



Junos[®] OS for EX Series Ethernet Switches

Configuration File Management on EX4300 Switches

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Release 14.1X53
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About the Documentation

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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.

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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 xiii 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 xiii 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 <i>metric</i> >;
(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 (<i>string1</i> <i>string2</i> <i>string3</i>)
# (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 <i>address</i> ; 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

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- 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/>.
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- 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](#)
- [Configuration Files Overview 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

Configuration Files Overview

- [Understanding Configuration Files for EX Series Switches on page 7](#)
- [Using the CLI Viewer in the J-Web Interface to View Configuration Text on page 8](#)
- [Using the CLI Editor in the J-Web Interface to Edit Configuration Text on page 8](#)
- [Using the Point and Click CLI Tool in the J-Web Interface to Edit Configuration Text on page 9](#)
- [Understanding Automatic Refreshing of Scripts on EX Series Switches on page 11](#)
- [Understanding Autoinstallation of Configuration Files on page 11](#)
- [Configuration Files Terms on page 13](#)

Understanding Configuration Files for EX Series Switches

A configuration file stores the complete configuration of a switch. The current configuration of a switch is called the active configuration. You can alter this current configuration and you can also return to a previous configuration or to a rescue configuration. For more information, see [“Configuration Files Terms” on page 13](#).

Juniper Networks Junos operating system (Junos OS) saves the 50 most recently committed configuration files on the switch so that you can return to a previous configuration. The configuration files are named:

- **juniper.conf.gz**—The current active configuration.
- **juniper.conf.1.gz** to **juniper.conf.49.gz**—Rollback configurations.

The configuration files are available in the **/config** folder on the switch.

To make changes to the configuration file, you have to work in the configuration mode in the CLI or use the configuration tools in the J-Web interface. When making changes to a configuration file, you are viewing and changing the candidate configuration file. The candidate configuration allows you to make configuration changes without causing operational changes to the active configuration or causing potential damage to your current network operations. Once you commit the changes made to the candidate configuration, the system updates the active configuration.

Related Documentation

- [Managing Configuration Files Through the Configuration History \(J-Web Procedure\) on page 45](#)

- [Uploading a Configuration File \(CLI Procedure\) on page 17](#)
- [Uploading a Configuration File \(J-Web Procedure\) on page 19](#)
- [Loading a Previous Configuration File \(CLI Procedure\) on page 19](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- [Configuration Files Terms on page 13](#)

Using the CLI Viewer in the J-Web Interface to View Configuration Text



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

To view the entire configuration file contents in text format, select **Configure > CLI Tools > CLI Viewer**. The main pane displays the configuration in text format.

Each level in the hierarchy is indented to indicate each statement's relative position in the hierarchy. Each level is generally set off with braces, with an open brace ({) at the beginning of each hierarchy level and a closing brace (}) at the end. If the statement at a hierarchy level is empty, the braces are not displayed. Each leaf statement ends with a semicolon (;), as does the last statement in the hierarchy.

This indented representation is used when the configuration is displayed or saved as an ASCII file. However, when you load an ASCII configuration file, the format of the file is not so strict. The braces and semicolons are required, but the indentation and use of new lines are not required in ASCII configuration files.

Related Documentation

- [Understanding J-Web Configuration Tools](#)

Using the CLI Editor in the J-Web Interface to Edit Configuration Text



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

Use the CLI Editor to edit configuration if you know the Junos OS CLI or prefer a command interface.

To edit the entire configuration in text format:



CAUTION: We recommend that you use this method to edit and commit the configuration only if you have experience editing configurations through the CLI.

1. Select **Configure > CLI Tools > CLI Editor**. The work area displays the configuration in a text editor.

2. Navigate to the hierarchy level you want to edit.

You can edit the candidate configuration using standard text editor operations—insert lines (by using the Enter key), delete lines, and modify, copy, and paste text.

3. Click **Commit** to load and commit the configuration.

The switching platform checks the configuration for the correct syntax before committing it.

- Related Documentation**
- *CLI User Interface Overview*
 - *Understanding J-Web Configuration Tools*

Using the Point and Click CLI Tool in the J-Web Interface to Edit Configuration Text



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

To edit the configuration on a series of pages of clickable options that steps you through the hierarchy, select **Configure > CLI Tools > Point&Click CLI**. The side pane displays the top level of the configured hierarchy, and the work area displays configured hierarchy options and the Icon Legend.

To expand or hide the hierarchy of all the statements in the side pane, click **Expand all** or **Hide all**. To expand or hide an individual statement in the hierarchy, click the expand (+) or collapse (–) icon to the left of the statement.



TIP: Only those statements included in the committed configuration are displayed in the hierarchy.

The configuration information in the work area consists of configuration options that correspond to configuration statements. Configuration options that contain subordinate statements are identified by the term *Nested*.

To include, edit, or delete statements in the candidate configuration, click one of the links described in [Table 4 on page 9](#). Then specify configuration information by typing in a field, selecting a value from a list, or selecting a check box (toggle).

Table 4: J-Web Edit Point & Click Configuration Links

Link	Function
Add new entry	Displays fields and lists for a statement identifier, allowing you to add a new identifier to a statement.
Configure	Displays information for a configuration option that has not been configured, allowing you to include a statement.
Delete	Deletes the corresponding statement or identifier from the configuration. All subordinate statements and identifiers contained within a deleted statement are also discarded.

Table 4: J-Web Edit Point & Click Configuration Links (*continued*)

Link	Function
Edit	Displays information for a configuration option that has already been configured, allowing you to edit a statement.
Identifier	Displays fields and lists for an existing statement identifier, allowing you to edit the identifier.

As you navigate through the configuration, the hierarchy level is displayed at the top of the work area. You can click a statement or identifier in the hierarchy to display the corresponding configuration options in the work area.

The work area includes icons that display information about statements and identifiers when you place your cursor over them. [Table 5 on page 10](#) describes these icons.

Table 5: J-Web Edit Point & Click Configuration Icons

Icon	Function
C	Displays a comment about a statement.
I	Indicates that a statement is inactive.
M	Indicates that a statement has been added or modified but has not been committed.
*	Indicates that the statement or identifier is required in the configuration.
?	Provides online help information.

After typing or selecting your configuration edits, click a button in the work area (described in [Table 6 on page 10](#)) to apply your changes or cancel them, refresh the display, or discard parts of the candidate configuration. An updated configuration does not take effect until you commit it.

Table 6: J-Web Edit Point & Click Configuration Buttons

Button	Function
Refresh	Updates the display with any changes to the configuration made by other users.
Commit	Verifies edits and applies them to the current configuration file running on the switch.
Discard	Removes edits applied to or deletes existing statements or identifiers from the candidate configuration.

- Related Documentation**
- *CLI User Interface Overview*
 - *Understanding J-Web Configuration Tools*

Understanding Automatic Refreshing of Scripts on EX Series Switches

You can automatically refresh **commit**, **event**, and **op** scripts using operational mode commands on EX Series switches. The commands are:

- [request system scripts refresh-from commit](#)
- [request system scripts refresh-from event](#)
- [request system scripts refresh-from op](#)

The existing Junos operating system (Junos OS) command-line interface (CLI) **refresh** and **refresh-from** configuration mode statements have been extended to work with Junos XML management protocol and NETCONF XML management protocol sessions.

Related Documentation

- [Understanding Autoinstallation of Configuration Files on page 11](#)
- [CLI User Interface Overview](#)
- [Junos OS Junos XML Management Protocol Guide](#)
- [Junos OS NETCONF XML Management Protocol Guide](#)

Understanding Autoinstallation of Configuration Files

Autoinstallation is the automatic configuration of a device over the network from a preexisting configuration file that you create and store on a configuration server—typically a Trivial File Transfer Protocol (TFTP) server. You can use autoinstallation to configure new devices automatically and to deploy multiple devices from a central location in the network.

You enable autoinstallation so that the switches in your network implement autoinstallation when they are powered on. To configure autoinstallation, you specify a configuration server, an autoinstallation interface, and a protocol for IP address acquisition.

This topic describes:

- [Typical Uses for Autoinstallation on page 11](#)
- [Autoinstallation Configuration Files and IP Addresses on page 12](#)
- [Typical Autoinstallation Process on a New Switch on page 12](#)

Typical Uses for Autoinstallation

Typical uses for autoinstallation of the software include:

- To deploy and update multiple devices from a central location in the network.
- To update a device—Autoinstallation occurs when a device that has been manually configured for autoinstallation is powered on.

