number;
          group-increment increment;
          source source-ip-address {
            source-count number;
            source-increment number;
          }
        }
      }
      version (1 | 2);
    }
    maximum-transmit-rate packets-per-second;
    query-interval seconds;
    query-last-member-interval seconds;
    query-response-interval seconds;
    robust-count number;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
  }
}
```

Unsupported Statements in the [edit protocols mld] Hierarchy Level

All statements in the [edit protocols mld] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols mld-snooping] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols mld-snooping]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols mld-snooping\] Hierarchy Level on page 116](#)
- [Unsupported Statements in the \[edit protocols mld-snooping\] Hierarchy Level on page 117](#)

Supported Statements in the [edit protocols mld-snooping] Hierarchy Level

The following hierarchy shows the **[edit protocols mld-snooping]** configuration statements supported on EX Series switches:

```
protocols {
  mld-snooping {
    traceoptions {
      file filename <files number> <no-stamp> <replace> <size maximum-file-size>
        <world-readable | no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
    vlan (all | vlan-identifier) {
      disable;
      immediate-leave;
      interface (all | interface-name) {
        multicast-router-interface;
        static {
          group mcast-ip-address;
        }
      }
      robust-count number;
      version number;
    }
  }
}
```

Unsupported Statements in the `[edit protocols mld-snooping]` Hierarchy Level

All statements in the `[edit protocols mld-snooping]` hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- *Example: Configuring MLD Snooping*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

`[edit protocols mpls]` Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the `[edit protocols mpls]` hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the `\[edit protocols mpls\]` Hierarchy Level on page 117](#)
- [Unsupported Statements in the `\[edit protocols mpls\]` Hierarchy Level on page 118](#)

Supported Statements in the `[edit protocols mpls]` Hierarchy Level

The following hierarchy shows the `[edit protocols mpls]` configuration statements supported on EX Series switches:

```
protocols {
  mpls {
    class-of-service cos-value;
    disable;
    explicit-null;
    interface (interface-name | all) {
      disable;
    }
    ipv6-tunneling ;
    label-switched-path lsp-name {
      description text-string;
      disable;
      exclude-slr;
      from address;
      ldp-tunneling;
      no-cspf;
      no-decrement-ttl;
      oam {
```

```

bfd-liveness-detection {
  detection-time {
    threshold milliseconds;
  }
  failure-action (make-before-break <teardown-timeout seconds> | teardown);
  minimum-interval milliseconds;
  minimum-receive-interval milliseconds;
  multiplier number;
  no-adaptation;
  transmit-interval {
    minimum-interval milliseconds;
    threshold milliseconds;
  }
  version (1 | automatic);
}
}
to address;
}
no-cspf;
no-decrement-ttl;
no-propagate-ttl;
static-label-switched-path lsp-name {
  ingress {
    install {
      destination-prefix <active>;
    }
    next-hop (address | interface-name | address/interface-name);
    push out-label;
    to address;
  }
  transit incoming-label {
    description text-string;
    next-hop (address | interface-name | address/interface-name);
    pop;
    swap out-label;
  }
}
traffic-engineering (bgp | bgp-igp | bgp-igp-both-ribs | mpls-forwarding);
}
}

```

Unsupported Statements in the [edit protocols mpls] Hierarchy Level

All statements in the [edit protocols mpls] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>interface-name</i> , are not shown in the statements or hierarchies.	
active	[edit protocols mpls static-label-switched-path ingress install] [edit protocols mpls label-switched-path install]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
adaptive	[edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
adjust-interval	[edit protocols mpls label-switched-path auto-bandwidth]
adjust-threshold	[edit protocols mpls label-switched-path auto-bandwidth]
adjust-threshold-overflow-limit	[edit protocols mpls label-switched-path auto-bandwidth]
adjust-threshold-underflow-limit	[edit protocols mpls label-switched-path auto-bandwidth]
admin-down	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
admin-group	[edit protocols mpls] [edit protocols mpls interface] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
admin-group-extended	[edit protocols mpls] [edit protocols mpls interface] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
admin-groups	[edit protocols mpls]
advertisement-hold-time	[edit protocols mpls]
allow-fragmentation	[edit protocols mpls path-mtu]
always-mark-connection-protection-tlv	[edit protocols mpls interface]
associate-backup-pe-groups	[edit protocols mpls label-switched-path]
auto-bandwidth	[edit protocols mpls label-switched-path] [edit protocols mpls statistics]
auto-policing	[edit protocols mpls]
backup	[edit protocols mpls label-switched-path]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
bandwidth	[edit protocols mpls] [edit protocols mpls bandwidth] [edit protocols mpls label-switched-path] [edit protocols mpls static-label-switched-path bypass] [edit protocols mpls label-switched-path fast-reroute] [edit protocols mpls static-label-switched-path ingress] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary] [edit protocols mpls static-label-switched-path transit]
bandwidth-model	[edit protocols mpls diffserv-te]
bandwidth-percent	[edit protocols mpls label-switched-path fast-reroute]
bfd-liveness-detection	[edit protocols mpls label-switched-path primary oam] [edit protocols mpls label-switched-path secondary oam] [edit protocols mpls oam]
bypass	[edit protocols mpls static-label-switched-path]
bypass-name	[edit protocols mpls static-label-switched-path ingress link-protection] [edit protocols mpls static-label-switched-path ingress node-protection] [edit protocols mpls static-label-switched-path transit link-protection] [edit protocols mpls static-label-switched-path transit node-protection]
class	[edit protocols mpls auto-policing]
class-of-service	[edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary] [edit protocols mpls static-label-switched-path ingress]
context-identifier	[edit protocols mpls egress-protection]
ct0	[edit protocols mpls bandwidth] [edit protocols mpls label-switched-path bandwidth] [edit protocols mpls label-switched-path primary bandwidth] [edit protocols mpls label-switched-path secondary bandwidth]
ct1	[edit protocols mpls bandwidth] [edit protocols mpls label-switched-path bandwidth] [edit protocols mpls label-switched-path primary bandwidth] [edit protocols mpls label-switched-path secondary bandwidth]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
ct2	[edit protocols mpls bandwidth] [edit protocols mpls label-switched-path bandwidth] [edit protocols mpls label-switched-path primary bandwidth] [edit protocols mpls label-switched-path secondary bandwidth]
ct3	[edit protocols mpls bandwidth] [edit protocols mpls label-switched-path bandwidth] [edit protocols mpls label-switched-path primary bandwidth] [edit protocols mpls label-switched-path secondary bandwidth]
description	[edit protocols mpls static-label-switched-path bypass] [edit protocols mpls static-label-switched-path ingress]
detection-time	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
diffserv-te	[edit protocols mpls]
drop	[edit protocols mpls auto-policing class]
egress-protection	[edit protocols mpls] [edit protocols mpls label-switched-path]
encoding-type	[edit protocols mpls label-switched-path lsp-attributes]
exclude	[edit protocols mpls admin-group] [edit protocols mpls label-switched-path admin-group] [edit protocols mpls label-switched-path admin-group-extended] [edit protocols mpls label-switched-path primary admin-group] [edit protocols mpls label-switched-path primary admin-group-extended] [edit protocols mpls label-switched-path secondary admin-group] [edit protocols mpls label-switched-path secondary admin-group-extended] [edit protocols mpls label-switched-path fast-reroute]
exclude-slrg	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
expand-loose-hop	[edit protocols mpls]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
failure-action	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
fast-reroute	[edit protocols mpls label-switched-path]
file	[edit protocols mpls label-switched-path primary oam traceoptions] [edit protocols mpls label-switched-path secondary oam traceoptions] [edit protocols mpls label-switched-path traceoptions] [edit protocols mpls statistics] [edit protocols mpls traceoptions]
files	[edit protocols mpls statistics file]
filter	[edit protocols mpls static-label-switched-path ingress policing]
flag	[edit protocols mpls label-switched-path primary oam traceoptions] [edit protocols mpls label-switched-path secondary oam traceoptions] [edit protocols mpls label-switched-path traceoptions] [edit protocols mpls traceoptions]
gpid	[edit protocols mpls label-switched-path lsp-attributes]
hop-limit	[edit protocols mpls] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary] [edit protocols mpls label-switched-path fast-reroute] [edit protocols mpls label-switched-path]
icmp-tunneling	[edit protocols mpls]
include-all	[edit protocols mpls admin-group] [edit protocols mpls admin-group-extended] [edit protocols mpls label-switched-path admin-group] [edit protocols mpls label-switched-path admin-group-extended] [edit protocols mpls label-switched-path fast-reroute] [edit protocols mpls label-switched-path primary admin-group] [edit protocols mpls label-switched-path primary admin-group-extended] [edit protocols mpls label-switched-path secondary admin-group] [edit protocols mpls label-switched-path secondary admin-group-extended]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
include-any	[edit protocols mpls admin-group] [edit protocols mpls admin-group-extended] [edit protocols mpls label-switched-path admin-group] [edit protocols mpls label-switched-path admin-group-extended] [edit protocols mpls label-switched-path fast-reroute] [edit protocols mpls label-switched-path primary admin-group] [edit protocols mpls label-switched-path primary admin-group-extended] [edit protocols mpls label-switched-path secondary admin-group] [edit protocols mpls label-switched-path secondary admin-group-extended]
install	[edit protocols mpls label-switched-path]
inter-domain	[edit protocols mpls label-switched-path]
interval	[edit protocols mpls statistics]
least-fill	[edit protocols mpls label-switched-path]
link-protection	[edit protocols mpls label-switched-path] [edit protocols mpls static-label-switched-path ingress] [edit protocols mpls static-label-switched-path transit]
log-updown	[edit protocols mpls]
loss-priority-high	[edit protocols mpls auto-policing class]
loss-priority-low	[edit protocols mpls auto-policing class]
lsp-attributes	[edit protocols mpls label-switched-path]
make-before-break	[edit protocols mpls label-switched-path secondary oam bfd-liveness-detection failure-action]
maximum-bandwidth	[edit protocols mpls label-switched-path auto-bandwidth]
metric	[edit protocols mpls egress-protection context-identifier] [edit protocols mpls label-switched-path] [edit protocols mpls static-label-switched-path ingress]
mib-mpls-show-p2mp	[edit protocols mpls]
mimum-bandwidth	[edit protocols mpls label-switched-path auto-bandwidth]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
minimum-interval	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path primary oam bfd-liveness-detection transit-interval] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection transit-interval]
minimum-receive-interval	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
monitor-bandwidth	[edit protocols mpls label-switched-path auto-bandwidth]
most-fill	[edit protocols mpls label-switched-path]
mpls-lsp-traps	[edit protocols mpls log-updown no-trap]
mpls-tp-mode	[edit protocols mpls oam]
mtu-signaling	[edit protocols mpls path-mtu rsvp]
multiplier	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
next-hop	[edit protocols mpls path] [edit protocols mpls static-label-switched-path bypass]
next-next-label	[edit protocols mpls static-label-switched-path ingress node-protection] [edit protocols mpls static-label-switched-path transit node-protection]
no-adaptation	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
no-auto-policing	[edit protocols mpls static-label-switched-path ingress policing]
no-cspf	[edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
no-decrement-ttl	[edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
node-link-protection	[edit protocols mpls label-switched-path]
node-protection	[edit protocols mpls static-label-switched-path ingress] [edit protocols mpls static-label-switched-path transit]
no-exclude	[edit protocols mpls label-switched-path fast-reroute]
no-include-all	[edit protocols mpls label-switched-path fast-reroute]
no-include-any	[edit protocols mpls label-switched-path fast-reroute]
no-install-to-address	[edit protocols mpls label-switched-path] [edit protocols mpls static-label-switched-path ingress]
no-record	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
no-remote-trace	[edit protocols mpls label-switched-path oam traceoptions] [edit protocols mpls label-switched-path secondary oam traceoptions]
no-syslog	[edit protocols mpls log-updown]
no-trap	[edit protocols mpls log-updown]
no-world-readable	[edit protocols mpls statistics file]
number	[edit protocols mpls auto-policing class]
oam	[edit protocols mpls] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
optimize-aggressive	[edit protocols mpls]
optimize-hold-dead-delay	[edit protocols mpls]
optimize-switchover-delay	[edit protocols mpls]
optimize-timer	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
path	[edit protocols mpls]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
path-mtu	[edit protocols mpls]
policing	[edit protocols mpls static-label-switched-path ingress] [edit protocols mpls label-switched-path]
preference	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls static-label-switched-path ingress] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
primary	[edit protocols mpls egress-protection context-identifier]
priority	[edit protocols mpls] [edit protocols mpls diffserv-te te-class-matrix tex] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
protection-revert-time	[edit protocols mpls interface static]
protector	[edit protocols mpls egress-protection context-identifier]
push	[edit protocols mpls static-label-switched-path bypass]
random	[edit protocols mpls label-switched-path]
record	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
retry-limit	[edit protocols mpls label-switched-path]
retry-timer	[edit protocols mpls label-switched-path]
revert-timer	[edit protocols mpls] [edit protocols mpls label-switched-path]
rfc3812-traps	[edit protocols mpls log-updown no-trap]
rsvp	[edit protocols mpls path-mtu]
rsvp-error-hold-time	[edit protocols mpls]
select	[edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
signal-bandwidth	[edit protocols mpls label-switched-path lsp-attributes]
size	[edit protocols mpls statistics file]
smart-optimize-timer	[edit protocols mpls]
soft-preemption	[edit protocols mpls label-switched-path]
srlg	[edit protocols mpls interface]
standby	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path primary] [edit protocols mpls label-switched-path secondary]
static	[edit protocols mpls interface]
statistics	[edit protocols mpls]
switch-away-lsps	[edit protocols mpls interface]
switching-type	[edit protocols mpls label-switched-path lsp-attributes]
syslog	[edit protocols mpls log-updown]
tex	[edit protocols mpls diffserv-te te-class-matrix]
teardown	[edit protocols mpls label-switched-path secondary oam bfd-liveness-detection failure-action]
te-class-matrix	[edit protocols mpls diffserv-te]
template	[edit protocols mpls label-switched-path]
threshold	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection transmit-interval] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection detection-time] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection transmit-interval]
to	[edit protocols mpls static-label-switched-path bypass]
traceoptions	[edit protocols mpls] [edit protocols mpls label-switched-path] [edit protocols mpls label-switched-path oam] [edit protocols mpls label-switched-path primary oam] [edit protocols mpls label-switched-path secondary oam]

Table 14: Unsupported [edit protocols mpls] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
traffic-class	[edit protocols mpls diffserv-te te-class-matrix tex]
transmit-interval	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
trap	[edit protocols mpls log-updown]
trap-path-down	[edit protocols mpls log-updown]
trap-path-up	[edit protocols mpls log-updown]
version	[edit protocols mpls label-switched-path primary oam bfd-liveness-detection] [edit protocols mpls label-switched-path secondary oam bfd-liveness-detection]
world-readable	[edit protocols mpls statistics file]

Related Documentation

- *Configuring MPLS on Provider Edge Switches Using Circuit Cross-Connect (CLI Procedure)*
- *Configuring MPLS on Provider Edge Switches Using IP Over MPLS (CLI Procedure)*
- *Configuring MPLS on Provider Switches (CLI Procedure)*
- *Junos OS MPLS for EX Series Switches Overview*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols msdp\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols msdp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols msdp\] Hierarchy Level on page 129](#)
- [Unsupported Statements in the \[edit protocols msdp\] Hierarchy Level on page 130](#)

Supported Statements in the [edit protocols msdp] Hierarchy Level

The following hierarchy shows the **[edit protocols msdp]** configuration statements supported on EX Series switches:

```

protocols {
  msdp {
    active-source-limit {
      log-interval seconds;
      log-warning value;
      maximum number;
      threshold number;
    }
    data-encapsulation (disable | enable);
    disable;
    export [ policy-names ];
    group group-name {
      disable;
      export [ policy-names ];
      import [ policy-names ];
      local-address address;
      mode (mesh-group | standard);
      peer address {
        active-source-limit {
          log-interval seconds;
          log-warning value;
          maximum number;
          threshold number;
        }
        authentication-key peer-key;
        default-peer;
        disable;
        export [ policy-names ];
        hold-time seconds;
        import [ policy-names ];
        keep-alive seconds;
        local-address address;
        sa-hold-time seconds;
        traceoptions {
          file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
          flag flag <flag-modifier> <disable>;
        }
      }
    }
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
  }
}

```

```

hold-time seconds;
import [ policy-names ];
keep-alive seconds;
local-address address;
peer address {
    active-source-limit {
        log-interval seconds;
        log-warning value;
        maximum number;
        threshold number;
    }
    authentication-key peer-key;
    default-peer;
    disable;
    export [ policy-names ];
    hold-time seconds;
    import [ policy-names ];
    keep-alive seconds;
    local-address address;
    sa-hold-time seconds;
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
rib-group group-name;
sa-hold-time seconds;
source ip-prefix</prefix-length> {
    active-source-limit {
        log-interval seconds;
        log-warning value;
        maximum number;
        threshold number;
    }
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
    no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
}
}

```

Unsupported Statements in the [edit protocols msdp] Hierarchy Level

All statements in the [edit protocols msdp] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols mstp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols mstp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols mstp\] Hierarchy Level on page 131](#)
- [Unsupported Statements in the \[edit protocols mstp\] Hierarchy Level on page 132](#)

Supported Statements in the [edit protocols mstp] Hierarchy Level

The following hierarchy shows the **[edit protocols mstp]** configuration statements supported on EX Series switches:

```

protocols {
  mstp {
    backup-bridge-priority priority;
    bpdu-block-on-edge;
    bpdu-destination-mac-address provider-bridge-group;
    bridge-priority priority;
    configuration-name configuration-name;
    disable;
    forward-delay seconds;
    hello-time seconds;
    interface interface-name {
      access-trunk;
      bpdu-timeout-action {
        alarm;
        block;
      }
      cost cost;
      edge;
      mode (point-to-point | shared);
      no-root-port;
      priority interface-priority;
    }
    max-age seconds;
    max-hops hops;
    msti identifier {
      backup-bridge-priority priority;
      bridge-priority priority;
      interface interface-name {
        cost cost;

```

```

        priority interface-priority;
    }
    vlan [ vlan-ids ];
}
priority-hold-time seconds;
revision-level revision-level;
system-id mac-address {
    ip-address ip-address </prefix-length>;
}
system-identifier;
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <disable>;
}
vpls-flush-on-topology-change;
}
}

```

Unsupported Statements in the [edit protocols mstp] Hierarchy Level

All statements in the **[edit protocols mstp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- [Example: Configuring Network Regions for VLANs with MSTP on EX Series Switches](#)
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols mvrp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols mvrp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols mvrp\] Hierarchy Level on page 132](#)
- [Unsupported Statements in the \[edit protocols mvrp\] Hierarchy Level on page 133](#)

Supported Statements in the [edit protocols mvrp] Hierarchy Level

The following hierarchy shows the **[edit protocols mvrp]** configuration statements supported on EX Series switches:

```
protocols {
  mvrp {
    interface (all | interface-name) {
      join-timer milliseconds;
      leave-timer milliseconds;
      leaveall-timer milliseconds;
      registration (forbidden | normal);
    }
    join-timer milliseconds;
    leave-timer milliseconds;
    leaveall-timer milliseconds;
    no-dynamic-vlan;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <disable>;
    }
  }
}
```

Unsupported Statements in the [edit protocols mvrp] Hierarchy Level

All statements in the [edit protocols mvrp] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 15: Unsupported [edit protocols mvrp] Configuration Statements on EX Series Switches

Statement	Hierarchy
bpdu-destination-mac-address	[edit protocols mvrp]
point-to-point	[edit protocols mvrp interface interface-name]
registration, restricted option	[edit protocols mvrp interface interface-name]

- Related Documentation
- [Example: Configuring Automatic VLAN Administration Using MVRP on EX Series Switches](#)
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols neighbor-discovery] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols neighbor-discovery] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols neighbor-discovery\] Hierarchy Level on page 134](#)
- [Unsupported Statements in the \[edit neighbor-discovery\] Hierarchy Level on page 134](#)

Supported Statements in the [edit protocols neighbor-discovery] Hierarchy Level

The following hierarchy shows the **[edit protocols neighbor-discovery]** configuration statements supported on EX Series switches:

```
protocols {  
  neighbor-discovery {  
    no-dad-on-state-change ;  
    onlink-subnet-only;  
  }  
}
```

Unsupported Statements in the [edit neighbor-discovery] Hierarchy Level

All statements in the **[edit protocols neighbor-discovery]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols oam] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols oam]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols oam\] Hierarchy Level on page 135](#)
- [Unsupported Statements in the \[edit protocols oam\] Hierarchy Level on page 137](#)

Supported Statements in the [edit protocols oam] Hierarchy Level

The following hierarchy shows the [edit protocols oam] configuration statements supported on EX Series switches:

```

protocols {
  oam {
    ethernet {
      connectivity-fault-management {
        action-profile profile-name {
          action {
            interface-down;
          }
          default-actions {
            interface-down;
          }
          event {
            adjacency-loss;
          }
        }
      }
      esp-traceoptions {
        file filename <files number> <no-stamp> <replace> <size size> <world-readable  
| no-world-readable>;
        flag (all | error | esp | interface | krt | lib | normal | task | timer);
      }
      linktrace {
        age (30m | 10m | 1m | 30s | 10s);
        path-database-size path-database-size;
      }
      maintenance-domain domain-name {
        level number;
        maintenance-association ma-name {
          continuity-check {
            hold-interval minutes;
            interface-status-tlv;
            interval (10m | 10s | 1m | 1s | 100ms);
            loss-threshold number;
            port-status-tlv;
          }
          mep mep-id {
            auto-discovery;
            direction down;
            interface interface-name {
              vlan-id identifier;
            }
            priority number;
            remote-mep mep-id {
              action-profile profile-name;
              sla-iterator-profile profile-name {
                data-tlv-size size;
                iteration-count count-value;
                priority priority-value;
              }
            }
          }
        }
      }
    }
  }
}

```

```

        short-name-format (character-string | vlan | 2octet | rfc-2685-vpn-id);
    }
    mip-half-function (none | default | explicit);
    name-format (character-string | none | dns | mac+2oct);
    vlan-name name;
}
performance-monitoring {
    no-delegate-processing;
    sla-iterator-profiles {
        profile-name {
            calculation-weight {
                delay delay-value;
                delay-variation delay-variation-value;
            }
            cycle-time cycle-time-value;
            iteration-period iteration-period-value;
            measurement-type two-way-delay;
            passive;
        }
    }
}
}
traceoptions {
    file filename <files number> <match regex> <size size> <world-readable |
        no-world-readable>;
    flag flag ;
    no-remote-trace;
}
}
link-fault-management {
    action-profile profile-name {
        action {
            link-down;
            syslog;
        }
        event {
            link-adjacency-loss;
            link-event-rate {
                frame-error count;
                frame-period count;
                frame-period-summary count;
                symbol-period count;
            }
        }
    }
}
interface interface-name {
    apply-action-profile profile-name;
    event-thresholds {
        frame-error count;
        frame-period count;
        frame-period-summary count;
        symbol-period count;
    }
    link-discovery (active | passive);
    negotiation-options {
        allow-remote-loopback;
        no-allow-link-events;
    }
}

```

```

    }
    pdu-interval interval;
    pdu-threshold threshold-value;
    remote-loopback;
  }
  traceoptions {
    file filename <files number> <match regex> <size size> <world-readable |
      no-world-readable>;
    flag flag;
    no-remote-trace;
  }
}
}
}
}

```

Unsupported Statements in the [edit protocols oam] Hierarchy Level

All statements in the **[edit protocols oam]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols ospf] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols ospf]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols ospf\] Hierarchy Level on page 137](#)
- [Unsupported Statements in the \[edit protocols ospf\] Hierarchy Level on page 140](#)

Supported Statements in the [edit protocols ospf] Hierarchy Level

The following hierarchy shows the **[edit protocols ospf]** configuration statements supported on EX Series switches:

```

protocols {
  ospf {
    area area-id {
      area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;

```

```
context-identifier
interface interface-name {
  authentication {
    md5 key-id key key-string <start-time YYYY-MM-DD.hh:mm>;
    simple-password key-string;
  }
  bandwidth-based-metrics {
    bandwidth value metric number;
  }
  bfd-liveness-detection {
    authentication {
      algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
        meticulous-keyed-sha-1 | simple-password);
      loose-check;
    }
    detection-time {
      threshold milliseconds;
    }
    full-neighbors-only;
    minimum-interval milliseconds;
    minimum-receive-interval milliseconds;
    multiplier number;
    no-adaptation;
    transmit-interval {
      minimum-interval milliseconds;
      threshold milliseconds;
    }
    version (0|1 | automatic);
  }
  dead-interval seconds;
  disable;
  dynamic-neighbors;
  flood-reduction;
  hello-interval seconds;
  interface-type (nbma | p2mp | p2p);
  ipsec-sa sa-name;
  (link-protection | node-link-protection);
  metric metric;
  no-eligible-backup;
  no-interface-state-traps;
  no-neighbor-down-notification;
  passive {
    traffic-engineering {
      remote-node-id address;
    }
  }
  poll-interval seconds;
  priority number;
  retransmit-interval seconds;
  secondary;
  te-metric metric;
  transit-delay seconds;
}
network-summary-export [ policy-names ];
network-summary-import [ policy-names ];
no-context-identifier-advertisement;
```

```

nssa {
    area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
    default-lsa {
        default-metric metric;
        metric-type type;
        type-7;
    }
    (summaries | no-summaries);
}
stub <default-metric metric> <summaries | no-summaries>;
virtual-link neighbor-id router-id transit-area area-id;
}
backup-spf-options
    disable;
    downstream-paths-only;
    no-install;
}
database-protection {
    ignore-count number;
    ignore-time seconds;
    maximum-lsa number;
    reset-time seconds;
    warning-only;
    warning-threshold percent;
}
disable;
export [ policy-names ];
external-preference preference;
graceful-restart {
    disable;
    helper-disable <both | restart-signaling | standard>;
    no-strict-lsa-checking;
    notify-duration seconds;
    restart-duration seconds;
}
import [ policy-names ];
no-nssa-abr;
no-rfc-1583;
overload <timeout seconds>;
preference preference;
prefix-export-limit number;
reference-bandwidth reference-bandwidth;
rib-group group-name;
spf-options {
    delay milliseconds;
    holddown milliseconds;
    no-ignore-our-externals;
    rapid-runs number;
}
topology {
    disable;
    rib-group group-name;
    topology-id number;
}
traceoptions {

```

```

        file filename <files number> <size maximum-file-size> <world-readable |
          no-world-readable>;
        flag flag <flag-modifier> <disable>;
      }
    traffic-engineering {
      advertise-unnumbered-interfaces;
      credibility-protocol-preference;
      ignore-lsp-metrics;
      multicast-rpf-routes;
      no-topology;
      shortcuts <lsp-metric-into-summary>;
    }
  }
}

```

Unsupported Statements in the [edit protocols ospf] Hierarchy Level

All statements in the [edit protocols ospf] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 16: Unsupported [edit protocols ospf] Configuration Statements on EX Series Switches

Statement	Hierarchy
backup-spf-options	[edit protocols ospf topology]
key-chain	[edit protocols ospf area interface bfd-liveness-detection authentication]
overload	[edit protocols ospf topology]
prefix-export-limit	[edit protocols ospf topology]
spf-options	[edit protocols ospf topology]
topology	[edit protocols ospf area interface]

NOTE: Variables, such as *interface-name*, are not shown in the statements or hierarchies.

- Related Documentation**
- *OSPF Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols ospf3] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols ospf3] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.

- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols ospf3\] Hierarchy Level on page 141](#)
- [Unsupported Statements in the \[edit protocols ospf3\] Hierarchy Level on page 143](#)

Supported Statements in the [edit protocols ospf3] Hierarchy Level

The following hierarchy shows the **[edit protocols ospf3]** configuration statements supported on EX Series switches:

```

protocols {
  ospf3 {
    area area-id {
      area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
      context-identifier
      inter-area-prefix-export [ policy-names ];
      inter-area-prefix-import [ policy-names ];
      interface interface-name {
        bandwidth-based-metrics {
          bandwidth value metric number;
        }
        bfd-liveness-detection {
          authentication {
            algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
              meticulous-keyed-sha-1 | simple-password);
            loose-check;
          }
          detection-time {
            threshold milliseconds;
          }
          full-neighbors-only;
          minimum-interval milliseconds;
          minimum-receive-interval milliseconds;
          multiplier number;
          no-adaptation;
          transmit-interval {
            minimum-interval milliseconds;
            threshold milliseconds;
          }
          version (0|1 | automatic);
        }
        dead-interval seconds;
        disable;
        flood-reduction;
        hello-interval seconds;
        interface-type (p2mp-over-lan | p2p);
        ipsec-sa sa-name;
        (link-protection | node-link-protection);
      }
    }
  }
}

```

```

metric metric;
no-eligible-backup;
passive {
    traffic-engineering {
        remote-node-id address;
    }
}
priority number;
retransmit-interval seconds;
secondary;
transit-delay seconds;
}
no-context-identifier-advertisement;
nssa {
    area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
    default-lsa {
        default-metric metric;
        metric-type type;
        type-7;
    }
    (summaries | no-summaries);
}
stub <default-metric metric> <summaries | no-summaries>;
}
backup-spf-options (disable | downstream-paths-only | no-install);
database-protection {
    ignore-count number;
    ignore-time seconds;
    maximum-lsa number;
    reset-time seconds;
    warning-only;
    warning-threshold percent;
}
disable;
export [ policy-names ];
external-preference preference;
graceful-restart {
    disable;
    helper-disable;
    no-strict-lsa-checking;
    notify-duration seconds;
    restart-duration seconds;
}
import [ policy-names ];
no-nssa-abr;
no-rfc-1583;
overload <timeout seconds>;
preference preference;
prefix-export-limit number;
realm (ipv4-multicast| ipv6-multicast) {
    ... same statements as at the [edit protocols ospf3] hierarchy level, EXCEPT FOR ...
    area area-id {
        interface interface-name {
            no-eligible-backup;  # NOT valid at this level
        }
    }
}

```



```

    backup-spf-options { ... }  # NOT valid at this level
    realm realm-identifier { ... }  # NOT valid at this level
    traffic-engineering { ... }  # NOT valid at this level
}
realm ipv4-unicast {
    ... same statements as at the [edit protocols ospf3] hierarchy level, PLUS ...
    area area-id {
        interface interface-name {
        }
    }
}
realm ipv6-unicast {
    ... same statements as at the [edit protocols ospf3] hierarchy level, PLUS ...
    disable;
    backup-spf-options {
        disable;
        downstream-paths-only;
        no-install;
    }
}
reference-bandwidth reference-bandwidth;
rib-group group-name;
spf-options {
    delay milliseconds;
    holddown milliseconds;
    no-ignore-our-externals;
    rapid-runs number;
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
traffic-engineering {
    ignore-lsp-metrics;
    shortcuts <lsp-metric-into-summary>;
}
}
}

```

Unsupported Statements in the [edit protocols ospf3] Hierarchy Level

All statements in the [edit protocols ospf3] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exception:

Table 17: Unsupported [edit protocols ospf 3] Configuration Statements on EX Series Switches

Statement	Hierarchy
key-chain	[edit protocols ospf3 area interface bfd-liveness-detection authentication]

NOTE: Variables, such as *interface-name*, are not shown in the statements or hierarchies.

- Related Documentation**
- *OSPF Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols pim\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols pim]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols pim\] Hierarchy Level on page 144](#)
- [Unsupported Statements in the \[edit protocols pim\] Hierarchy Level on page 147](#)

Supported Statements in the **[edit protocols pim]** Hierarchy Level

The following hierarchy shows the **[edit protocols pim]** configuration statements supported on EX Series switches:

```
protocols {
  pim {
    assert-timeout seconds;
    default-vpn-source {
      interface-name interface-name;
    }
    dense-groups {
      address <announce | reject>;
    }
    disable;
    dr-election-on-p2p;
    export [ policy-names ];
    family (inet | inet6) {
      disable;
    }
    graceful-restart {
      disable;
      restart-duration seconds;
    }
    import [ policy-names ];
    interface interface-name {
      accept-remote-source;
      disable;
      bfd-liveness-detection {
        authentication {
```

```

    algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
               meticulous-keyed-sha-1 | simple-password);
    key-chain key-chain-name;
    loose-check;
}
detection-time {
    threshold milliseconds;
}
minimum-interval milliseconds;
minimum-receive-interval milliseconds;
multiplier number;
no-adaptation;
transmit-interval {
    minimum-interval milliseconds;
    threshold milliseconds;
}
version (1 | automatic);
}
disable;
family (inet | inet6) {
    disable;
}
hello-interval seconds;
mode (bidirectional-sparse | bidirectional-sparse-dense | dense | sparse |
      sparse-dense);
neighbor-policy [ policy-names ];
override-interval milliseconds;
priority number;
propagation-delay milliseconds;
reset-tracking-bit;
version (1 | 2);
}
join-load-balance;
join-prune-timeout seconds;
mpls-internet-multicast;
nexthop-hold-time time;
no-wildcard-register-stop;
nonstop-routing {
    disable;
}
override-interval milliseconds;
propagation-delay milliseconds;
reset-tracking-bit;
rib-group {
    inet group-name;
    inet6 group-name;
}
rp {
    auto-rp {
        (announce | discovery | mapping);
        (mapping-agent-election | no-mapping-agent-election);
    }
    bootstrap {
        family (inet | inet6) {
            export [ policy-names ];
            import [ policy-names ];

```

```

        priority number;
    }
}
bootstrap-export [ policy-names ];
bootstrap-import [ policy-names ];
bootstrap-priority number;
dr-register-policy [ policy-names ];
embedded-rp {
    group-ranges {
        ip-prefix</prefix-length>;
    }
    maximum-rps limit;
}
local {
    address address;
    disable;
    family (inet | inet6) {
        address address;
        anycast-pim {
            local-address address;
            rp-set {
                address address <forward-msdp-sa>;
            }
        }
        disable;
        group-ranges {
            ip-prefix</prefix-length>;
        }
        hold-time seconds;
        override;
        priority number;
    }
    group-ranges {
        ip-prefix</prefix-length>;
    }
    hold-time seconds;
    override;
    priority number;
}
register-probe-time time;
rp-register-policy [ policy-names ];
static {
    address address {
        group-ranges {
            ip-prefix</prefix-length>;
        }
        override;
        version (1 | 2);
    }
}
}
spt-threshold {
    infinity [ policy-names ];
}
traceoptions {

```

```

file filename <files number> <size maximum-file-size> <world-readable |
no-world-readable>;
flag flag <flag-modifier> <disable>;
flag (route | state) <flag-modifier> <disable> <filter <match-on prefix>
<policy [ policy-names ]>>;
}
}
}

```

Unsupported Statements in the [edit protocols pim] Hierarchy Level

All statements in the **[edit protocols pim]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Multicast Protocols Feature Guide for Routing Devices*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols rip] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols rip]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols rip\] Hierarchy Level on page 147](#)
- [Unsupported Statements in the \[edit protocols rip\] Hierarchy Level on page 149](#)

Supported Statements in the [edit protocols rip] Hierarchy Level

The following hierarchy shows the **[edit protocols rip]** configuration statements supported on EX Series switches:

```

protocols {
  rip {
    authentication-key password;
    authentication-type type;
    (check-zero | no-check-zero);
    group group-name {
      bfd-liveness-detection {
        authentication {
          algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
meticulous-keyed-sha-1 | simple-password);

```

```

        loose-check;
    }
    detection-time {
        threshold milliseconds;
    }
    minimum-interval milliseconds;
    minimum-receive-interval milliseconds;
    multiplier number;
    no-adaptation;
    transmit-interval {
        minimum-interval milliseconds;
        threshold milliseconds;
    }
    version (1 | automatic);
}
export [ policy-names ];
import [ policy-names ];
metric-out metric;
neighbor neighbor-name {
    any-sender;
    authentication-key password;
    authentication-type type;
    bfd-liveness-detection {
        authentication {
            algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
                meticulous-keyed-sha-1 | simple-password);
            loose-check;
        }
        detection-time {
            threshold milliseconds;
        }
        minimum-interval milliseconds;
        minimum-receive-interval milliseconds;
        multiplier number;
        no-adaptation;
        transmit-interval {
            minimum-interval milliseconds;
            threshold milliseconds;
        }
        version (1 | automatic);
    }
    (check-zero | no-check-zero);
    import [ policy-names ];
    message-size number;
    metric-in metric;
    receive (both | none | version-1 | version-2);
    route-timeout seconds;
    send (broadcast | multicast | none | version-1);
    update-interval seconds;
}
preference preference;
route-timeout seconds;
update-interval seconds;
}
graceful-restart {
    disable;

```

```
        restart-time seconds;
    }
    holddown seconds;
    import [ policy-names ];
    message-size number;
    metric-in metric;
    receive (both | none | version-1 | version-2);
    rib-group group-name;
    route-timeout seconds;
    send (broadcast | multicast | none | version-1);
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
    update-interval seconds;
}
```

Unsupported Statements in the [edit protocols rip] Hierarchy Level

All statements in the [edit protocols rip] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 18: Unsupported [edit protocols-rip] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>group-name</i> , are not shown in the statements or hierarchies.	
demand-circuit	[edit protocols rip group] [edit protocols rip group neighbor]
key-chain	[edit protocols rip group bfd-liveness-detection authentication] [edit protocols rip group neighbor bfd-liveness-detection authentication]
max-retrans-time	[edit protocols rip group] [edit protocols rip group neighbor]

- Related Documentation
- *RIP Feature Guide for Routing Devices*
 - [edit protocols] Configuration Statement Hierarchy on EX Series Switches on page 87

[edit protocols ripng] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols ripng] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.

- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols ripng\] Hierarchy Level on page 150](#)
- [Unsupported Statements in the \[edit protocols ripng\] Hierarchy Level on page 151](#)

Supported Statements in the [edit protocols ripng] Hierarchy Level

The following hierarchy shows the **[edit protocols ripng]** configuration statements supported on EX Series switches:

```
protocols {
  ripng {
    graceful-restart {
      disable;
      restart-time seconds;
    }
    group group-name {
      export [ policy-names ];
      import [ policy-names ];
      metric-out metric;
      neighbor neighbor-name {
        import [ policy-names ];
        metric-in metric;
        receive <none>;
        route-timeout seconds;
        send <none>;
        update-interval seconds;
      }
      preference number;
      route-timeout seconds;
      update-interval seconds;
    }
    holddown seconds;
    import [ policy-names ];
    metric-in metric;
    receive <none>;
    route-timeout seconds;
    send <none>;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
    update-interval seconds;
  }
}
```


Unsupported Statements in the [edit protocols ripng] Hierarchy Level

All statements in the **[edit protocols ripng]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- *RIPng Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols router-advertisement] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols router-advertisement]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols router-advertisement\] Hierarchy Level on page 151](#)
- [Unsupported Statements in the \[edit protocols router-advertisement\] Hierarchy Level on page 152](#)

Supported Statements in the [edit protocols router-advertisement] Hierarchy Level

The following hierarchy shows the **[edit protocols router-advertisement]** configuration statements supported on EX Series switches:

```
protocols {
  router-advertisement {
    interface interface-name {
      current-hop-limit number;
      default-lifetime seconds;
      (link-mtu | no-link-mtu);
      (managed-configuration | no-managed-configuration);
      max-advertisement-interval seconds;
      min-advertisement-interval seconds;
      (other-stateful-configuration | no-other-stateful-configuration);
      prefix prefix {
        (autonomous | no-autonomous);
        (on-link | no-on-link);
        preferred-lifetime seconds;
        valid-lifetime seconds;
      }
    }
  }
}
```

```

    }
    reachable-time milliseconds;
    retransmit-timer milliseconds;
    virtual-router-only;
  }
  traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag;
  }
}

```

Unsupported Statements in the [edit protocols router-advertisement] Hierarchy Level

All statements in the [edit protocols router-advertisement] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols router-discovery] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols router-discovery] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols router-discovery\] Hierarchy Level on page 152](#)
- [Unsupported Statements in the \[edit protocols router-discovery\] Hierarchy Level on page 153](#)

Supported Statements in the [edit protocols router-discovery] Hierarchy Level

The following hierarchy shows the [edit protocols router-discovery] configuration statements supported on EX Series switches:

```

protocols {
  router-discovery {
    address address {
      (advertise | (broadcast | multicast ) | ignore);
    }
  }
}

```

```

        (ineligible | priority number);
    }
    disable;
    interface interface-name {
        lifetime seconds;
        max-advertisement-interval seconds;
        min-advertisement-interval seconds;
    }
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
        flag flag;
    }
}
}

```

Unsupported Statements in the [edit protocols router-discovery] Hierarchy Level

All statements in the **[edit protocols router-discovery]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols rstp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols rstp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols rstp\] Hierarchy Level on page 153](#)
- [Unsupported Statements in the \[edit protocols rstp\] Hierarchy Level on page 154](#)

Supported Statements in the [edit protocols rstp] Hierarchy Level

The following hierarchy shows the **[edit protocols rstp]** configuration statements supported on EX Series switches:

```

protocols {
  rstp {
    bpdu-block-on-edge;
    bridge-priority priority;
  }
}

```

```
disable;
forward-delay seconds;
hello-time seconds;
interface (all | interface-name) {
    arp-on-stp;
    bpdu-timeout-action {
        block;
        log;
    }
    cost cost;
    disable;
    edge;
    mode mode;
    no-root-port;
    priority priority;
}
max-age seconds;
traceoptions {
    file filename <files number > <size size > <no-stamp | no-world-readable |
    world-readable>;
    flag flag;
}
}
```

Unsupported Statements in the [edit protocols rstp] Hierarchy Level

All statements in the [edit protocols rstp] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Faster Convergence and Improved Network Stability with RSTP on EX Series Switches*
- *Understanding RSTP for EX Series Switches*
- *show spanning-tree bridge*
- *show spanning-tree interface*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols rsvp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit protocols rsvp] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols rsvp\] Hierarchy Level on page 155](#)
- [Unsupported Statements in the \[edit protocols rsvp\] Hierarchy Level on page 155](#)

Supported Statements in the [edit protocols rsvp] Hierarchy Level

The following hierarchy shows the **[edit protocols rsvp]** configuration statements supported on EX Series switches.