Autoinstallation Configuration Files and IP Addresses

For the autoinstallation process to work, you must store one or more host-specific or default configuration files on a configuration server in the network and have a service available—typically Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the switch.

You can set up the following configuration files for autoinstallation on the switch:

- **network.conf**—Default configuration file for autoinstallation, in which you specify IP addresses and associated hostnames for devices on the network.
- **switch.conf**—Default configuration file for autoinstallation with a minimum configuration sufficient for you to telnet to the device and configure it manually.
- **hostname.conf**—Host-specific configuration file for autoinstallation on a device that contains all the configuration information necessary for the switch. In the filename, **hostname** is replaced with the hostname assigned to the switch.

If the server with the autoinstallation configuration file is not on the same LAN segment as the new device, or if a specific device is required by the network, you must configure an intermediate device directly attached to the new switch, through which the new switch can send TFTP, Boot Protocol (BOOTP), and Domain Name System (DNS) requests. In this case, you specify the IP address of the intermediate device as the location to receive TFTP requests for autoinstallation.

Typical Autoinstallation Process on a New Switch

When the switch configured for autoinstallation is powered on, it performs the following autoinstallation tasks:

1. The switch sends out DHCP or BOOTP requests on each connected interface simultaneously to obtain an IP address.

If a DHCP server responds to these requests, it provides the switch with some or all of the following information:

- An IP address and subnet mask for the autoinstallation interface.
- The location of the (typically) TFTP server, Hypertext Transfer Protocol (HTTP) server, or FTP server on which the configuration file is stored.
- The name of the configuration file to be requested from the TFTP server.
- The IP address or hostname of the TFTP server.

If the DHCP server provides the server's hostname, a DNS server must be available on the network to resolve the name to an IP address.

- The IP address of an intermediate device if the configuration server is on a different LAN segment from the switch.

2. After the switch acquires an IP address, the autoinstallation process on the switch attempts to download a configuration file in the following ways:
 - a. If the DHCP server specifies the host-specific configuration file **hostname.conf**, the switch uses that filename in the TFTP server request. The autoinstallation process on the new switch makes three unicast TFTP requests for **hostname.conf**. If these attempts fail, the switch broadcasts three requests to any available TFTP server for the file.
 - b. If the switch does not locate a **hostname.conf** file, the autoinstallation process sends three unicast TFTP requests for a **network.conf** file that contains the switch's hostname-to-IP-address mapping information. If these attempts fail, the switch broadcasts three requests to any available TFTP server for the file.
 - c. If the switch fails to find a **network.conf** file that contains a hostname entry for the switch, the autoinstallation process sends out a DNS request and attempts to resolve the switch's IP address to a hostname.
 - d. If the switch determines its hostname, it sends a TFTP request for the **hostname.conf** file.
 - e. If the switch is unable to map its IP address to a hostname, it sends TFTP requests for the default configuration file **switch.conf**. The TFTP request procedure is the same as for the **network.conf** file.
3. After the switch locates a configuration file on a TFTP server, the autoinstallation process downloads the file, installs the file on the switch, and commits the configuration.

**Related
Documentation**

- [Configuring Autoinstallation of Configuration Files \(CLI Procedure\) on page 26](#)
- [Connecting and Configuring an EX Series Switch \(CLI Procedure\)](#)
- [Connecting and Configuring an EX Series Switch \(J-Web Procedure\)](#)
- [Configuration Files Terms on page 13](#)

Configuration Files Terms

Table 7 on page 13 lists the various configuration file terms used for EX Series switches and their definitions.

Table 7: Configuration File Terms

Term	Definition
active configuration	The current committed configuration of a switch.
candidate configuration	A working copy of the configuration that allows users to make configurational changes without causing any operational changes until this copy is committed.
configuration group	Group of configuration statements that can be inherited by the rest of the configuration.

Table 7: Configuration File Terms (*continued*)

Term	Definition
commit a configuration	Have the candidate configuration checked for proper syntax, activated, and marked as the current configuration file running on the switching platform.
configuration hierarchy	The Junos OS configuration consists of a hierarchy of statements. There are two types of statements: container statements, which contain other statements, and leaf statements, which do not contain other statements. All the container and leaf statements together form the configuration hierarchy.
default configuration	The default configuration contains the initial values set for each configuration parameter when a switch is shipped.
rescue configuration	Well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.
roll back a configuration	Return to a previously committed configuration.

**Related
Documentation**

- [EX2200 Switch Default Configuration](#)
- [EX3200 Default Configuration](#)
- [EX4200 Default Configuration](#)
- [EX4500 Default Configuration](#)
- [EX8200 Switch Default Configuration](#)
- [Loading a Previous Configuration File \(CLI Procedure\) on page 19](#)
- [Managing Configuration Files Through the Configuration History \(J-Web Procedure\) on page 45](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- [Understanding Configuration Files for EX Series Switches on page 7](#)

PART 2

Configuration

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CHAPTER 3

Configuration Tasks

- [Uploading a Configuration File \(CLI Procedure\) on page 17](#)
- [Uploading a Configuration File \(J-Web Procedure\) on page 19](#)
- [Loading a Previous Configuration File \(CLI Procedure\) on page 19](#)
- [Reverting to the Default Factory Configuration for the EX Series Switch on page 20](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- [Setting or Deleting the Rescue Configuration \(CLI Procedure\) on page 25](#)
- [Setting or Deleting the Rescue Configuration \(J-Web Procedure\) on page 25](#)
- [Configuring Autoinstallation of Configuration Files \(CLI Procedure\) on page 26](#)
- [Using the Commit Options to Commit Configuration Changes \(J-Web Procedure\) on page 28](#)

Uploading a Configuration File (CLI Procedure)

You can create a configuration file on your local system, copy the file to the EX Series switch and then load the file into the CLI. After you have loaded the configuration file, you can commit it to activate the configuration on the switch. You can also edit the configuration interactively using the CLI and commit it at a later time.

To upload a configuration file from your local system:

1. Create the configuration file using a text editor such as Notepad, making sure that the syntax of the configuration file is correct. For more information about testing the syntax of a configuration file see the [Junos OS System Basics and Services Command Reference](#).
2. In the configuration text file, use an option to perform the required action when the file is loaded. [Table 8 on page 17](#) lists and describes some options for the **load** command.

Table 8: Options for the load command

Options	Description
merge	Combines the current active configuration and the configuration in <i>filename</i> or the one that you type at the terminal. A merge operation is useful when you are adding a new section to an existing configuration. If the active configuration and the incoming configuration contain conflicting statements, the statements in the incoming configuration override those in the active configuration.

Table 8: Options for the load command (*continued*)

Options	Description
override	Discards the current candidate configuration and loads the configuration in <i>filename</i> or the one that you type at the terminal. When you use the override option and commit the configuration, all system processes reparse the configuration. You can use the override option at any level of the hierarchy.
replace	Searches for the replace tags, deletes the existing statements of the same name, if any, and replaces them with the incoming configuration. If there is no existing statement of the same name, the replace operation adds the statements marked with the replace tag to the active configuration. NOTE: For this operation to work, you must include replace tags in the text file or in the configuration you type at the terminal.

- Press Ctrl+A to select all the text in the configuration file.
- Press Ctrl+C to copy the contents of the configuration text file to the Clipboard.
- Log in to the switch using your username and password.
- To enter configuration mode:

```
user@switch> configure
```

You will see this output, with the hash or pound mark indicating configuration mode.

Entering configuration mode

```
[edit]
user@switch#
```
- Load the configuration file:

```
[edit]
user@switch# load merge terminal
```
- At the cursor, paste the contents of the Clipboard using the mouse and the Paste icon:

```
[edit]
user@switch# load merge terminal
[Type ^D at a new line to end input]
>Cursor is here. Paste the contents of the clipboard here<
```
- Press Enter.
- Press Ctrl+D to set the end-of-file marker.

To view results of the configuration steps before committing the configuration, type the **show** command at the user prompt.

To commit these changes to the active configuration, type the **commit** command at the user prompt. You can also edit the configuration interactively using the CLI and commit it at a later time.

Related Documentation

- [Uploading a Configuration File \(J-Web Procedure\) on page 19](#)
- [Understanding Configuration Files for EX Series Switches on page 7](#)

Uploading a Configuration File (J-Web Procedure)



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

You can create a configuration file on your local system, copy the file to the EX Series switch and then load the file into the CLI. After you have loaded the configuration file, you can commit it to activate the configuration on the switch. You can also edit the configuration interactively using the CLI and commit it at a later time.

To upload a configuration file from your local system:

1. Select **Maintain > Config Management > Upload**.
The work area displays the File to Upload box.
2. Specify the name of the file to upload using one of the following methods:
 - Type the absolute path and filename in the File to Upload box.
 - Click **Browse** to navigate to the file.
3. Click **Upload and Commit** to upload and commit the configuration.

The switch checks the configuration for the correct syntax before committing it.

Related Documentation

- [Uploading a Configuration File \(CLI Procedure\) on page 17](#)
- [Understanding J-Web Configuration Tools](#)
- [Understanding Configuration Files for EX Series Switches on page 7](#)

Loading a Previous Configuration File (CLI Procedure)

You can return to a previously committed configuration file if you need to revert to a previous configuration. The EX Series switch saves the last 50 committed configurations, including the rollback number, date, time, and name of the user who issued the **commit** configuration command.

Syntax

rollback *<number>*

Options

- **none**—Return to the most recently saved configuration.
- **number**—Configuration to return to.
 - **Range:** 0 through 49. The most recently saved configuration is number 0, and the oldest saved configuration is number 49.
 - **Default:** 0

To return to a configuration prior to the most recently committed one:

1. Specify the rollback number (here, 1 is entered and the configuration returns to the previously committed configuration):

```
[edit]
user@switch# rollback 1
load complete
```

2. Activate the configuration you have loaded:

```
[edit]
user@switch# commit
```

Related Documentation

- [Managing Configuration Files Through the Configuration History \(J-Web Procedure\) on page 45](#)
- [Configuration Files Terms on page 13](#)
- [For more information on rollback, see *Junos OS CLI User Guide*.](#)

Reverting to the Default Factory Configuration for the EX Series Switch

If for any reason the current active configuration fails, you can revert to the factory-default configuration.

You can also roll back to a previous configuration, as described in “[Loading a Previous Configuration File \(CLI Procedure\)](#)” on page 19, or revert to the rescue configuration, as described in “[Reverting to the Rescue Configuration for the EX Series Switch](#)” on page 24.



TIP: If you have lost the root password, it is not necessary to revert to the factory-default configuration to reset it. See “[Troubleshooting Loss of the Root Password](#)” on page 91.

The factory-default configuration contains the basic configuration settings for the switch. This is the first configuration of the switch and it is loaded when the switch is first powered on. For the factory-default configuration file for your switch, see the complete list under the Configuration tab of *Configuration File Management on EX Series Switches*.



TIP: You can run the EZsetup script to complete the initial configuration of the switch *after* reverting to the factory-default configuration. (The EZsetup script is available only on fixed configuration switches, it is not available on modular switches.) For information on completing the initial configuration using either the CLI or the J-Web interface, see *Connecting and Configuring an EX Series Switch (CLI Procedure)* or *Connecting and Configuring an EX Series Switch (J-Web Procedure)*.

You can revert to the factory-default configuration by using the **Menu** button to the right of the LCD panel or by using the **request system zeroize** operational command or the **load**

factory-default configuration command. (If your switch model does not have an LCD panel, use these commands.) You can also use the **load factory-default** command to revert to the factory-default configuration file that contains all default settings *except* the root password setting, which is retained.

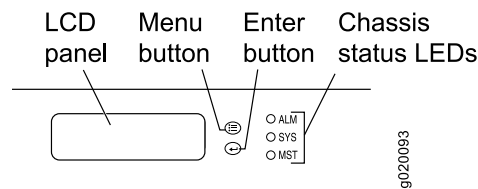
These procedures are described in the following sections:

- [Reverting to the Factory-Default Configuration by Using the LCD Panel on page 21](#)
- [Reverting to the Factory-Default Configuration by Using the request system zeroize Command on page 22](#)
- [Reverting to the Factory-Default Configuration by Using the load factory-default Command on page 22](#)

Reverting to the Factory-Default Configuration by Using the LCD Panel

To set the switch to the factory-default configuration, use the LCD panel and buttons on the front panel of the switch shown in [Figure 1 on page 21](#). If the switch model does not have an LCD panel, use one of the CLI commands described in the following sections.

Figure 1: EX Series Switch LCD Panel



NOTE: To revert a member switch of a Virtual Chassis to the factory-default configuration, first disconnect the cables connected to the Virtual Chassis ports (VCPs) to avoid affecting Virtual Chassis configuration parameters (member ID, mastership priority, and setting of VCP uplinks) on other members. See *Disconnecting a Fiber-Optic Cable from an EX Series Switch*, *Disconnecting a Virtual Chassis Cable from an EX4200 Switch*, or *Disconnecting a Virtual Chassis Cable from an EX4500 Switch*.

To revert to the factory-default configuration by using the LCD panel:

1. Press the **Menu** button until you see MAINTENANCE MENU on the panel.
2. Press the **Enter** button.
3. Press **Menu** until you see FACTORY DEFAULT.
4. Press **Enter**. The display says RESTORE DEFAULT?
5. Press **Enter**. The screen flashes **FACTORY DEFAULT IN PROGRESS** and returns to the idle menu.
6. Complete the initial configuration of the switch. See *Connecting and Configuring an EX Series Switch (CLI Procedure)* or *Connecting and Configuring an EX Series Switch (J-Web Procedure)*

Reverting to the Factory-Default Configuration by Using the `request system zeroize` Command

The **`request system zeroize`** command is a standard Junos OS operational mode command that removes all configuration information and resets all key values. The operation unlinks all user-created data files, including customized configuration and log files, from their directories. The switch then reboots and reverts to the factory-default configuration.

To completely erase user-created data so that it is unrecoverable, use the **`request system zeroize media`** command.



CAUTION: Before issuing **`request system zeroize`**, use the **`request system snapshot`** command to back up the files currently used to run the switch to a secondary device.

To revert to the factory-default configuration by using the **`request system zeroize`** command:

1. `user@switch> request system zeroize`
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (yes)
2. Type **yes** to remove configuration and log files and revert to the factory default configuration.



NOTE: The **`auto-image-upgrade`** statement is added under the **`[edit chassis]`** hierarchy level when you use this procedure, and thus the automatic image upgrade feature is made available on the switch.

3. Complete the initial configuration of the switch. See *Connecting and Configuring an EX Series Switch (CLI Procedure)* or *Connecting and Configuring an EX Series Switch (J-Web Procedure)*

Reverting to the Factory-Default Configuration by Using the `load factory-default` Command

The **`load factory-default`** command is a standard Junos OS configuration command that replaces the current active configuration with the factory-default configuration (except the root password setting, which by default is not set but which you must set in order to commit the new configuration in this procedure).

If you want to run the EZsetup script to complete the initial configuration of the switch after you revert to the factory-default configuration, do not use the **`load factory-default`** command. Instead do the reversion using either the LCD panel or the **`request system zeroize`** command. If you use the **`load factory-default`** command to revert to the factory-default configuration, the configuration for the root password is retained and the EZsetup script will not run. (The EZsetup script is available only on fixed configuration switches, it is not available on modular switches.)



NOTE: The `load factory-default` command by itself is not supported on EX3300, EX4200, EX4500, and EX4550 switches configured in a Virtual Chassis.

To revert to the factory-default configuration by using the `load factory-default` command:



NOTE: If you use this procedure, you must delete the system commit factory settings, set the root password, and commit the configuration. These steps are not required when you revert to the factory-default configuration by using `request system zeroize`. Also, the `auto-image-upgrade` statement is not added to the configuration when you use this procedure; it *is* added to the configuration when you use `request system zeroize`.

1. [edit]
user@switch# **load factory-default**
2. [edit]
user@switch# **delete system commit factory-settings**
3. [edit]
user@switch# **set system root-authentication plain-text-password**
4. [edit]
user@switch# **commit**
5. Check the member ID and mastership priority with the `show virtual-chassis` command and check to see whether there are remaining settings for uplink VCPs by using the `show virtual-chassis vc-port` command.

Related Documentation

- [Connecting and Configuring an EX Series Switch \(CLI Procedure\)](#)
- [Connecting and Configuring an EX Series Switch \(J-Web Procedure\)](#)
- [Configuring an EX4200, EX4500, or EX4550 Virtual Chassis \(CLI Procedure\)](#)
- [Understanding Configuration Files for EX Series Switches on page 7](#)
- [For more information about the load factory-default command, see Junos OS CLI User Guide.](#)

Reverting to the Rescue Configuration for the EX Series Switch

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration.