```
protocols {
  rsvp {
    disable;
    hello-acknowledgements;
    interface interface-name {
      (aggregate | no-aggregate);
      authentication-key key;
      disable;
      hello-interval seconds;
      (reliable | no-reliable);
    }
    keep-multiplier number;
    load-balance bandwidth;
    no-interface-hello;
    no-local-reversion;
    no-p2mp-sublsp;
    node-hello;
    refresh-time seconds;
    setup-protection;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
  }
}
```

Unsupported Statements in the [edit protocols rsvp] Hierarchy Level

All statements in the **[edit protocols rsvp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 19: Unsupported [edit protocols rsvp] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>interface-name</i> , are not shown in the statements or hierarchies.	
aggregate	[edit protocols rsvp peer-interface]

Table 19: Unsupported [edit protocols rsvp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
aggressive	[edit protocols rsvp preemption]
admin-group	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
authentication-key	[edit protocols rsvp peer-interface]
bandwidth	[edit protocols rsvp interface] [edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass] [edit protocols rsvp interface subscription] [edit protocols rsvp load-balance]
bypass	[edit protocols rsvp interface link-protection]
class-of-service	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
cleanup-timer	[edit protocols rsvp preemption soft-preemption]
ct0	[edit protocols rsvp interface link-protection bandwidth] [edit protocols rsvp interface link-protection bypass bandwidth] [edit protocols rsvp interface subscription]
ct1	[edit protocols rsvp interface link-protection bandwidth] [edit protocols rsvp interface link-protection bypass bandwidth] [edit protocols rsvp interface subscription]
ct2	[edit protocols rsvp interface link-protection bandwidth] [edit protocols rsvp interface link-protection bypass bandwidth] [edit protocols rsvp interface subscription]
ct3	[edit protocols rsvp interface link-protection bandwidth] [edit protocols rsvp interface link-protection bypass bandwidth] [edit protocols rsvp interface subscription]
description	[edit protocols rsvp interface link-protection bypass]
devices	[edit protocols rsvp tunnel-services]
disable	[edit protocols rsvp graceful-restart] [edit protocols rsvp interface link-protection] [edit protocols rsvp peer-interface] [edit protocols rsvp preemption]
exclude	[edit protocols rsvp interface link-protection admin-group] [edit protocols rsvp interface link-protection bypass admin-group]

Table 19: Unsupported [edit protocols rsvp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
exclude-srlg	[edit protocols rsvp interface link-protection bypass] [edit protocols rsvp interface link-protection]
fast-reroute	[edit protocols rsvp]
graceful-deletion-timeout	[edit protocols rsvp]
graceful-restart	[edit protocols rsvp]
hello-interval	[edit protocols rsvp peer-interface]
helper-disable	[edit protocols rsvp graceful-restart]
hop-limit	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
include-all	[edit protocols rsvp interface link-protection admin-group] [edit protocols rsvp interface link-protection bypass admin-group]
include-any	[edit protocols rsvp interface link-protection admin-group] [edit protocols rsvp interface link-protection bypass admin-group]
link-protection	[edit protocols rsvp interface]
load-balance	[edit protocols rsvp]
loose	[edit protocols rsvp interface link-protection bypass path] [edit protocols rsvp interface link-protection path]
max-bypasses	[edit protocols rsvp interface link-protection]
maximum-helper-recovery-time	[edit protocols rsvp graceful-restart]
maximum-helper-restart-time	[edit protocols rsvp graceful-restart]
no-aggregate	[edit protocols rsvp peer-interface]
no-cspf	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
no-node-id-subobject	[edit protocols rsvp]
no-node-protection	[edit protocols rsvp interface link-protection]
no-reliable	[edit protocols rsvp peer-interface]

Table 19: Unsupported [edit protocols rsvp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
normal	[edit protocols rsvp preemption]
optimize-timer	[edit protocols rsvp fast-reroute] [edit protocols rsvp interface link-protection]
path	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
peer-interface	[edit protocols rsvp]
preemption	[edit protocols rsvp]
priority	[edit protocols rsvp interface link-protection] [edit protocols rsvp interface link-protection bypass]
reliable	[edit protocols rsvp peer-interface]
soft-preemption	[edit protocols rsvp preemption]
strict	[edit protocols rsvp interface link-protection bypass path] [edit protocols rsvp interface link-protection path]
subscription	[edit protocols rsvp interface] [edit protocols rsvp interface link-protection]
to	[edit protocols rsvp interface link-protection bypass]
tunnel-services	[edit protocols rsvp]
update-threshold	[edit protocols rsvp interface]

- Related Documentation**
- *RSVP Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols sflow\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols sflow]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols sflow\] Hierarchy Level on page 159](#)
- [Unsupported Statements in the \[edit sflow\] Hierarchy Level on page 159](#)

Supported Statements in the [edit protocols sflow] Hierarchy Level

The following hierarchy shows the **[edit protocols sflow]** configuration statements supported on EX Series switches:

```
sflow {
  agent-id;
  collector {
    ip-address;
    udp-port port-number;
  }
  interfaces interface-name {
    polling-interval seconds;
    sample-rate {
      egress number;
      ingress number;
    }
  }
  polling-interval seconds;
  sample-rate {
    egress number;
    ingress number;
  }
  source-ip;
}
traceoptions {
  file filename <files number> <no-stamp> <replace> <size size> <world-readable |
  no-world-readable>;
  flag (all | client-server | configuration | interface | rtsock);
}
```

Unsupported Statements in the [edit sflow] Hierarchy Level

All statements in the **[edit protocols sflow]** hierarchy level that are displayed in the command-line interface (CLI) on the EX Series switch are supported on the switch and operate as documented.

Related Documentation

- [Configuring sFlow Technology for Network Monitoring \(CLI Procedure\)](#)
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols stp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols stp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols stp\] Hierarchy Level on page 160](#)
- [Unsupported Statements in the \[edit protocols stp\] Hierarchy Level on page 161](#)

Supported Statements in the [edit protocols stp] Hierarchy Level

The following hierarchy shows the **[edit protocols stp]** configuration statements supported on EX Series switches:

```
protocols {
  stp {
    bpdud-block-on-edge;
    bridge-priority priority;
    disable;
    forward-delay seconds;
    hello-time seconds;
    interface (all | interface-name) {
      arp-on-stp;
      bpdud-timeout-action {
        block;
        log;
      }
      cost cost;
      disable;
      edge;
      mode mode;
      no-root-port;
      priority priority;
    }
    max-age seconds;
    traceoptions {
      file filename <files number > <size size > <no-stamp | world-readable |
        no-world-readable>;
      flag flag;
    }
  }
}
```

Unsupported Statements in the `[edit protocols stp]` Hierarchy Level

All statements in the `[edit protocols stp]` hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Example: Configuring BPDU Protection on Edge Interfaces to Prevent STP Miscalculations on EX Series Switches*
- *Configuring STP (CLI Procedure)*
- *Understanding STP for EX Series Switches*
- *show spanning-tree bridge*
- *show spanning-tree interface*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

`[edit protocols uplink-failure-detection]` Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the `[edit protocols uplink-failure-detection]` hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the `\[edit protocols uplink-failure-detection\]` Hierarchy Level on page 161](#)
- [Unsupported Statements in the `\[edit protocols uplink-failure-detection\]` Hierarchy Level on page 162](#)

Supported Statements in the `[edit protocols uplink-failure-detection]` Hierarchy Level

The following hierarchy shows the `[edit protocols uplink-failure-detection]` configuration statements supported on EX Series switches:

```
protocols {
  uplink-failure-detection {
    action {
      log;
    }
    group {
      group-name {
```

```

        link-to-monitor {
            interface-name;
        }
        link-to-disable {
            interface-name;
        }
    }
}
traceoptions {
    file filename <files number> <no-stamp> <replace> <size size> <world-readable |
    no-world-readable>;
    flag (all | dcd | groups | interface | parse );
}
}
}

```

Unsupported Statements in the [edit protocols uplink-failure-detection] Hierarchy Level

All statements in the **[edit protocols uplink-failure-detection]** hierarchy level that are displayed in the command-line interface (CLI) on the EX Series switch are supported on the switch and operate as documented.

Related Documentation

- *Configuring Interfaces for Uplink Failure Detection (CLI Procedure)*
- *Understanding Uplink Failure Detection*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit protocols vrrp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit protocols vrrp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols vrrp\] Hierarchy Level on page 162](#)
- [Unsupported Statements in the \[edit protocols vrrp\] Hierarchy Level on page 163](#)

Supported Statements in the [edit protocols vrrp] Hierarchy Level

The following hierarchy shows the **[edit protocols vrrp]** configuration statements supported on EX Series switches:

```

protocols {

```

```

vrp {
    failover-delay milliseconds;
    startup-silent-period seconds;
    traceoptions {
        file <filename> <files number> <match regular-expression> <microsecond-stamp>
          <size maximum-file-size> <world-readable | no-world-readable>;
        flag flag;
        no-remote-trace;
    }
}

```

Unsupported Statements in the [edit protocols vrrp] Hierarchy Level

All statements in the **[edit protocols vrrp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

- Related Documentation**
- *Ethernet Interfaces Feature Guide for Routing Devices*
 - [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[\[edit protocols vstp\] Configuration Statement Hierarchy on EX Series Switches](#)

This topic lists supported and unsupported configuration statements in the **[edit protocols vstp]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit protocols vstp\] Hierarchy Level on page 163](#)
- [Unsupported Statements in the \[edit protocols vstp\] Hierarchy Level on page 164](#)

Supported Statements in the [edit protocols vstp] Hierarchy Level

The following hierarchy shows the **[edit protocols vstp]** configuration statements supported on EX Series switches:

```

protocols {
    vstp {
        bpdu-block-on-edge;
        disable;
        force-version stp;
        vlan (all | vlan-id | vlan-name) {
            bridge-priority priority;

```

```
forward-delay seconds;  
hello-time seconds;  
interface (all | interface-name) {  
    arp-on-stp;  
    bpdu-timeout-action {  
        block;  
        log;  
    }  
    cost cost;  
    disable;  
    edge;  
    mode mode;  
    no-root-port;  
    priority priority;  
}  
max-age seconds;  
traceoptions {  
    file filename <files number > <size size > <no-stamp | no-world-readable |  
        world-readable>;  
    flag flag;  
}  
}  
}
```

Unsupported Statements in the [edit protocols vstp] Hierarchy Level

All statements in the **[edit protocols vstp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Configuring VSTP (CLI Procedure)*
- *Understanding VSTP for EX Series Switches*
- *show spanning-tree bridge*
- *show spanning-tree interface*
- [\[edit protocols\] Configuration Statement Hierarchy on EX Series Switches on page 87](#)

[edit redundant-power-system] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit redundant-power-system]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit redundant-power-system\] Hierarchy Level on page 165](#)
- [Unsupported Statements in the \[edit redundant-power-system\] Hierarchy Level on page 165](#)

Supported Statements in the [edit redundant-power-system] Hierarchy Level

The following hierarchy shows the **[edit redundant-power-system]** configuration statements supported on EX Series switches:

```
redundant-power-system {
  member member-number {
    priority (0|1|2|3|4|5|6);
  }
}
```

Unsupported Statements in the [edit redundant-power-system] Hierarchy Level

All statements in the **[edit redundant-power-system]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *EX Series Redundant Power System (RPS) Documentation*
- *Understanding How Power Priority Is Determined and Set for Switches Connected to the EX Series Redundant Power System*
- *EX Series Redundant Power System Hardware Overview*

[edit routing-options] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit routing-options]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit routing-options\] Hierarchy Level on page 166](#)
- [Unsupported Statements in the \[edit routing-options\] Hierarchy Level on page 182](#)

Supported Statements in the [edit routing-options] Hierarchy Level

The following hierarchy shows the **[edit routing-options]** configuration statements supported on EX Series switches:

```
routing-options {
  access {
    route ip-prefix</prefix-length> {
      metric route-cost;
      next-hop next-hop;
      preference route-distance;
      qualified-next-hop address {
        bfd-liveness-detection {
          authentication {
            algorithm algorithm-name;
            key-chain key-chain-name;
            loose-check;
          }
          detection-time {
            threshold milliseconds;
          }
          holddown-interval milliseconds;
          local address address;
          minimum-interval milliseconds;
          minimum-receive-interval milliseconds;
          minimum-receive-ttl milliseconds;
          multiplier number;
          neighbor address;
          no-adaptation;
          transmit-interval {
            minimum-interval milliseconds;
            threshold milliseconds;
          }
          version (1 | automatic);
        }
        interface interface-name;
        mac-address mac-address;
        metric metric;
        preference preference-value;
      }
      tag route-tag;
    }
  } # end of [edit routing-options access]
  access-internal {
    route ip-prefix</prefix-length> {
      next-hop [ addresses ];
      qualified-next-hop address {
        bfd-liveness-detection {
          authentication {
            algorithm algorithm-name;

```



```

        key-chain key-chain-name;
        loose-check;
    }
    detection-time {
        threshold milliseconds;
    }
    holddown-interval milliseconds;
    local address address;
    minimum-interval milliseconds;
    minimum-receive-interval milliseconds;
    minimum-receive-ttl milliseconds;
    multiplier number;
    neighbor address;
    no-adaptation;
    transmit-interval {
        minimum-interval milliseconds;
        threshold milliseconds;
    }
    version (1 | automatic);
}
interface interface-name;
mac-address mac-address;
metric metric;
preference preference-value;
}
}
} # end of [edit routing-options access-internal]
admin-groups-extended group-name {
    group-value group-identifier;
}
admin-groups-extended-range {
    maximum maximum-number;
    minimum minimum-number;
}
aggregate {
    defaults {
        (active | passive);
    }
    as-path {
        aggregator as-number address;
        atomic-aggregate;
        origin (egp | igp | incomplete);
        path path-identifier;
    }
    brief;
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    discard;
    full;
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    preference preference-value <type metric-type>;
    preference2 preference-value <type metric-type>;
    tag metric <type metric-type>;

```