You can also revert to the default factory configuration, as described in [“Reverting to the Default Factory Configuration for the EX Series Switch” on page 20](#).

Before you begin to revert to the rescue configuration:

- Ensure that you have physical access to the switch.
- A rescue configuration for the switch must have been previously set.

To revert the switch to the rescue configuration:

1. At the LCD panel on the switch, press **Menu** until you see **MAINTENANCE MENU**.
2. Press **Enter**.
3. Press **Menu** until you see **Load Rescue**.
4. Press **Enter**.
5. When **Commit Rescue** is displayed, press **Enter**.

The LCD panel displays the message **Commit Rescue in Progress**. When the reversion is complete, it displays the idle menu.



NOTE: If there is no rescue configuration saved on the switch, the message **Commit rescue failed** is displayed.

Related Documentation

- [Setting or Deleting the Rescue Configuration \(CLI Procedure\) on page 25](#)
- [Setting or Deleting the Rescue Configuration \(J-Web Procedure\) on page 25](#)
- [LCD Panel in EX3200 Switches](#)
- [LCD Panel in EX4200 Switches](#)
- [LCD Panel in EX4500 Switches](#)
- [LCD Panel in an EX8200 Switch](#)
- [Configuration Files Terms on page 13](#)

Setting or Deleting the Rescue Configuration (CLI Procedure)

A rescue configuration is a well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration. We recommend that the rescue configuration include the IP address (accessible from the network) for the management port.

To set the current active configuration as the rescue configuration:

```
user@switch> request system configuration rescue save
```

To delete an existing rescue configuration:

```
user@switch> request system configuration rescue delete
```

Related Documentation

- [Setting or Deleting the Rescue Configuration \(J-Web Procedure\) on page 25](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- [Loading a Previous Configuration File \(CLI Procedure\) on page 19](#)
- [Configuration Files Terms on page 13](#)
- [For information on show system configuration rescue, see *Junos OS System Basics and Services Command Reference*.](#)

Setting or Deleting the Rescue Configuration (J-Web Procedure)



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

A rescue configuration is a well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration. We recommend that the rescue configuration include the IP address (accessible from the network) for the management port.

To view, set, or delete the rescue configuration using the J-Web interface, select **Maintain > Config Management > Rescue**. On the Rescue page, you can perform the following tasks:

- View the current rescue configuration—Click **View rescue configuration**.
- Set the current running configuration as the rescue configuration—Click **Set rescue configuration**.
- Delete the current rescue configuration—Click **Delete rescue configuration**.

**Related
Documentation**

- [Setting or Deleting the Rescue Configuration \(CLI Procedure\) on page 25](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- [Configuration Files Terms on page 13](#)

Configuring Autoinstallation of Configuration Files (CLI Procedure)

Autoinstallation is the automatic configuration of a device over the network from a pre-existing configuration file that you create and store on a configuration server—typically a Trivial File Transfer Protocol (TFTP) server. You can use autoinstallation to automatically deploy multiple devices from a central location in the network.

To specify autoinstallation to run when you power on a switch already installed in your network, you can enable it by specifying one or more interfaces, protocols, and configuration servers to be used for autoinstallation.

Before you explicitly enable and configure autoinstallation on the switch, perform these tasks as needed for your network's configuration:

- Have a service available—typically Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the switch
- Configure a DHCP server on your network to meet your network requirements. You can configure a switch to operate as a DHCP server. For more information, see *Configuring a DHCP Server on Switches (CLI Procedure)*.
- Create one of the following configuration files, and store it on a TFTP server (or HTTP server or FTP server) in the network:
 - A host-specific file with the name **hostname.conf** for each switch undergoing autoinstallation. Replace **hostname** with the name of a switch. The **hostname.conf** file typically contains all the configuration information necessary for the switch with this hostname.
 - A default configuration file named **switch.conf** with the minimum configuration necessary to enable you to telnet into the new switch for further configuration.
- Physically attach the switch to the network using a Gigabit Ethernet port.
- If you configure the DHCP server to provide only the TFTP server hostname, add an IP address-to-hostname mapping entry for the TFTP server to the DNS database file on the Domain Name System (DNS) server in the network.
- If the switch is not on the same network segment as the DHCP server (or other device providing IP address resolution), configure an existing device as an intermediate device to receive TFTP and DNS requests and forward them to the TFTP server and the DNS

server. You must configure the LAN or serial interface on the intermediate device with the IP addresses of the hosts providing TFTP and DNS services. Connect this interface to the switch.

- If you are using **hostname.conf** files for autoinstallation, you must also complete the following tasks:
 - Configure the DHCP server to provide a **hostname.conf** filename to each switch. Each switch uses its **hostname.conf** filename to request a configuration file from the TFTP server. Copy the necessary **hostname.conf** configuration files to the TFTP server.
 - Create a default configuration file named **network.conf**, and copy it to the TFTP server. This file contains IP-address-to-hostname mapping entries. If the DHCP server does not send a **hostname.conf** filename to a new switch, the switch uses **network.conf** to resolve its hostname based on its IP address.

Alternatively, you can add the IP-address-to-hostname mapping entry for the switch to a DNS database file.

The switch uses the hostname to request a **hostname.conf** file from the TFTP server.

To configure autoinstallation:

1. Specify the URL address of one or more servers from which to obtain configuration files.

[edit system]

```
user@switch# set autoinstallation configuration-servers tftp://tftpconfig.sp.com
```



NOTE: You can also use an FTP address, for example, **ftp://user:password@sftpconfig.sp.com**.

2. Configure one or more Ethernet interfaces to perform autoinstallation and one or two procurement protocols for each interface. The switch uses the protocols to send a request for an IP address for the interface:

[edit system]

```
user@switch# set autoinstallation interfaces ge-0/0/0 bootp
```

Related Documentation

- [Verifying Autoinstallation Status on page 48](#)
- [Understanding Autoinstallation of Configuration Files on page 11](#)
- [Understanding DHCP Services for Switches](#)

Using the Commit Options to Commit Configuration Changes (J-Web Procedure)

You can use the single-commit feature to commit all outstanding configuration changes in the J-Web interface on EX Series switches simultaneously. This helps in reducing the time J-Web takes for committing configurations because when changes are committed at every step, rollback configurations pile up.

For example, suppose you want to delete a firewall filter and add a new one. With immediate commits, you would need to commit your changes twice for this action. Using single commit, you can decrease the number of commits to one, thus saving time for working on other configurations.

When you edit a configuration, you work on a copy of the current configuration, which is your candidate configuration. The changes you make to the candidate configuration are visible through the user interface immediately, allowing other users to edit those configurations, but they do not take effect on the switch until you commit the changes. When you commit the configuration, the candidate file is checked for proper syntax, activated, and marked as the current, operational software configuration file. If multiple users are editing the configuration when you commit the candidate configuration, changes made by all users take effect.

You can configure the commit options to either commit all configuration changes together or commit each configuration change immediately using the J-Web Commit Preference page.



NOTE: There are some pages on which configuration changes must be committed immediately. For such pages, if you configure the commit options for a single commit, the system displays warning notifications that remind you to commit your changes immediately. An example of such a page is the Interface Page (Configure > Interface).

To configure the commit options on an EX Series switch using the J-Web interface:

1. Select **Commit Options**.
-



NOTE: All action links except **Preference** are disabled unless you edit, add, or delete a configuration.

2. Choose an action. See [Table 9 on page 29](#) for details on the actions.
3. Configure the commit options by selecting **Preference**. See [Table 10 on page 29](#) for details on preference options.

Table 9: Commit Options

Menu Item	Function	Your Action
Commit	Commits the candidate configuration of the current user session, along with changes from other user sessions.	<ol style="list-style-type: none"> 1. Select Commit Options > Commit. Changes are committed after the system validates your configuration. A window displays that the configuration was successfully committed or that the commit failed. 2. Click OK. Click Details to view the commit log.
Compare	Displays the XML log of pending uncommitted configurations on the device.	<ol style="list-style-type: none"> 1. Select Commit Options > Compare. The XML log of pending configurations on the devices are displayed similar to the CLI interface, in a “human-readable” form. 2. Click Close.
Discard	Discards the candidate configuration of your current session, along with changes from other user sessions.	<ol style="list-style-type: none"> 1. Select Commit Options > Discard. 2. Click OK to confirm the discard action. Your changes are discarded after the system validates your configuration.
Preference	Indicates your choice of committing all global configurations together or committing each configuration change immediately.	<ol style="list-style-type: none"> 1. Select Commit Options > Preference. The Commit Preference page is displayed. 2. Configure the commit options by selecting your preference. See Table 10 on page 29 for details on preference options.