```

    tag2 metric <type metric-type>;
}
route {
  (active | passive);
  as-path {
    aggregator as-number address;
    atomic-aggregate;
    origin (egp | igp | incomplete);
    path path-identifier;
  }
  brief;
  color metric <type metric-type>;
  color2 metric <type metric-type>;
  community [ community-id no-advertise no-export no-export-subconfed ];
  discard;
  full;
  metric metric <type metric-type>;
  metric2 metric <type metric-type>;
  metric3 metric <type metric-type>;
  metric4 metric <type metric-type>;
  policy [policy-names];
  preference preference-value <type metric-type>;
  preference2 preference-value <type metric-type>;
  tag metric <type metric-type>;
  tag2 metric <type metric-type>;
} # end of [edit routing-options aggregate]
}
bgp-orf-cisco-mode;
bmp {
  memory-limit bytes;
  station-address (ip-address | name);
  station-port-number port-number;
  statistics-timeout seconds;
}
confederation as-number members [ as-numbers ];
dynamic-tunnels {
  traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag (all | kernel | task | tunnel);
  }
}
fate-sharing {
  group group-name {
    cost value;
    from {
      address <to address>;
    }
  }
}
flow {
  firewall-install-disable {
    route;
    term-order;
    validation;
  }
}

```

```

route name {
  match {
    destination address;
    destination-port [ afs bgp biff bootpc bootps cmd cvspserver dhcp domain eklogin
      ekshell exec finger ftp ftp-data http https ident imap kerberos-sec klogin kpasswd
      krb-prop krbupdate kshell ldap ldp login mobileip-agent mobilip-mn msdp
      netbios-dgm netbios-ns netbios-ssn nfsd nntp ntalk ntp pop3 pptp printer radacct
      radius rip rkinit smtp snmp snmptrap snpp socks ssh sunrpc syslog tacacs
      tacacs-ds talk telnet tftp timed who xdmcp ];
    dscp [ code-points ];
    fragment [ don't-fragment first-fragment is-fragment last-fragment
      not-a-fragment ];
    icmp-code [ communication-prohibited-by-filtering destination-host-prohibited
      destination-host-unknown fragmentation-needed host-precedence-violation
      host-unreachable host-unreachable-for-tos ip-header-bad network-unreachable
      network-unreachable-for-tos port-unreachable precedence-cutoff-in-effect
      protocol-unreachable redirect-for-host redirect-for-network
      redirect-for-tos-and-host redirect-for-tos-and-net required-option-missing
      source-host-isolated source-route-failed ttl-eq-zero-during-reassembly
      ttl-eq-zero-during-transit ];
    icmp-type [ echo-reply echo-request info-reply info-request mask-reply
      mask-request parameter-problem redirect router-advertisement router-solicit
      source-quench time-exceeded timestamp timestamp-reply unreachable ];
    packet-length [ values ];
    port [ ... same values as for the preceding destination-port statement ... ];
    protocol [ ah esp gre icmp igmp ipip ospf pim rsvp sctp tcp udp ];
    source address;
    source-port [ ... same values as for the preceding destination-port statement ... ];
    tcp-flags [ ack fin push rst syn urgent ];
  }
  then {
    (accept | discard);
    community community-name;
    next-term;
    rate-limit value;
    routing-instance routing-instance-name;
    sample;
  }
}
term-order;
validation {
  traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag <flag-modifier> <disable>;
  }
}
} # end of [edit routing-options flow]
forwarding-table {
  export [ policy-names ];
  indexed-next-hop;
  (indirect-next-hop | no-indirect-next-hop);
  (indirect-next-hop-change-acknowledgements |
    no-indirect-next-hop-change-acknowledgements);
  krt-nexthop-ack-timeout;
  unicast-reverse-path;
}

```

```

}
generate {
  defaults {
    (active | passive);
    as-path {
      aggregator as-number address;
      atomic-aggregate;
      origin (egp | igp | incomplete);
      path path-identifier;
    }
    brief;
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    discard;
    full;
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    preference preference-value <type metric-type>;
    preference2 preference-value <type metric-type>;
    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
  }
  route {
    (active | passive);
    as-path {
      aggregator as-number address;
      atomic-aggregate;
      origin (egp | igp | incomplete);
      path path-identifier;
    }
    brief;
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    discard;
    full;
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    preference preference-value <type metric-type>;
    policy [ policy-names ];
    preference2 preference-value <type metric-type>;
    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
  }
} # end of [edit routing-options generate]
graceful-restart {
  disable;
  restart-duration seconds;
}
host-fast-reroute {
  global-arp-prefix-limit;

```

```

    global-supplementary-blackout-timer;
}
instance-export [ policy-names ];
instance-import [ policy-names ];
interface-routes {
    family (inet | inet6) {
        export {
            lan;
            point-to-point;
        }
        import [ policy-names ];
    }
}
rib-group {
    inet group-name;
    inet6 group-name;
}
}
logical-system-mux {
    traceoptions {
        file {
            <file name>;
            files;
            no-world-readable;
            size;
            world-readable;
        }
        flag {
            all;
            debug;
            general;
            normal;
            parse;
            policy;
            route;
            state;
            task;
            timer;
        }
    }
}
martians {
    ip-prefix</prefix-length> (exact | longer | orlonger |
        prefix-length-range /minimum-prefix-length–/maximum-prefix-length |
        through ip-prefix</prefix-length> | upto /prefix-length>) <allow>;
}
maximum-paths path-limit <log-only | threshold value> <log-interval seconds>;
maximum-prefixes prefix-limit <log-only | threshold value> <log-interval seconds>;
med-igp-update-interval minutes;
multicast {
    asm-override-ssm;
    backup-pe-group group-name {
        backups [ addresses ];
        local-address address;
    }
    flow-map flow-map-name {
        bandwidth <bps> <adaptive>;
    }
}

```

```
forwarding-cache {
    timeout (never <non-discard-entry-only> | minutes);
}
policy [ policy-names ];
redundant-sources [ addresses ];
}
forwarding-cache {
    family {
        inet {
            threshold {
                log-warning;
                reuse;
                suppress;
            }
        }
        inet6 {
            threshold {
                log-warning;
                reuse;
                suppress;
            }
        }
    }
    threshold {
        log-warning;
        reuse;
        suppress;
    }
    timeout;
}
interface interface-name {
    maximum-bandwidth bps;
}
pim-to-igmp-proxy {
    upstream-interface [ interface-names ];
}
pim-to-mld-proxy {
    upstream-interface [ interface-names ];
}
rpf-check-policy [ policy-names ];
scope name {
    interface interface;
    prefix prefix;
}
scope-policy [ policy-names ];
ssm-groups value;
ssm-map ssm-map-name {
    policy [ policy-names ];
    source [ addresses ];
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <disable>;
}
} # end of [edit routing-options multicast]
```

```

nonstop-routing;
no-bfd-triggered-local-repair;
options {
    mark seconds;
    syslog {
        level level;
        upto level;
    }
}
ppm {
    no-delegate-processing;
}
resolution {
    rib routing-table-name {
        import [ policy-names ];
        resolution-ribs [ routing-table-names ];
    }
    tracefilter [ filter-policy-names ];
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
rib routing-table-name {
    access {
        route ip-prefix</prefix-length> {
            metric route-cost;
            next-hop next-hop;
            preference route-distance;
            qualified-next-hop address {
                bfd-liveness-detection {
                    authentication {
                        algorithm algorithm-name;
                        key-chain key-chain-name;
                        loose-check;
                    }
                    detection-time {
                        threshold milliseconds;
                    }
                }
                holddown-interval milliseconds;
                local address address;
                minimum-interval milliseconds;
                minimum-receive-interval milliseconds;
                minimum-receive-ttl milliseconds;
                multiplier number;
                neighbor address;
                no-adaptation;
                transmit-interval {
                    minimum-interval milliseconds;
                    threshold milliseconds;
                }
                version (1 | automatic);
            }
        }
        interface interface-name;
        mac-address mac-address;
    }
}

```

```

        metric metric;
        preference preference-value;
    }
    tag route-tag;
}
} # end of [edit routing-options rib access]
access-internal {
    route ip-prefix</prefix-length> {
        next-hop [ addresses ];
        qualified-next-hop address {
            bfd-liveness-detection {
                authentication {
                    algorithm algorithm-name;
                    key-chain key-chain-name;
                    loose-check;
                }
                detection-time {
                    threshold milliseconds;
                }
                holddown-interval milliseconds;
                local address address;
                minimum-interval milliseconds;
                minimum-receive-interval milliseconds;
                minimum-receive-ttl milliseconds;
                multiplier number;
                neighbor address;
                no-adaptation;
                transmit-interval {
                    minimum-interval milliseconds;
                    threshold milliseconds;
                }
                version (1 | automatic);
            }
            interface interface-name;
            mac-address mac-address;
            metric metric;
            preference preference-value;
        }
        tag route-tag;
    }
} # end of [edit routing-options rib access-internal]
aggregate {
    defaults {
        (active | passive);
        as-path {
            aggregator as-number address;
            atomic-aggregate;
            origin (egp | igp | incomplete);
            path path-identifier;
        }
        brief;
        color metric <type metric-type>;
        color2 metric <type metric-type>;
        community [ community-id no-advertise no-export no-export-subconfed ];
        discard;
        full;
    }
}

```



```

metric metric <type metric-type>;
metric2 metric <type metric-type>;
metric3 metric <type metric-type>;
metric4 metric <type metric-type>;
preference preference-value <type metric-type>;
preference2 preference-value <type metric-type>;
tag metric <type metric-type>;
tag2 metric <type metric-type>;
}
route {
  (active | passive);
  as-path {
    aggregator as-number address;
    atomic-aggregate;
    origin (egp | igp | incomplete);
    path path-identifier;
  }
  brief;
  color metric <type metric-type>;
  color2 metric <type metric-type>;
  community [ community-id no-advertise no-export no-export-subconfed ];
  discard;
  full;
  metric metric <type metric-type>;
  metric2 metric <type metric-type>;
  metric3 metric <type metric-type>;
  metric4 metric <type metric-type>;
  policy [policy-names];
  preference preference-value <type metric-type>;
  preference2 preference-value <type metric-type>;
  tag metric <type metric-type>;
  tag2 metric <type metric-type>;
}
} # end of [edit routing-options rib aggregate]
generate {
  defaults {
    (active | passive);
    as-path {
      aggregator as-number address;
      atomic-aggregate;
      origin (egp | igp | incomplete);
      path path-identifier;
    }
    brief;
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    discard;
    full;
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    policy value;
    preference preference-value <type metric-type>;
    preference2 preference-value <type metric-type>;
  }
}

```

```

    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
}
route {
  (active | passive);
  as-path {
    aggregator as-number address;
    atomic-aggregate;
    origin (egp | igp | incomplete);
    path path-identifier;
  }
  brief;
  color metric <type metric-type>;
  color2 metric <type metric-type>;
  community [ community-id no-advertise no-export no-export-subconfed ];
  discard;
  full;
  metric metric <type metric-type>;
  metric2 metric <type metric-type>;
  metric3 metric <type metric-type>;
  metric4 metric <type metric-type>;
  policy [policy-names];
  preference preference-value <type metric-type>;
  preference2 preference-value <type metric-type>;
  tag metric <type metric-type>;
  tag2 metric <type metric-type>;
}
} # end of [edit routing-options rib generate]
martians {
  ip-prefix </prefix-length> (exact | longer | orlonger |
    prefix-length-range /minimum-prefix-length-/maximum-prefix-length |
    through ip-prefix </prefix-length> | upto /prefix-length) <allow>;
}
maximum-paths path-limit <log-only | threshold value> <log-interval seconds>;
maximum-prefixes prefix-limit <log-only | threshold value> <log-interval seconds>;
static {
  defaults {
    (active | passive);
    as-path {
      aggregator as-number address;
      atomic-aggregate;
      origin (egp | igp | incomplete);
      path path-identifier;
    }
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    (install | no-install);
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    preference preference-value <type metric-type>;
    preference2 preference-value <type metric-type>;
    (readvertise | no-readvertise);
    (resolve | no-resolve);
  }
}

```

```

    (retain | no-retain);
    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
}
rib-group group-name;
route {
    (active | passive);
    as-path {
        aggregator as-number address;
        atomic-aggregate;
        origin (egp | igp | incomplete);
        path path-identifier;
    }
    backup-pe-group backup-pe-group;
    bfd-liveness-detection {
        authentication {
            algorithm algorithm-name;
            key-chain key-chain-name;
            loose-check;
        }
        detection-time {
            threshold milliseconds;
        }
        holddown-interval milliseconds;
        local address address;
        minimum-interval milliseconds;
        minimum-receive-interval milliseconds;
        minimum-receive-ttl milliseconds;
        multiplier number;
        neighbor address;
        no-adaptation;
        transmit-interval {
            minimum-interval milliseconds;
            threshold milliseconds;
        }
        version (1 | automatic);
    }
    color metric <type metric-type>;
    color2 metric <type metric-type>;
    community [ community-id no-advertise no-export no-export-subconfed ];
    discard;
    (install | no-install);
    lsp-next-hop next-hop-address {
        metric metric;
        preference preference-value;
    }
    metric metric <type metric-type>;
    metric2 metric <type metric-type>;
    metric3 metric <type metric-type>;
    metric4 metric <type metric-type>;
    next-hop next-hop-address;
    p2mp-lsp-next-hop next-hop-address {
        metric metric;
        preference preference-value;
    }
    preference preference-value <type metric-type>;

```

```

    preference2 preference-value <type metric-type>;
    qualified-next-hop address {
        bfd-liveness-detection {
            authentication {
                algorithm algorithm-name;
                key-chain key-chain-name;
                loose-check;
            }
            detection-time {
                threshold milliseconds;
            }
            holddown-interval milliseconds;
            local address;
            minimum-interval milliseconds;
            minimum-receive-interval milliseconds;
            minimum-receive-ttl milliseconds;
            multiplier number;
            neighbor address;
            no-adaptation;
            transmit-interval {
                minimum-interval milliseconds;
                threshold milliseconds;
            }
            version (1 | automatic);
        }
        interface interface-name;
        mac-address mac-address;
        metric metric;
        preference preference-value;
    }
    (readvertise | no-readvertise);
    receive;
    reject;
    (resolve | no-resolve);
    (retain | no-retain);
    static-lsp-nexthop next-hop-address {
        metric metric;
        preference preference-value;
    }
    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
}
} # end of [edit routing-options rib static]
} # end of [edit routing-options rib]
rib-groups {
    group-name {
        export-rib table-name;
        import-policy [ policy-names ];
        import-rib [ table-names ];
    }
}
route-distinguisher-id address;
route-record;
router-id address;
source-routing {
    ip;

```