Table 10: Commit Preference Options

Option	Function
Validate and commit configuration changes	Sets the system to validate and force an immediate commit on every screen after every configuration change.
Validate configuration changes	<p>Loads all the configuration changes for an accumulated single commit. If there are errors in loading the configuration, the errors are logged. This is the default mode.</p> <p>Once you select this option, you need to select Commit Options > Commit to commit your changes.</p>



- Related Documentation**
- *J-Web User Interface for EX Series Switches Overview*
 - *EX Series Switch Software Features Overview*

CHAPTER 4



Configuration Statements

- [archival on page 32](#)
- [archive-sites \(Configuration File\) on page 33](#)
- [autoinstallation on page 35](#)
- [synchronize \(Commit configuration\) on page 36](#)
- [configuration on page 37](#)
- [configuration-servers on page 38](#)
- [interfaces on page 39](#)
- [transfer-interval \(Configuration\) on page 40](#)
- [transfer-on-commit on page 41](#)

archival

Syntax	<pre> archival { configuration { archive-sites { file://<path>/<filename>; ftp://username@host:<port>url-path password password; http://username@host:<port>url-path password password; pasvftp://username@host:<port>url-path password password; scp://username@host:<port>url-path password password; } transfer-interval interval; transfer-on-commit; } } </pre>
Hierarchy Level	[edit system]
Release Information	<p>Statement introduced before Junos OS Release 7.4.</p> <p>Statement introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Statement introduced in Junos OS Release 11.1 for the QFX Series.</p>
Description	Configure copying of the currently active configuration to an archive site. An archive site can be a file, or an FTP or SCP location.
<div>  NOTE: The <code>edit system archival</code> hierarchy is not available on QFabric systems. </div>	
Options	The remaining statements are explained separately.
<div>  NOTE: The <code>[edit system archival]</code> hierarchy is not available on QFabric systems. </div>	
Required Privilege Level	<p>admin—To view this statement in the configuration.</p> <p>admin-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> <i>Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site</i>

archive-sites (Configuration File)

Syntax	<pre>archive-sites { file://<path>/<filename>; ftp://username@host:<port>url-path password password; http://username@host:<port>url-path password password; pasvftp://username@host:<port>url-path password password; scp://username@host:<port>url-path password password; }</pre>
Hierarchy Level	[edit system archival configuration]
Release Information	<p>Statement introduced before Junos OS Release 7.4.</p> <p>Statement introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Statement introduced in Junos OS Release 11.1 for the QFX Series.</p>
Description	<p>Specify where to transfer the current configuration files. When specifying a URL in a Junos OS statement using an IPv6 host address, you must enclose the entire URL in quotation marks (" ") and enclose the IPv6 host address in brackets ([]). For example, "scp://username<:password>@[ipv6-host-address]<:port>/url-path"</p> <p>If you specify more than one archive site, the router or switch attempts to transfer the configuration files to the first archive site in the list, moving to the next only if the transfer fails.</p> <p>The destination filename is saved in the following format, where <i>n</i> corresponds to the number of the compressed configuration rollback file that has been archived:</p> <p><i>router-name_juniper.conf.n.gz_YYYYMMDD_HHMMSS.</i></p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p> NOTE: The time included in the destination filename is always in Coordinated Universal Time (UTC) regardless of whether the time on the router or switch is configured as UTC or the local time zone. The default time zone on the router or switch is UTC.</p> </div> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p> NOTE: The [edit system archival] hierarchy is not available on QFabric systems.</p> </div>
Options	<p>The prefix used in the configuration statement determines the form of transfer:</p> <p>file:// —transfer on a path to a named file</p> <p>ftp:// —transfer using active FTP server</p> <p>pasvftp:// —transfer to a device that only accepts passive FTP services</p>

scp:// —transfer to a known host using background SCP file transfers

Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• <i>Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site</i>• <i>Junos OS Commit Model for Router or Switch Configuration</i>• configuration on page 37• transfer-on-commit on page 41

autoinstallation

Syntax	<pre> autoinstallation { configuration-servers { url; } interfaces { interface-name { bootp; rarp; } } } </pre>
Hierarchy Level	[edit system]
Release Information	<p>Statement introduced before Junos OS Release 7.4.</p> <p>Statement introduced in Junos OS Release 9.1 for EX Series switches.</p> <p>Statement introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.</p>
Description	<p>For ACX Series routers, J Series Services routers, and EX Series switches only. Download a configuration file automatically from an FTP, Hypertext Transfer Protocol (HTTP), or Trivial FTP (TFTP) server. When you power on a router or switch configured for autoinstallation, it requests an IP address from a Dynamic Host Configuration Protocol (DHCP) server. Once the router or switch has an address, it sends a request to a configuration server and downloads and installs a configuration.</p>
Options	The remaining statements are explained separately.
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • <i>ACX Series Autoinstallation Overview</i> • <i>Before You Begin Autoinstallation on an ACX Series Universal Access Router</i> • <i>Autoinstallation Configuration of ACX Series Universal Access Routers</i> • <i>USB Autoinstallation on ACX Series Routers</i> • <i>Verifying Autoinstallation on ACX Series Universal Access Routers</i> • <i>show system autoinstallation status</i> • <i>Upgrading Software by Using Automatic Software Download</i> • <i>J Series Services Router Basic LAN and WAN Access Configuration Guide</i> • configuration-servers on page 38 • <i>idle-timeout</i>

synchronize (Commit configuration)

Syntax	synchronize;
Hierarchy Level	[edit system commit]
Release Information	Statement introduced in Junos OS Release 7.4. Statement introduced in Junos OS Release 9.0 for EX Series switches.
Description	<p>For devices with multiple Routing Engines only. Configure a commit command to automatically result in a commit synchronize action between dual Routing Engines within the same chassis. The Routing Engine on which you execute the commit command (the requesting Routing Engine) copies and loads its candidate configuration to the other (the responding) Routing Engines. All Routing Engines then perform a syntax check on the candidate configuration file being committed. If no errors are found, the configuration is activated and becomes the current operational configuration on all Routing Engines.</p> <p>Starting with Junos OS Release 9.3, accounting of events and operations on a backup Routing Engine is not supported on accounting servers such as TACACS+ or RADIUS. Logging of accounting events is supported only for events and operations on a master Routing Engine.</p>
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• <i>Configuring Multiple Routing Engines to Synchronize Committed Configurations Automatically</i>

configuration

Syntax

```
configuration {
  transfer-interval interval;
  transfer-on-commit;
  archive-sites {
    file://<path>/<filename>;
    ftp://username@host:<port>url-path password password;
    http://username@host:<port>url-path password password;
    pasvftp://username@host:<port>url-path password password;
    scp://username@host:<port>url-path password password;
  }
}
```

Hierarchy Level [edit system archival]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Configure the router or switch to periodically transfer its currently active configuration (or after each commit).



NOTE: The [edit system archival] hierarchy is not available on QFabric systems.

Options The remaining statements are explained separately.

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

Related Documentation

- *Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site*
- *archive*
- [archive-sites on page 33](#)
- [transfer-interval on page 40](#)
- [transfer-on-commit on page 41](#)

configuration-servers

Syntax	<pre>configuration-servers { url; }</pre>
Hierarchy Level	[edit system autoinstallation]
Release Information	Statement introduced before Junos OS Release 7.4. Statement introduced in Junos OS Release 9.0 for EX Series switches.
Description	For J Series Services Routers and EX Series switches only, configure the URL address of a server from which to obtain configuration files. Examples of URLs: <i>tftp://hostname/path/filename</i> <i>ftp://username:prompt@ftp.hostname.net/filename /</i>
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• <i>Upgrading Software by Using Automatic Software Download</i>• Getting Started Guide for your router model• autoinstallation on page 35• <i>idle-timeout</i>

interfaces

Syntax	<pre> interfaces { interface-name { bootp; rarp; slarp; } } </pre>
Hierarchy Level	[edit system autoinstallation]
Release Information	<p>Statement introduced before Junos OS Release 7.4.</p> <p>Statement introduced in Junos OS Release 9.0 for EX Series switches.</p>
Description	For J Series Services Routers and EX Series switches only. Configure the interface on which to perform autoinstallation. A request for an IP address is sent from the interface. Specify the IP address procurement protocol.
Options	<p>rarpbootp—Send requests over serial interfaces with Frame Relay.</p> <p>rarp—Send requests over Ethernet interfaces.</p> <p>slarp—(On J Series Services Routers only) Send requests over serial interfaces with HDLC.</p>
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • <i>Upgrading Software by Using Automatic Software Download</i> • <i>J Series Services Router Basic LAN and WAN Access Configuration Guide</i> • autoinstallation on page 35

transfer-interval (Configuration)

Syntax	<code>transfer-interval <i>interval</i>;</code>
Hierarchy Level	[edit system archival configuration]
Release Information	Statement introduced before Junos OS Release 7.4. Statement introduced in Junos OS Release 9.0 for EX Series switches. Statement introduced in Junos OS Release 11.1 for the QFX Series.
Description	Configure the router or switch to periodically transfer its currently active configuration to an archive site.



NOTE: The `edit system archival` hierarchy is not available on QFabric systems.

Options *interval*—Interval at which to transfer the current configuration to an archive site.
Range: 15 through 2880 minutes





NOTE: The `[edit system archival]` hierarchy is not available on QFabric systems.

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

Related Documentation

- *Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site*
- *archive*
- [configuration on page 37](#)
- [transfer-on-commit on page 41](#)

transfer-on-commit

Syntax	transfer-on-commit;
Hierarchy Level	[edit system archival configuration]
Release Information	Statement introduced before Junos OS Release 7.4. Statement introduced in Junos OS Release 9.0 for EX Series switches. Statement introduced in Junos OS Release 11.1 for the QFX Series.
Description	Configure the router or switch to transfer its currently active configuration to an archive site each time you commit a candidate configuration.
<div>  <p>NOTE: When specifying a URL in a Junos OS statement using an IPv6 host address, you must enclose the entire URL in quotation marks (") and enclose the IPv6 host address in brackets ([]). For example, "ftp://username<:password>@[ipv6-host-address]<:port>/url-path".</p> </div>	
<div>  <p>NOTE: The [edit system archival] hierarchy is not available on QFabric systems.</p> </div>	
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site</i> • <i>archive</i> • configuration on page 37 • transfer-interval on page 40

PART 3

Administration

- [Routine Monitoring on page 45](#)
- [Operational Commands on page 49](#)

CHAPTER 5

Routine Monitoring

- [Managing Configuration Files Through the Configuration History \(J-Web Procedure\)](#) on page 45
- [Verifying Autoinstallation Status](#) on page 48

Managing Configuration Files Through the Configuration History (J-Web Procedure)



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

Use the Configuration History function to manage configuration files.

1. [Displaying Configuration History](#) on page 45
2. [Displaying Users Editing the Configuration](#) on page 46
3. [Comparing Configuration Files with the J-Web Interface](#) on page 47
4. [Downloading a Configuration File with the J-Web Interface](#) on page 47
5. [Loading a Previous Configuration File with the J-Web Interface](#) on page 47

Displaying Configuration History

To manage configuration files with the J-Web interface, select **Maintain > Config Management > History**. The main pane displays History — Database Information page.

[Table 11 on page 46](#) summarizes the contents of the display.

The configuration history display allows you to:

- View a configuration.
- Compare two configurations.
- Download a configuration file to your local system.
- Roll back the configuration to any of the previous versions stored on the switch.

Table 11: J-Web Configuration History Summary

Field	Description
Number	Version of the configuration file.
Date/Time	Date and time the configuration was committed.
User	Name of the user who committed the configuration.
Client	Method by which the configuration was committed: <ul style="list-style-type: none"> • cli—A user entered a Junos OS CLI command. • junoscript—A Junos XML protocol client performed the operation. Commit operations performed by users through the J-Web interface are identified in this way. • snmp—An SNMP set request started the operation. • other—Another method was used to commit the configuration.
Comment	Comment.
Log Message	Method used to edit the configuration: <ul style="list-style-type: none"> • Imported via paste— Configuration was edited and loaded with the Configure > CLI Tools > Edit Configuration Text option. • Imported upload [<i>filename</i>]—Configuration was uploaded with the Configure > CLI Tools > Point Click Editor option. • Modified via J-Web Configure — Configuration was modified with the J-Web Configure menu. • Rolled back via <i>user-interface</i>— Configuration was rolled back to a previous version through the user interface specified by <i>user-interface</i>, which can be Web Interface or CLI.
Action	Action to perform with the configuration file. The action can be Download or Rollback .

Displaying Users Editing the Configuration

To display a list of users editing the switching platform configuration, select **Config Management > History**. The list is displayed as Database Information in the main pane. [Table 12 on page 46](#) summarizes the Database Information display.

Table 12: J-Web Configuration Database Information Summary

Field	Description
User Name	Name of user editing the configuration.
Start Time	Time of day the user logged in to the switch.
Idle Time	Elapsed time since the user issued a configuration command from the CLI.
Terminal	Terminal on which the user is logged in.
PID	Process identifier assigned to the user by the switching platform.
Edit Flags	Designates a private or exclusive edit.

Table 12: J-Web Configuration Database Information Summary (*continued*)

Field	Description
Edit Path	Level of the configuration hierarchy that the user is editing.

Comparing Configuration Files with the J-Web Interface

To compare any two of the past 50 committed configuration files:

1. Select **Config Management > History**. A list of the current and the previous 49 configurations is displayed as Configuration History in the main pane.
2. Select the check boxes to the left of the two configuration versions you want to compare.
3. Click **Compare**.

The main pane displays the differences between the two configuration files at each hierarchy level as follows:

- Lines that have changed are highlighted side by side in green.
- Lines that exist only in the more recent configuration file are displayed in red on the left.
- Lines that exist only in the older configuration file are displayed in blue on the right.

Downloading a Configuration File with the J-Web Interface

To download a configuration file from the switch to your local system:

1. Select **Config Management > History**. A list of current and previous 49 configurations is displayed as Configuration History in the main pane.
2. In the Action column, click **Download** for the version of the configuration you want to download.
3. Select the options your Web browser provides that allow you to save the configuration file to a target directory on your local system.

The file is saved as an ASCII file.

Loading a Previous Configuration File with the J-Web Interface

To load (roll back) and commit a previous configuration file stored on the switching platform:

1. Select **Config Management > History**. A list of current and previous 49 configurations is displayed as Configuration History in the main pane.
2. In the Action column, click **Rollback** for the version of the configuration you want to load.

The main pane displays the results of the rollback operation.



NOTE: When you click **Rollback**, the switch loads and commits the selected configuration. This behavior is different from the switch's behavior that occurs after you enter the **rollback** configuration mode command from the CLI. In the latter case, the configuration is loaded but not committed.

- Related Documentation**
- [Loading a Previous Configuration File \(CLI Procedure\) on page 19](#)
 - [Understanding Configuration Files for EX Series Switches on page 7](#)
 - [Understanding J-Web Configuration Tools](#)

Verifying Autoinstallation Status

Purpose Display the status of the autoinstallation feature.

Action From the CLI, enter the **show system autoinstallation status** command.

Sample Output

```
user@switch> show system autoinstallation status
Autoinstallation status:
Master state: Active
Last committed file: None
Configuration server of last committed file: 10.25.100.1
Interface:
  Name: ge-0/0/0
  State: Configuration Acquisition
  Acquired:
    Address: 192.168.124.75
    Hostname: host-ge-000
    Hostname source: DNS
    Configuration filename: switch-ge-000.conf
    Configuration filename server: 10.25.100.3
  Address acquisition:
    Protocol: DHCP Client
    Acquired address: None
    Protocol: RARP Client
    Acquired address: None
Interface:
  Name: ge-0/0/1
  State: None
  Address acquisition:
    Protocol: DHCP Client
    Acquired address: None
    Protocol: RARP Client
    Acquired address: None
```

Meaning The output shows the settings configured for autoinstallation. Verify that the values displayed are correct for the switch when it is deployed on the network.