```

    ipv6;
}
srlg group-name {
    srlg-cost number;
    srlg-value number;
}
static {
    defaults {
        (active | passive);
        as-path {
            aggregator as-number address;
            atomic-aggregate;
            origin (egp | igp | incomplete);
            path path-identifier;
        }
        color metric <type metric-type>;
        color2 metric <type metric-type>;
        community [ community-id no-advertise no-export no-export-subconfed ];
        (install | no-install);
        metric metric <type metric-type>;
        metric2 metric <type metric-type>;
        metric3 metric <type metric-type>;
        metric4 metric <type metric-type>;
        preference preference-value <type metric-type>;
        preference2 preference-value <type metric-type>;
        (readvertise | no-readvertise);
        (resolve | no-resolve);
        (retain | no-retain);
        tag metric <type metric-type>;
        tag2 metric <type metric-type>;
    }
    rib-group group-name;
    route {
        (active | passive);
        as-path {
            aggregator as-number address;
            atomic-aggregate;
            origin (egp | igp | incomplete);
            path path-identifier;
        }
        backup-pe-group backup-pe-group;
        bfd-liveness-detection {
            authentication {
                algorithm algorithm-name;
                key-chain key-chain-name;
                loose-check;
            }
            detection-time {
                threshold milliseconds;
            }
            holddown-interval milliseconds;
            local address address;
            minimum-interval milliseconds;
            minimum-receive-interval milliseconds;
            minimum-receive-ttl milliseconds;
            multiplier number;

```

```
neighbor address;  
no-adaptation;  
transmit-interval {  
    minimum-interval milliseconds;  
    threshold milliseconds;  
}  
version (1 | automatic);  
}  
color metric <type metric-type>;  
color2 metric <type metric-type>;  
community [ community-id no-advertise no-export no-export-subconfed ];  
discard;  
(install | no-install);  
lsp-next-hop next-hop-address {  
    metric metric;  
    preference preference-value;  
}  
metric metric <type metric-type>;  
metric2 metric <type metric-type>;  
metric3 metric <type metric-type>;  
metric4 metric <type metric-type>;  
next-hop next-hop-address;  
p2mp-lsp-next-hop next-hop-address {  
    metric metric;  
    preference preference-value;  
}  
preference preference-value <type metric-type>;  
preference2 preference-value <type metric-type>;  
qualified-next-hop address {  
    bfd-liveness-detection {  
        authentication {  
            algorithm algorithm-name;  
            key-chain key-chain-name;  
            loose-check;  
        }  
        detection-time {  
            threshold milliseconds;  
        }  
        holddown-interval milliseconds;  
        local address address;  
        minimum-interval milliseconds;  
        minimum-receive-interval milliseconds;  
        minimum-receive-ttl milliseconds;  
        multiplier number;  
        neighbor address;  
        no-adaptation;  
        transmit-interval {  
            minimum-interval milliseconds;  
            threshold milliseconds;  
        }  
        version (1 | automatic);  
    }  
    interface interface-name;  
    mac-address mac-address;  
    metric metric;  
    preference preference-value;
```

```

    }
    (readvertise | no-readvertise);
    receive;
    reject;
    (resolve | no-resolve);
    (retain | no-retain);
    static-lsp-next-hop next-hop-address {
        metric metric;
        preference preference-value;
    }
    tag metric <type metric-type>;
    tag2 metric <type metric-type>;
}
} # end of [edit routing-options static]
topologies {
    family {
        inet {
            topology name;
        }
        inet6 {
            topology name;
        }
    }
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag (all | condition-manager | config-internal | general | graceful-restart | hfrf-fsm |
        hfrf-route | normal | nsr-synchronization | parse | policy | regex-parse | route | session
        | state | task | timer);
}
validation {
    group group-name {
        max-sessions;
        session address {
            hold-time;
            local-address;
            port;
            preference;
            record-lifetime;
            refresh-time;
            traceoptions;
        }
    }
}
notification-rib value;
static {
    record destination {
        maximum-length prefix-length;
    }
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag (all | error | general | keepalive | nsr-synchronization | packets | policy | state |
        task | timer | update);
}

```

```
}
}
```

Unsupported Statements in the [edit routing-options] Hierarchy Level

All statements in the [edit routing-options] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 20: Unsupported [edit routing-options] Configuration Statements on EX Series Switches

Statement	Hierarchy
forwarding-cache	[edit routing-options multicast]
scope	[edit routing-options multicast]
ssm-groups	[edit routing-options multicast]
threshold	[edit routing-options multicast forwarding-cache]
timeout	[edit routing-options multicast forwarding-cache]

NOTE: Variables, such as *interface-name*, are not shown in the statements or hierarchies.

Related Documentation

- [Junos OS Configuration Statements and Commands](#)

[edit security] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit security] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit security\] Hierarchy Level on page 182](#)
- [Unsupported Statements in the \[edit security\] Hierarchy Level on page 185](#)

Supported Statements in the [edit security] Hierarchy Level

The following hierarchy shows the [edit security] configuration statements supported on EX Series switches:


```

security {
  alarms {
    potential-violation {
      authentication failures;
      cryptographic-self-test;
      key-generation-self-test;
      non-cryptographic-self-test;
      policy number per (minute | second);
      replay-attacks {
        threshold value;
      }
      security-log-percent-full;
    }
  }
  certificates {
    cache-size bytes;
    cache-timeout-negative seconds;
    certification-authority ca-profile-name {
      ca-name certificate-authority-name;
      crl filename;
      encoding (binary | pem);
      enrollment-url url;
      file certificate-filename;
      ldap-url url-name;
    }
    enrollment-retry number;
    local certificate-name {
      certificate-key-string;
      load-key-file URL-or-path;
    }
    maximum-certificates number;
    path-length bytes;
  }
  ipsec {
    security-association sa-name {
      description text-description;
      manual {
        direction (bidirectional | inbound | outbound) {
        }
      }
      mode (transport | tunnel);
    }
  }
  log {
    cache {
      exclude name {
        destination-address;
        destination-port;
        event-id;
        failure;
        interface-name;
        policy-name;
        process;
        source-address;
        source-port;
        success;
        username;
      }
    }
  }
}

```

```

    }
    limit number;
  }
}
macsec {
  connectivity-association connectivity-association-name {
    exclude-protocol protocol-name;
    include-sci;
    mka {
      must-secure;
      key-server-priority priority-number;
      transmit-interval interval;
    }
    no-encryption;
    offset (0|30|50);
    pre-shared-key {
      cak hexadecimal-number;
      ckn hexadecimal-number;
    }
    replay-protect {
      replay-window-size number-of-packets;
    }
    secure-channel secure-channel-name {
      direction (inbound | outbound);
      encryption;
      id {
        mac-address mac-address;
        port-id port-id-number;
      }
      offset (0|30|50);
      security-association security-association-number {
        key key-string;
      }
    }
    security-mode security-mode;
  }
  interfaces interface-name {
    connectivity-association connectivity-association-name;
  }
}
pki {
  auto-re-enrollment {
    certificate-id certificate-id {
      ca-profile-name profile-name;
      challenge-password password;
      re-enroll-trigger-time-percentage percentage;
      re-generate-keypair;
    }
  }
  traceoptions {
    file <filename> <files number> <match regular-expression> <size maximum-file-size>
      <world-readable | no-world-readable>;
    flag flag;
  }
}
ssh-known-hosts {

```

```

fetch-from-server (hostname | address);
host (hostname | address) {
    dsa-key key;
    ecdsa-sha2-nistp256-key key;
    ecdsa-sha2-nistp384-key key;
    ecdsa-sha2-nistp521-key key;
    rsa-key key;
    rsa1-key key;
}
load-key-file filename;
}
traceoptions {
    file <filename> <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
    flag flag;
    level level;
    no-remote-trace;
    rate-limit rate;
}
}

```

Unsupported Statements in the [edit security] Hierarchy Level

All statements in the [edit security] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 21: Unsupported [edit security] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>filename</i> , are not shown in the statements or hierarchies.	
audible	[edit security alarms]
continuous	[edit security alarms audible]

[edit services] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit services] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switches, see *EX Series Switch Software Features Overview*.
- [Supported Statements in the \[edit services\] Hierarchy Level on page 186](#)
- [Unsupported Statements in the \[edit services\] Hierarchy Level on page 188](#)

Supported Statements in the [edit services] Hierarchy Level

The following hierarchy shows the **[edit services]** configuration statements supported on EX Series switches:

```
services {
  captive-portal {
    authentication-profile-name authentication-profile-name;
    custom-options {
      banner-message string;
      footer-bgcolor color;
      footer-message string;
      footer-text-color color;
      form-header-bgcolor color;
      form-header-message string;
      footer-header-text-color color;
      form-reset-label label-name;
      form-submit-label label-name;
      header-bgcolor color;
      header-logo filename;
      header-message string;
      header-text-color color0;
      post-authentication-url url;
    }
  }
  interface (all | interface-name) {
    quiet-period seconds;
    retries number-of-retries;
    server-timeout seconds;
    session-expiry seconds;
    supplicant (multiple | single | single-secure);
  }
  secure-authentication (http | https);
  traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag <disable>;
  }
}
rpm {
  bgp {
    data-fill data;
    data-size size;
    destination-port port;
    history-size size;
    moving-average-size number-of-samples;
    probe-count count;
    probe-interval seconds;
    probe-type type;
```

```

routing-instances {
    routing-instance-name;
}
test-interval seconds;
}
probe owner {
    test test-name {
        data-fill data;
        data-size size;
        destination-port port;
        dscp-code-point dscp-bits;
        hardware-timestamp;
        history-size size;
        moving-average-size number;
        one-way-hardware-timestamp;
        probe-count count;
        probe-interval seconds;
        probe-type type;
        routing-instance instance-name;
        source-address address;
        target (address address | url url);
        test-interval interval;
        thresholds {
            egress-time microseconds;
            ingress-time microseconds;
            jitter-egress microseconds;
            jitter-ingress microseconds;
            jitter-rtt microseconds;
            rtt microseconds;
            std-dev-egress microseconds;
            std-dev-ingress microseconds;
            std-dev-rtt microseconds;
            successive-loss count;
            total-loss count;
        }
        traps [ trap-names ];
    }
}
probe-limit number;
probe-server {
    tcp {
        port port-number;
    }
    udp {
        port port-number;
    }
}
}
unified-access-control {
    certificate-verification (optional | required | warning);
    infranet-controllerhostname {
        address ip-address;
        interface interface-name;
        password password;
        port port-number;
    }
}

```

```

interval seconds;
timeout seconds;
timeout-action (close | no-change);
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <disable>;
}
}
}

```

Unsupported Statements in the [edit services] Hierarchy Level

All statements in the [edit services] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 22: Unsupported [edit services] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>interface-name</i> , are not shown in the statements or hierarchies.	
ca-profile	[edit services unified-access-control infranet-controller]
interface	[edit services interface-pools] [edit services service-device-pools pool]
pool	[edit services interface-pools] [edit services service-device-pools]
server-certificate-subject	[edit services unified-access-control infranet-controller]
service-device-pools	[edit services]
service-interface-pools	[edit services]

Related Documentation

- *Junos OS Configuration Statements and Commands*

[edit snmp] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the [edit snmp] hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.

- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*

This topic lists:

- [Supported Statements in the \[edit snmp\] Hierarchy Level on page 189](#)
- [Unsupported Statements in the \[edit snmp\] Hierarchy Level on page 193](#)

Supported Statements in the [edit snmp] Hierarchy Level

The following hierarchy shows the **[edit snmp]** configuration statements supported on EX Series switches:

```
snmp {
  client-list list-name {
    address {
      restrict;
    }
  }
  community community-name {
    authorization (read-only | read-write);
    client-list-name list-name;
    clients {
      address <restrict>;
    }
    routing-instance instance-name;
    routing-instance instance-name {
      client-list-name list-name;
      clients {
        address <restrict>;
      }
    }
  }
  view view-name;
}
contact contact-information;
description description;
engine-id {
  (local engine-id | use-default-ip-address | use-mac-address);
}
filter-duplicates;
filter-interfaces {
  interfaces
  all-internal-interfaces;
  interface 1;
  interface 2;
}
health-monitor {
  falling-threshold percentage;
  idp {
    falling-threshold;
    interval seconds;
    rising-threshold;
  }
  interval seconds;
```

```

        rising-threshold percentage;
    }
    interface [ interface-names ];
    location location;
    name system-name;
    nonvolatile {
        commit-delay seconds;
    }
    rmon {
        alarm index {
            description description;
            falling-event-index index;
            falling-threshold integer;
            falling-threshold-interval seconds;
            interval seconds;
            request-type (get-next-request | get-request | walk-request);
            rising-event-index index;
            rising-threshold integer;
            sample-type (absolute-value | delta-value);
            startup-alarm (falling-alarm | rising-alarm | rising-or-falling alarm);
            syslog-subtag text-string;
            variable oid-variable;
        }
        event index {
            community community-name;
            description description;
            type (log | log-and-trap | none | snmptrap);
        }
        history index {
            bucket-size number;
            interface interface-name;
            interval seconds;
            owner owner-name;
        }
    }
    routing-instance-access {
        access-list {
            routing-instance-name <restrict>;
        }
    }
    traceoptions {
        file <files number> <match regular-expression> <size maximum-file-size>
            <world-readable | no-world-readable>;
        flag flag;
        no-remote-trace;
    }
    trap-group group-name {
        categories {
            authentication;
            chassis;
            configuration;
            link;
            otn-alarms {
                alarm-name;
            }
        }
        remote-operations;
    }

```



```

    rmon-alarm;
    routing;
    services;
    sonet-alarms {
        alarm-name;
    }
    startup;
    vrrp-events;
}
destination-port port-number;
routing-instance instance-name;
routing-instance instance-name;
targets {
    address;
}
version (all | v1 | v2);
}
trap-options {
    agent-address outgoing-interface;
    enterprise-oid;
    routing-instance instance-name;
    routing-instance instance-name {
        source-address (address | lo0);
    }
    source-address address;
}
v3 {
    ... the v3 subhierarchy appears after the main [edit snmp] hierarchy level ...
}
view view-name {
    oid object-identifier <exclude | include>;
}
}

snmp {
    v3 {
        notify name {
            tag tag-name;
            type (inform | trap);
        }
        notify-filter profile-name {
            oid oid <exclude | include>;
        }
        snmp-community community-index {
            community-name community-name;
            context context-name;
            security-name security-name;
            tag tag-name;
        }
        target-address target-address-name {
            address address;
            address-mask address-mask;
            routing-instance routing-instance-name;
            port port-number;
            retry-count number;
            routing-instance routing-instance-name;

```

```
tag-list tag-list;  
target-parameters parameter-name;  
timeout seconds;  
}  
target-parameters parameter-name {  
  notify-filter profile-name;  
  parameters {  
    message-processing-model (v1 | v2c | v3);  
    security-level (authentication | none | privacy);  
    security-model (usm | v1 | v2c);  
    security-name security-name;  
  }  
}  
usm {  
  local-engine {  
    user username {  
      authentication-md5 {  
        authentication-key password;  
        authentication-password password;  
      }  
      authentication-none;  
      authentication-sha {  
        authentication-key password;  
        authentication-password password;  
      }  
      privacy-3des {  
        privacy-password password;  
      }  
      privacy-aes128 {  
        privacy-password password;  
      }  
      privacy-des {  
        privacy-password password;  
      }  
      privacy-none;  
    }  
  }  
  remote-engine engine-id {  
    user username {  
      authentication-md5 {  
        authentication-key password;  
        authentication-password password;  
      }  
      authentication-none;  
      authentication-sha {  
        authentication-key  
        authentication-password password;  
      }  
      privacy-3des {  
        privacy-password password;  
      }  
      privacy-aes128 {  
        privacy-password password;  
      }  
      privacy-des {  
        privacy-password password;  
      }  
    }  
  }  
}
```

```

    }
    privacy-none;
  }
}
vacm {
  access {
    group group-name {
      context-prefix prefix {
        security-model (any | usm | v1 | v2c) {
          security-level (authentication | none | privacy) {
            context-match (exact | prefix);
            notify-view view-name;
            read-view view-name;
            write-view view-name;
          }
        }
      }
    }
  }
  default-context-prefix prefix {
    security-model (any | usm | v1 | v2c) {
      security-level (authentication | none | privacy) {
        context-match (exact | prefix);
        notify-view view-name;
        read-view view-name;
        write-view view-name;
      }
    }
  }
}
security-to-group {
  security-model (usm | v1 | v2c) {
    security-name security-name {
      group group-name;
    }
  }
}
}
}

```

Unsupported Statements in the [edit snmp] Hierarchy Level

All statements in the **[edit snmp]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 23: Unsupported [edit snmp] Configuration Statements on EX Series Switches

Statement	Hierarchy
-----------	-----------

NOTE: Variables, such as *community-name*, are not shown in the statements or hierarchies.

Table 23: Unsupported [edit snmp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
logical-system	[edit snmp community] [edit snmp trap-group]

Table 23: Unsupported [edit snmp] Configuration Statements on EX Series Switches (*continued*)

Statement	Hierarchy
	[edit snmp trap-options] [edit snmp v3 target-address]
logical-systems-trap-filter	[edit snmp]

**Related
Documentation**

- *Configuring SNMP (J-Web Procedure)*
- *Network Management Administration Guide for Routing Devices*

[edit system] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit system]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit system\] Hierarchy Level on page 195](#)
- [Unsupported Statements in the \[edit system\] Hierarchy Level on page 208](#)

Supported Statements in the [edit system] Hierarchy Level

The following hierarchy shows the **[edit system]** configuration statements supported on EX Series switches.

```
system {
  accounting {
    destination {
      radius {
        server {
          server-address {
            accounting-port port-number;
            port port-number;
            retry number;
            secret password;
            source-address address;
            timeout seconds;
          }
        }
      }
    }
  }
}
```

```

tacplus {
  server {
    server-address {
      port port-number;
      secret password;
      single-connection;
      timeout seconds;
    }
  }
}
events
traceoptions {
  file;
  flag;
  no-remote-trace;
}
}
allow-v4-mapped-packets;
archival {
  configuration {
    archive-sites {
      ftp://<username>:<password>@<host>:<port>/<url-path>;
      scp://<username>:<password>@<host>:<port>/<url-path>;
    }
    transfer-interval interval;
    transfer-on-commit;
  }
}
arp {
  aging-timer minutes;
  gratuitous-arp-delay;
  gratuitous-arp-on-ifup;
  interfaces interface-name {
    aging-timer minutes;
  }
  passive-learning;
  purging;
}
authentication-order [ authentication-methods ];
autoinstallation {
  configuration-servers {
    server-url <password password>;
  }
  interfaces {
    interface-name {
      bootp;
      rarp;
    }
  }
}
}
backup-router address <destination [ destination-addresses ]>;
commit {
  synchronize (and-quit | force);
}
(compress-configuration-files | no-compress-configuration-files);

```

```

default-address-selection;
domain-name domain-name;
domain-search [ domain-list ];
extensions {
  providers {
    provider-id {
      license-type license deployment-scope [ deployments ];
    }
  }
  resource-limits {
    package package-name {
      resources {
        cpu {
          priority number;
          time seconds;
        }
        file {
          core-size bytes;
          open number;
          size bytes;
        }
        memory {
          data-size bytes;
          locked-in bytes;
          resident-set-size bytes;
          socket-buffers bytes;
          stack-size bytes;
        }
      }
    }
  }
  process process-ui-name {
    resources {
      cpu {
        priority number;
        time seconds;
      }
      file {
        core-size bytes;
        open number;
        size bytes;
      }
      memory {
        data-size bytes;
        locked-in bytes;
        resident-set-size bytes;
        socket-buffers bytes;
        stack-size bytes;
      }
    }
  }
}
internet-options {
  (gre-path-mtu-discovery | no-gre-path-mtu-discovery);
  icmpv4-rate-limit bucket-size number packet-rate rate;
  icmpv6-rate-limit bucket-size number packet-rate rate;
}

```

```

(ipip-path-mtu-discovery | no-ipip-path-mtu-discovery);
ipv6-duplicate-addr-detection-transmits;
(ipv6-path-mtu-discovery | noipv6-path-mtu-discovery);
ipv6-path-mtu-discovery-timeout;
ipv6-reject-zero-hop-limit | no-ipv6-reject-zero-hop-limit;
no-tcp-reset;
no-tcp-rfc1323-paws;
no-tcp-rfc1323;
(path-mtu-discovery | no-path-mtu-discovery);
source-port upper-limit port-number;
(source-quench | no-source-quench);
tcp-drop-synfin-set;
}
kernel-replication;
license {
  autoupdate {
    url url{
      password password;
    }
  }
  renew {
    before-expiration days;
    interval hours;
  }
  traceoptions {
    file <filename> <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag;
    no-remote-trace;
  }
}
location {
  altitude feet;
  building name;
  country-code code;
  floor number;
  hcoord horizontal-coordinate;
  lata service-area;
  latitude degrees;
  longitude degrees;
  npa-nxx number;
  postal-code postal-code;
  rack number;
  vcoord vertical-coordinate;
}
login {
  announcement "text";
  class class-name {
    access-end "hh<:mm:<ss>>";
    access-start "hh<:mm:<ss>>";
    allow-commands "regular-expression";
    allow-configuration-regexps "regular-expression";
    allowed-days [ sunday monday tuesday wednesday thursday friday saturday ];
    deny-commands "regular-expression";
    deny-configuration-regexps "regular-expression";
    idle-timeout minutes;
  }
}

```



```

    login-alarms;
    login-script script-name;
    login-tip;
    permissions [ permissions ];
    security-role [ security-role ];
}
deny-sources {
    address;
}
message "text";
password {
    change-type (character-sets | set-transitions);
    format (des | md5 | sha1);
    maximum-length number;
    minimum-changes number;
    minimum-length number;
}
retry-options {
    backoff-factor number;
    backoff-threshold number;
    lockout-period number;
    maximum-time number;
    minimum-time number;
    tries-before-disconnect number;
}
user username {
    authentication {
        (encrypted-password "password" | plain-text-password);
        load-key-file filename;
        ssh-dsa "public-key" <from hostname>;
        ssh-rsa "public-key" <from hostname>;
    }
    class class-name;
    full-name "complete-name";
    uid uid-value;
}
}
max-configurations-on-flash number;
name-server {
    address;
}
nd-maxmcast-solicit;
nd-retransmit-timer;
no-multicast-echo;
no-neighbor-learn;
no-ping-record-route;
no-ping-time-stamp;
}
ntp {
    authentication-key key-number type md5 value password;
    boot-server address;
    broadcast <address> <key key-number> <ttl value> <version value>;
    broadcast-client;
    multicast-client <address>;
    peer address <key key-number> <prefer> <version value>;
    server address <key key-number> <prefer> <version value>;
}

```

```
    source-address source-address;  
    trusted-key [ key-numbers ];  
}  
ports {  
    auxiliary {  
        disable;  
        insecure;  
        port-type (mini-usb | rj45);  
        type (ansi | small-xterm | vt100 | xterm);  
    }  
    console {  
        disable;  
        insecure;  
        log-out-on-disconnect;  
        type (ansi | small-xterm | vt100 | xterm);  
    }  
}  
radius-options {  
    attributes {  
        nas-ip-address address;  
    }  
    password-protocol mschap-v2;  
}  
radius-server {  
    server-address {  
        accounting-port port-number;  
        port port-number;  
        retry number;  
        secret password;  
        source-address source-address;  
        timeout seconds;  
    }  
}  
root-authentication {  
    (encrypted-password "password" | plain-text-password);  
    load-key-file filename;  
    ssh-dsa "public-key" <from hostname>;  
    ssh-rsa "public-key" <from hostname>;  
}  
(saved-core-context | no-saved-core-context);  
saved-core-files number;  
scripts {  
    commit {  
        allow-transients;  
        direct-access;  
        file filename.xml {  
            checksum (md5 | sha-256 | sha2) hash;  
            optional;  
            refresh;  
            refresh-from url;  
            source url;  
        }  
        refresh;  
        refresh-from url;  
        traceoptions {
```

```

    file <filename> <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag;
    no-remote-trace;
  }
}
load-scripts-from-flash;
op {
  file filename.xml {
    arguments {
      argument-name {
        description descriptive-text;
      }
    }
    checksum (md5 | sha-256 | sha2) hash;
    command filename-alias;
    description descriptive-text;
    refresh;
    refresh-from url;
    source url;
  }
  no-allow-url;
  refresh;
  refresh-from url;
  traceoptions {
    file <filename> <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag;
    no-remote-trace;
  }
}
}
services {
  database-replication {
    traceoptions {
      file <filename> <files number> <match regular-expression>
        <size maximum-file-size> <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
}
dhcp {
  boot-file filename;
  boot-server (address | hostname);
  default-lease-time (seconds | infinite);
  domain-name domain-name;
  domain-search {
    domain-suffix;
  }
  maximum-lease-time (seconds | infinite);
  name-server {
    address;
  }
  next-server address;
  option option-index (array type-name [ type-values ] | byte 8-bit-value | flag (false |
    off | on | true) | integer signed-32-bit-value | ip-address address |

```

```

    short signed-16-bit-value | string text-string | unsigned-integer 32-bit-value |
    unsigned-short 16-bit-value);
pool ip-prefix/prefix-length {
    address-range low address high address;
    boot-file filename;
    boot-server (address | hostname);
    default-lease-time (seconds | infinite);
    domain-name domain-name;
    domain-search {
        domain-suffix;
    }
    exclude-address {
        ipv4-address;
    }
    maximum-lease-time (seconds | infinite);
    name-server {
        address;
    }
    next-server address;
    option option-index (array type-name type-values ] | byte 8-bit-value | flag (false |
        off | on | true) | integer signed-32-bit-value | ip-address address |
        short signed-16-bit-value | string text-string | unsigned-integer 32-bit-value |
        unsigned-short 16-bit-value);
    propagate-settings interface-name;
    router {
        address;
    }
    server-identifier identifier;
    sip-server {
        address {
            address;
        }
        name {
            name;
        }
    }
    wins-server {
        address;
    }
}
router {
    address;
}
server-identifier identifier;
sip-server {
    address {
        address;
    }
    name {
        name;
    }
}
static-binding mac-address {
    boot-file filename;
    boot-server (address | hostname);
    client-identifier (ascii ascii-text | hexadecimal hexadecimal-value);

```

```

domain-name domain-name;
domain-search {
    domain-suffix;
}
fixed-address {
    ipv4-address;
}
host-name hostname;
name-server {
    address;
}
next-server address;
option option-index (array type-name type-values ] | byte 8-bit-value | flag (false |
    off | on | true) | integer signed-32-bit-value | ip-address address |
    short signed-16-bit-value | string text-string | unsigned-integer 32-bit-value |
    unsigned-short 16-bit-value);
router {
    address;
}
server-identifier identifier;
sip-server {
    address {
        address;
    }
    name {
        name;
    }
}
wins-server {
    address;
}
}
traceoptions {
    file <filename> <files number> <match regular-expression>
        <size maximum-file-size> <world-readable | no-world-readable>;
    flag flag;
    level severity;
    no-remote-trace;
}
wins-server {
    address;
}
}
dhcp-local-server {
    group group-name {
        interface interface-name {
            exclude;
            overrides {
                client-discover-match <option60-and-option82>;
                interface-client-limit number;
                no-arp;
                process-inform {
                    pool pool-name;
                }
            }
        }
        trace;
    }
}

```

```
        upto upto-interface-name;
    }
    overrides {
        client-discover-match <option60-and-option82>;
        interface-client-limit number;
        OBSOLETE - no-arp;
        process-inform {
            pool pool-name;
        }
    }
    reconfigure {
        attempts attempt-count;
        clear-on-abort;
        timeout timeout-value;
        token token-value;
        trigger {
            radius-disconnect;
        }
    }
}
overrides {
    client-discover-match <option60-and-option82>;
    interface-client-limit number;
    OBSOLETE - no-arp;
    process-inform {
        pool pool-name;
    }
}
pool-match-order {
    external-authority;
    ip-address-first;
    option-82;
}
reconfigure {
    attempts attempt-count;
    clear-on-abort;
    timeout timeout-value;
    token token-value;
    trigger {
        radius-disconnect;
    }
}
}
finger {
    connection-limit limit;
    rate-limit limit;
}
ftp {
    connection-limit limit;
    rate-limit limit;
}
netconf {
    ssh {
        connection-limit limit;
        port number;
        rate-limit limit;
```