- Related Documentation**
- [Configuring Autoinstallation of Configuration Files \(CLI Procedure\) on page 26](#)

CHAPTER 6

Operational Commands

- clear log
- clear system commit
- file archive
- file checksum md5
- file checksum sha1
- file checksum sha-256
- file compare
- file copy
- file delete
- file list
- file rename
- file show
- request system configuration rescue delete
- request system configuration rescue save
- request system scripts refresh-from commit
- request system scripts refresh-from event
- request system scripts refresh-from op
- request system zeroize
- show system commit
- show system configuration archival
- show system configuration rescue
- show system rollback
- test configuration

clear log

Syntax	<code>clear log <i>filename</i></code> <code><all></code>
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	Remove contents of a log file.
Options	<i>filename</i> —Name of the specific log file to delete. all —(Optional) Delete the specified log file and all archived versions of it.
Required Privilege Level	clear
Related Documentation	<ul style="list-style-type: none">• show log
List of Sample Output	clear log on page 50
Output Fields	See file list for an explanation of output fields.

Sample Output

clear log

The following sample commands list log file information, clear the contents of a log file, and then display the updated log file information:

```
user@host> file list lcc0-re0:/var/log/sampled detail
lcc0-re0:
-----
-rw-r-----  1 root  wheel          26450 Jun 23 18:47 /var/log/sampled
total 1

user@host> clear log lcc0-re0:sampled
lcc0-re0:
-----

user@host> file list lcc0-re0:/var/log/sampled detail
lcc0-re0:
-----
-rw-r-----  1 root  wheel           57 Sep 15 03:44 /var/log/sampled
total 1
```

clear system commit

Syntax	clear system commit
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	Clear any pending commit operation.
Options	This command has no options.
Required Privilege Level	maintenance (or the actual user who scheduled the commit)
Related Documentation	<ul style="list-style-type: none"> • show system commit on page 79
List of Sample Output	clear system commit on page 51 clear system commit (None Pending) on page 51 clear system commit (User Does Not Have Required Privilege Level) on page 51
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

clear system commit

```
user@host> clear system commit
Pending commit cleared.
```

clear system commit (None Pending)

```
user@host> clear system commit
No commit scheduled.
```

clear system commit (User Does Not Have Required Privilege Level)

```
user@host> clear system commit
error: Permission denied
```

file archive

Syntax	<code>file archive destination <i>destination</i> source <i>source</i> <compress></code>
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	Archive, and optionally compress, one or multiple local system files as a single file, locally or at a remote location.
Options	<p>destination <i>destination</i>—Destination of the archived file or files. Specify the destination as a URL or filename. The Junos OS adds one of the following suffixes if the destination filename does not already have it:</p> <ul style="list-style-type: none">• For archived files—The suffix .tar• For archived and compressed files—The suffix .tgz <p>source <i>source</i>—Source of the original file or files. Specify the source as a URL or filename.</p> <p>compress—(Optional) Compress the archived file with the GNU zip (gzip) compression utility. The compressed files have the suffix .tgz.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>Format for Specifying Filenames and URLs in Junos OS CLI Commands</i>
List of Sample Output	file archive (Multiple Files) on page 52 file archive (Single File) on page 52 file archive (with Compression) on page 53
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file archive (Multiple Files)

The following sample command archives all message files in the local directory `/var/log/messages` as the single file **messages-archive.tar**.

```
user@host> file archive source /var/log/messages* destination /var/log/messages-archive.tar
/usr/bin/tar: Removing leading / from absolute path names in the archive.
user@host>
```

file archive (Single File)

The following sample command archives one message file in the local directory `/var/log/messages` as the single file **messages-archive.tar**.

```
user@host> file archive source /var/log/messages destination /var/log/messages-archive.tar
/usr/bin/tar: Removing leading / from absolute path names in the archive.
user@host
```

file archive (with Compression)

The following sample command archives and compresses all message files in the local directory **/var/log/messages** as the single file **messages-archive.tgz**.

```
user@host> file archive compress source /var/log/messages* destination
/var/log/messages-archive.tgz
/usr/bin/tar: Removing leading / from absolute path names in the archive.
```

file checksum md5

Syntax	<code>file checksum md5 <pathname> filename</code>
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	Calculate the Message Digest 5 (MD5) checksum of a file.
Options	pathname —(Optional) Path to a filename. filename —Name of a local file for which to calculate the MD5 checksum.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>Configuring Checksum Hashes for a Commit Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Configuring Checksum Hashes for an Event Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Configuring Checksum Hashes for an Op Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Executing an Op Script from a Remote Site</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• file checksum sha-256 on page 56• file checksum sha1 on page 55• <i>op</i>
List of Sample Output	file checksum md5 on page 54
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum md5

```
user@host> file checksum md5 jbundle-5.3R2.4-export-signed.tgz
MD5 (jbundle-5.3R2.4-export-signed.tgz) = 2a3b69e43f9bd4893729cc16f505a0f5
```

file checksum sha1

Syntax	<code>file checksum sha1 <pathname> filename</code>
Release Information	<p>Command introduced in Junos OS Release 9.5.</p> <p>Command introduced in Junos OS Release 9.5 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p>
Description	Calculate the Secure Hash Algorithm (SHA-1) checksum of a file.
Options	<p>pathname—(Optional) Path to a filename.</p> <p>filename—Name of a local file for which to calculate the SHA-1 checksum.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • <i>Configuring Checksum Hashes for a Commit Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i> • <i>Configuring Checksum Hashes for an Event Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i> • <i>Configuring Checksum Hashes for an Op Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i> • <i>Executing an Op Script from a Remote Site</i> in the <i>Junos OS Configuration and Operations Automation Guide</i> • file checksum md5 on page 54 • file checksum sha-256 on page 56 • <i>op</i>
List of Sample Output	file checksum sha1 on page 55
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum sha1

```
user@host> file checksum sha1 /var/db/scripts/opscript.slax
```

```
SHA1 (/var/db/scripts/commitscript.slax) = ba9e47120c7ce55cff29afd73eacd370e162c676
```

file checksum sha-256

Syntax	<code>file checksum sha-256 <pathname> filename</code>
Release Information	Command introduced in Junos OS Release 9.5. Command introduced in Junos OS Release 9.5 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series.
Description	Calculate the Secure Hash Algorithm 2 family (SHA-256) checksum of a file.
Options	pathname —(Optional) Path to a filename. filename —Name of a local file for which to calculate the SHA-256 checksum.
Required Privilege Level	maintenance view view-configuration
Related Documentation	<ul style="list-style-type: none">• <i>Configuring Checksum Hashes for a Commit Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Configuring Checksum Hashes for an Event Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Configuring Checksum Hashes for an Op Script</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• <i>Executing an Op Script from a Remote Site</i> in the <i>Junos OS Configuration and Operations Automation Guide</i>• file checksum md5 on page 54• file checksum sha1 on page 55• <i>op</i>
List of Sample Output	file checksum sha-256 on page 56
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum sha-256

```
user@host> file checksum sha-256 /var/db/scripts/commitscript.slax

SHA256 (/var/db/scripts/commitscript.slax) =
94c2b061fb55399e15babd2529453815601a602b5c98e5c12ed929c9d343dd71
```

file compare

Syntax	<pre>file compare (files <i>filename filename</i>) <context unified> <ignore-white-space></pre>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p>
Description	<p>Compare two local files and describe the differences between them in default, context, or unified output styles:</p> <ul style="list-style-type: none"> • Default—In the first line of output, c means lines were changed between the two files, d means lines were deleted between the two files, and a means lines were added between the two files. The numbers preceding this alphabetical marker represent the first file, and the lines after the alphabetical marker represent the second file. A left angle bracket (<) in front of output lines refers to the first file. A right angle bracket (>) in front of output lines refers to the second file. • Context—The display is divided into two parts. The first part is the first file; the second part is the second file. Output lines preceded by an exclamation point (!) have changed. Additions are marked with a plus sign (+), and deletions are marked with a minus sign (-). • Unified—The display is preceded by the line number from the first and the second file (xx,xxx,x). Before the line number, additions to the file are marked with a plus sign (+), and deletions to the file are marked with a minus sign (-). The body of the output contains the affected lines. Changes are viewed as additions plus deletions.
Options	<p>files <i>filename</i>—Names of two local files to compare.</p> <p>context—(Optional) Display output in context format.</p> <p>ignore-white-space—(Optional) Ignore changes in the amount of white space.</p> <p>unified—(Optional) Display output in unified format.</p>
Required Privilege Level	none
Related Documentation	<ul style="list-style-type: none"> • <i>Format for Specifying Filenames and URLs in Junos OS CLI Commands</i> • <i>Viewing Core Files from Junos OS Processes</i>
List of Sample Output	<p>file compare files on page 58</p> <p>file compare files context on page 58</p> <p>file compare files unified on page 58</p> <p>file compare files unified ignore-white-space on page 58</p>
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file compare files

```
user@host> file compare files /tmp/one /tmp/two
100c100
<          full-name "File 1";
---
>          full-name "File 2";
102c102
<          class foo; # 'foo' is not defined
---
>          class super-user;
```