```

    }
  }
  outbound-ssh {
    client client-id {
      address {
        port port-number;
        retry number;
        timeout seconds;
      }
      device-id device-id;
      keep-alive {
        retry number;
        timeout seconds;
      }
      reconnect-strategy (in-order | sticky);
      secret secret;
      services netconf;
    }
    traceoptions {
      file <filename> <files number> <match regular-expression>
        <size maximum-file-size> <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
  service-deployment {
    local-certificate certificate-name;
    servers {
      server-address {
        port port-number;
        security-options {
          (ssl3 | tls);
        }
        user username;
      }
    }
    source-address source-address;
    traceoptions {
      file <filename> <files number> <match regular-expression>
        <size maximum-file-size> <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
  ssh {
    ciphers;
    connection-limit limit;
    hostkey-algorithm {
      ssh-dss | no-ssh-dss;
      ssh-ecdsa | no-ssh-ecdsa;
      ssh-rsa | no-ssh-rsh;
    }
    key-exchange;
    macs;
    protocol-version [ v1 v2 ];
    rate-limit limit;
  }

```

```
    root-login (allow | deny | deny-password);
}
subscriber-management {
    gres-route-flush-delay;
    maintain-subscriber {
        interface-delete;
    }
    traceoptions {
        file filename <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
        flag flag;
        no-remote-trace;
    }
}
telnet {
    connection-limit limit;
    rate-limit limit;
}
web-management {
    control {
        max-threads number;
    }
    http {
        interface [ interface-names ];
        port port-number;
    }
    https {
        interface [ interface-names ];
        (local-certificate certificate-name | pki-local-certificate certificate-name |
        system-generated-certificate);
        port port-number;
    }
    management-url url;
    session {
        idle-timeout minutes;
        session-limit number;
    }
}
xnm-clear-text {
    connection-limit limit;
    rate-limit limit;
}
xnm-ssl {
    connection-limit limit;
    local-certificate certificate-name;
    rate-limit limit;
}
}
static-host-mapping {
    hostname {
        alias [ aliases ];
        inet [ addresses ];
        inet6 [ addresses ];
        sysid system-identifier;
    }
}
```



```

syslog {
  allow-duplicates;
  archive <files number> <size size> <world-readable | no-world-readable>;
  console {
    facility severity;
  }
  file filename {
    allow-duplicates;
    facility severity;
    archive <archive-sites {ftp-url <password password>}> <files number> <size size>
      <start-time "YYYY-MM-DD.hh:mm"> <transfer-interval minutes> <world-readable |
      no-world-readable>;
    explicit-priority;
    match "regular-expression";
    structured-data {
      brief;
    }
  }
}
host (hostname | other-routing-engine) {
  facility severity;
  explicit-priority;
  facility-override facility;
  log-prefix string;
  match "regular-expression";
}
log-rotate-frequency;
time-format (year | millisecond | year millisecond);
user (username | *) {
  facility severity;
  explicit-priority;
  match "regular-expression";
}
}
tacplus-options {
  (exclude-cmd-attribute | no-cmd-attribute-value);
  service-name service-name;
}
tacplus-server {
  server-address {
    port port-number;
    secret password;
    single-connection;
    source-address source-address;
    timeout seconds;
  }
}
time-zone (GMT | GMT+hour-offset | GMT-hour-offset | zone-name);
tracing destination-override syslog host address;
use-imported-time-zones;
}

```

Unsupported Statements in the [edit system] Hierarchy Level

All statements in the **[edit system]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 24: Unsupported [edit system] Configuration Statements on EX Series Switches

Statement	Hierarchy
NOTE: Variables, such as <i>interface-name</i> , are not shown in the statements or hierarchies.	
mirror-flash-on-disk	[edit system]
processes	[edit system]

- Related Documentation**
- [Configuration File Management on EX Series Switches](#)
 - [EX Series Switches Hardware and CLI Terminology Mapping on page 9](#)

[edit virtual-chassis] Configuration Statement Hierarchy

This topic lists supported and unsupported configuration statements in the **[edit virtual-chassis]** hierarchy level on EX Series and QFX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms.

For detailed information about feature support on specific EX Series or QFX Series switch platforms, see [Feature Explorer](#).

This topic lists:

- [Supported Statements in the \[edit virtual-chassis\] Hierarchy Level on page 208](#)
- [Unsupported Statements in the \[edit virtual-chassis\] Hierarchy Level on page 209](#)

Supported Statements in the [edit virtual-chassis] Hierarchy Level

The following hierarchy shows the **[edit virtual-chassis]** configuration statements supported on EX Series or QFX Series switches:

```
virtual-chassis {
  aliases {
    serial-number serial-number {
      alias-name alias-name;
    }
  }
}
```

```

}
auto-provisioned;
auto-sw-update {
    (ex-4200 | ex-4300 | ex-4500 | ex-4600 | qfx-3 | qfx-5)
    package-name package-name;
}
fast-failover (ge | vcp disable | xe);
graceful-restart {
    disable;
}
id id;
mac-persistence-timer [minutes | disable];;
member member-id {
    location location;
    mastership-priority number;
    no-management-vlan;
    role (line-card | routing-engine);
    serial-number;
}
no-split-detection;
preprovisioned;
traceoptions {
    file filename <files number> <size size> <world-readable | no-world-readable> <match
        regex>;
    flag flag ;
}
vc-port {
    lag-hash (packet-based | source-port-based);
}
vcp-no-hold-time;
}

```

Unsupported Statements in the [edit virtual-chassis] Hierarchy Level

All statements in the [edit virtual-chassis] hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented.

Related Documentation

- *Preprovisioning a Virtual Chassis Fabric*
- *Autoprovisioning a Virtual Chassis Fabric*
- *Configuring a QFX Series Virtual Chassis (CLI Procedure)*
- *Configuring an EX4300 Virtual Chassis (CLI Procedure)*
- *Configuring an EX2200 Virtual Chassis (CLI Procedure)*
- *Configuring an EX3300 Virtual Chassis (CLI Procedure)*
- *Configuring an EX4200, EX4500, or EX4550 Virtual Chassis (CLI Procedure)*
- *Configuring a Mixed Virtual Chassis with EX4200, EX4500, and EX4550 Member Switches (CLI Procedure)*
- *Configuring an EX8200 Virtual Chassis (CLI Procedure)*

[edit vlans] Configuration Statement Hierarchy on EX Series Switches

This topic lists supported and unsupported configuration statements in the **[edit vlans]** hierarchy level on EX Series switches.

- *Supported* statements are those that you can use to configure some aspect of a software feature on the switch.
- *Unsupported* statements are those that appear in the command-line interface (CLI) on the switch, but that have no effect on switch operation if you configure them.
- Not all features are supported on all switch platforms. For detailed information about feature support on specific EX Series switch platforms, see *EX Series Switch Software Features Overview*.

This topic lists:

- [Supported Statements in the \[edit vlans\] Hierarchy Level on page 210](#)
- [Unsupported Statements in the \[edit vlans\] Hierarchy Level on page 211](#)

Supported Statements in the [edit vlans] Hierarchy Level

The following hierarchy shows the **[edit vlans]** configuration statements supported on one or more of the EX Series switches:

```

vlsns {
  vlan-name {
    description text-description;
    dot1q-tunneling {
      customer-vlans (id | native | range);
      layer2-protocol-tunneling all | protocol-name {
        drop-threshold number;
        shutdown-threshold number;
      }
    }
  }
  filter {
    input filter-name
    output filter-name;
  }
  interface interface-name {
    egress;
    ingress;
    mapping (native (push | swap) | policy | tag (push | swap));
    pvlan-trunk;
  }
  isolation-id id-number;
  l3-interface vlan.logical-interface-number;
  l3-interface-ingress-counting layer-3-interface-name;
  mac-limit limit action action;
  mac-table-aging-time seconds;
  no-local-switching;
  no-mac-learning;
  primary-vlan vlan-name;
  vlan-id number;

```

```
        vlan-prune;  
        vlan-range vlan-id-low-vlan-id-high;  
    }  
}
```

Unsupported Statements in the [edit vlans] Hierarchy Level

All statements in the **[edit vlans]** hierarchy level that are displayed in the command-line interface (CLI) on the switch are supported on the switch and operate as documented with the following exceptions:

Table 25: Unsupported [edit vlans] Configuration Statements on EX Series Switches

Statement	Hierarchy Level
-----------	-----------------

NOTE: Variables, such as *filename*, are not shown in the statements or hierarchies.

udid	[edit vlans dot1q-tunneling layer2-protocol-tunneling]
------	--

- Related Documentation
- *Example: Setting Up Bridging with Multiple VLANs for EX Series Switches*
 - *Example: Connecting an Access Switch to a Distribution Switch*
 - *Example: Setting Up Q-in-Q Tunneling on EX Series Switches*
 - *Example: Configuring Layer 2 Protocol Tunneling on EX Series Switches*
 - *Example: Configuring Port Mirroring for Remote Monitoring of Employee Resource Use on EX Series Switches*
 - *Example: Configuring a Private VLAN Spanning Multiple EX Series Switches*
 - *Creating a Private VLAN on a Single EX Series Switch (CLI Procedure)*

PART 3

Administration

- [Operational Commands on page 215](#)

CHAPTER 5

Operational Commands

- set cli directory
- set cli idle-timeout
- set cli prompt
- set cli restart-on-upgrade
- set cli screen-length
- set cli screen-width
- set cli timestamp
- start shell

set cli directory

Syntax	set cli directory <i>directory</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the current working directory.
Options	<i>directory</i> —Pathname of the working directory.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• <i>show cli directory</i>
List of Sample Output	set cli directory on page 216
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli directory

```
user@host> set cli directory /var/home/regress
Current directory: /var/home/regress
```

set cli idle-timeout

Syntax	set cli idle-timeout < <i>minutes</i> >
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the maximum time that an individual session can be idle before the user is logged off the router or switch.
Options	<i>minutes</i> —(Optional) Maximum idle time. The range of values, in minutes, is 0 through 100,000. If you do not issue this command, and the user's login class does not specify this value, the user is never forced off the system after extended idle times. Setting the value to 0 disables the timeout.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • <i>CLI User Interface Overview</i> • <i>show cli</i>
List of Sample Output	set cli idle-timeout on page 217
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli idle-timeout

```
user@host> set cli idle-timeout 60
Idle timeout set to 60 minutes
```

set cli prompt

Syntax	set cli prompt <i>string</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the prompt so that it is displayed within the CLI.
Options	<i>string</i> —CLI prompt string. To include spaces in the prompt, enclose the string in quotation marks. By default, the string is <i>username@hostname</i> .
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• <i>show cli</i>
List of Sample Output	set cli prompt on page 218
Output Fields	When you enter this command, the new CLI prompt is displayed.

Sample Output

set cli prompt

```
user@host> set cli prompt lab1-router>
lab1-router>
```

set cli restart-on-upgrade

Syntax	set cli restart-on-upgrade string (off on)
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	For an individual session, set the CLI to prompt you to restart the router or switch after upgrading the software.
Options	off —Disables the prompt. on —Enables the prompt.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• <i>show cli</i>
List of Sample Output	set cli restart-on-upgrade on page 219
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli restart-on-upgrade

```
user@host> set cli restart-on-upgrade on
Enabling restart-on-upgrade
```

set cli screen-length

Syntax	<code>set cli screen-length <i>length</i></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set terminal screen length.
Options	<i>length</i> —Number of lines of text that the terminal screen displays (0 through 10,000). The default is 24.
Additional Information	The point at which the ---(more)--- prompt appears on the screen is a function of this setting and the settings for the <code>set cli screen-width</code> and <code>set cli terminal</code> commands.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• set cli screen-width on page 221• <i>set cli terminal</i>• <i>show cli</i>
List of Sample Output	set cli screen-length on page 220
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli screen-length

```
user@host> set cli screen-length 75
Screen length set to 75
```

set cli screen-width


Syntax	set cli screen-width <i>width</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the terminal screen width.
Options	<i>width</i> —Number of characters (0 through 1024) in a line. The default is 80.
Additional Information	The point at which the ---(more)--- prompt appears on the screen is a function of this setting and the settings for the set cli screen-length and set cli terminal commands.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• set cli screen-length on page 220• <i>set cli terminal</i>• <i>show cli</i>
List of Sample Output	set cli screen-width on page 221
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli screen-width

```
user@host> set cli screen-width
Screen width set to 132
```

set cli timestamp


Syntax	set cli timestamp (format <i>timestamp-format</i> disable)
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set a timestamp for CLI output.
Options	<p>format <i>timestamp-format</i>—Set the date and time format for the timestamp. The timestamp format you specify can include the following placeholders in any order:</p> <ul style="list-style-type: none"> • %m—Two-digit month • %d—Two-digit date • %T—Six-digit hour, minute, and seconds <p>disable—Remove the timestamp from the CLI.</p>
<div>  <p>NOTE: A timestamp is displayed by default when no command output is generated.</p> </div>	
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • <i>CLI User Interface Overview</i> • <i>show cli</i>
List of Sample Output	set cli timestamp on page 222
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli timestamp

```
user@host> set cli timestamp format '%m-%d-%T'
'04-21-17:39:13'
CLI timestamp set to: '%m-%d-%T'
```


start shell

Syntax	start shell (csh sh) <user <i>username</i> >
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series.
Description	Exit from the CLI environment and create a UNIX-level shell. To return to the CLI, type exit from the shell.
<div>  NOTE: <ul style="list-style-type: none"> To issue this command, the user must have the required login access privileges configured by including the permissions statement at the [edit system login class <i>class-name</i>] hierarchy level. UNIX wheel group membership or permissions are no longer required to issue this command. </div>	
Options	csh —Create a UNIX C shell. sh —Create a UNIX Bourne shell. user <i>username</i> —(Optional) Start the shell as another user.
Additional Information	When you are in the shell, the shell prompt has the following format: <i>username@hostname%</i> An example of the prompt is: root@host%
Required Privilege Level	shell and maintenance
List of Sample Output	start shell csh on page 223
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

start shell csh

```

user@host> start shell csh
%

exit
%
```

```
username@hostname% start shell sh
%

exit
user@host>
```