file compare files context

```
user@host> file compare files /tmp/one /tmp/two context
*** /tmp/one   Wed Dec  3 17:12:50 2003
--- /tmp/two   Wed Dec  3 09:13:14 2003
*****
*** 97,104 ****
        }
    }
    user bill {
!         full-name "Bill Smith";
!         class foo; # 'foo' is not defined
        authentication {
            encrypted-password SECRET;
        }
--- 97,105 ----
    }
    user bill {
!         full-name "Bill Smith";
!         uid 1089;
!         class super-user;
        authentication {
            encrypted-password SECRET;
        }
    }
```

file compare files unified

```
user@host> file compare files /tmp/one /tmp/two unified
--- /tmp/one   Wed Dec  3 17:12:50 2003
+++ /tmp/two   Wed Dec  3 09:13:14 2003
@@ -97,8 +97,9 @@
    }
}
user bill {
-     full-name "Bill Smith";
-     class foo; # 'foo' is not defined
+     full-name "Bill Smith";
+     uid 1089;
+     class super-user;
    authentication {
        encrypted-passwordSECRET;
    }
}
```

file compare files unified ignore-white-space

```
user@host> file compare files /tmp/one /tmp/two unified ignore-white-space
```

```
--- /tmp/one    Wed Dec  3 09:13:10 2003
+++ /tmp/two    Wed Dec  3 09:13:14 2003
@@ -99,7 +99,7 @@
     user bill {
         full-name "Bill Smith";
         uid 1089;
-        class foo; # 'foo' is not defined
+        class super-user;
         authentication {
             encrypted-password <SECRET>; # SECRET-DATA
         }
     }
```

file copy

Syntax	<code>file copy <i>source destination</i></code> <code><source-address <i>address</i>></code>
Release Information	Command introduced before Junos OS Release 7.4. source-address option added in 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 QFX Series switches.
Description	Copy files from one location to another location on the local device or to a location on a remote device reachable by the local device.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>Format for Specifying Filenames and URLs in Junos OS CLI Commands</i>• <i>Default Directories for Junos OS File Storage on the Router or Switch</i>• <i>Copying a Configuration File from One Routing Engine to the Other</i>
List of Sample Output	Copy a File from the Local Device to a Personal Computer on page 60 Copy a Configuration File between Routing Engines on page 60 Copy a Log File between Routing Engines on page 60 Copy a File from a TX Matrix Plus Router to a T1600 Router Connected to the TX Matrix Plus on page 61 Copy a File Using File Transfer Protocol on page 61 Copy a File Using File Transfer Protocol and Requiring a Password on page 61 Copy a File Using Secure Copy Protocol (scp) on page 61

Sample Output

The following are examples of a variety of file copy scenarios.

Copy a File from the Local Device to a Personal Computer

```
user@host> file copy /var/tmp/rpd.core.4 mypc:/c/junipero/tmp
...transferring.file..... |          0 KB |    0.3 kB/s | ETA: 00:00:00 | 100%
```

Copy a Configuration File between Routing Engines

The following sample command copies a configuration file from Routing Engine 0 to Routing Engine 1:

```
user@host> file copy /config/juniper.conf re1:/var/tmp/copied-juniper.conf
```

Copy a Log File between Routing Engines

The following sample command copies a log file from Routing Engine 0 to Routing Engine 1:

```
user@host> file copy lcc0-re0:/var/log/chassisd lcc0-re1:/var/tmp
```

Copy a File from a TX Matrix Plus Router to a T1600 Router Connected to the TX Matrix Plus

The following sample command copies a text file from Routing Engine 1 on the switch-fabric chassis sfc0 to Routing Engine 1 on the line-card chassis lcc0:

```
user@host> file copy sfc0-re1:/tmp/sample.txt lcc0-re1:/var/tmp
```

Copy a File Using File Transfer Protocol

To use anonymous FTP to copy a local file to a remote system, enter the following command:

```
user@host> file copy filename ftp://hostname/filename
```

In the following example, `/config/juniper.conf` is the local file and `hostname` is the FTP server:

```
user@host> file copy /config/juniper.conf ftp://hostname/juniper.conf
Receiving ftp: //hostname/juniper.conf (2198 bytes): 100%
2198 bytes transferred in 0.0 seconds (2.69 MBps)
```

Copy a File Using File Transfer Protocol and Requiring a Password

To use FTP where you require more privacy and are prompted for a password, enter the following command:

```
root@host> file copy filename ftp://user@hostname/filename
```

In the following example, `/config/juniper.conf` is the local file and `hostname` is the FTP server:

```
root@host> file copy /config/juniper.conf ftp://user@hostname/juniper.conf
Password for user@hostname: *****
Receiving ftp: //user@hostname/juniper.conf (2198 bytes): 100%
2198 bytes transferred in 0.0 seconds (2.69 MBps)
```

Copy a File Using Secure Copy Protocol (scp)

To use scp to copy a local file to a remote system, enter the following command:

```
root@host> file copy filename scp://user@hostname/path/filename
```

In the following example, `/config/juniper.conf` is the local file, `user` is the username, and `ssh-host` is the scp server:

```
root@host> file copy /config/juniper.conf scp://user@ssh-host/tmp/juniper.conf
user@ssh-host's password: *****
juniper.conf          100%
|*****|
2198          00:00
```

file delete

Syntax	<code>file delete <i>filename</i></code> <code><purge></code>
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	Delete a file on the local router or switch.
Options	<i>filename</i> —Name of the file to delete. For a routing matrix, include chassis information in the filename if the file to be deleted is not local to the Routing Engine from which the command is issued. <i>purge</i> —(Optional) Overwrite regular files before deleting them.
Required Privilege Level	maintenance
List of Sample Output	file delete on page 62 file delete (Routing Matrix) on page 62
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file delete

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file delete /var/tmp/snmpd.core
user@host> file list /var/tmp
dcd.core
rpd.core
```

file delete (Routing Matrix)

```
user@host> file list lcc0-re0:/var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file delete lcc0-re0:/var/tmp/snmpd.core
user@host> file list /var/tmp
dcd.core
rpd.core
```

file list

Syntax	file list <detail recursive> <filename>
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	Display a list of files on the local router or switch.
Options	<p>none—Display a list of all files for the current directory.</p> <p>detail recursive—(Optional) Display detailed output or descend recursively through the directory hierarchy, respectively.</p> <p>filename—(Optional) Display a list of files. For a routing matrix, the filename must include the chassis information.</p>
Additional Information	The default directory is the home directory of the user logged in to the router or switch. To view available directories, enter a space and then a backslash (/) after the file list command. To view files within a specific directory, include a backslash followed by the directory and, optionally, subdirectory name after the file list command.
Required Privilege Level	maintenance
List of Sample Output	file list on page 63 file list (Routing Matrix) on page 63
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file list

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core
```

file list (Routing Matrix)

```
user@host> file list lcc0-re0:var/tmp
lcc0-re0:
-----
/var/tmp/:
.gdbinit
.pccardd
Test/
chassisd*
chassisd.nathan*
check_time*
```

```
cores/  
diagTestPrep*  
diagtest*  
diagtest.regress*  
do_switchovers*  
dump_test*  
err.manoj.log  
esw_clearstats*  
esw_counter*  
esw_debug*  
esw_debug_ge*  
esw_filt_test*  
esw_filter_tnp_addr*  
esw_getstats*  
esw_phy*  
esw_stats*
```

file rename

Syntax	<code>file rename <i>source destination</i></code>
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	Rename a file on the local router or switch.
Options	<i>destination</i> —New name for the file. <i>source</i> —Original name of the file. For a routing matrix, the filename must include the chassis information.
Required Privilege Level	maintenance
List of Sample Output	file rename on page 65 file rename (Routing Matrix) on page 65
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file rename

The following example lists the files in `/var/tmp`, renames one of the files, and then displays the list of files again to reveal the newly named file.

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file rename /var/tmp/dcd.core /var/tmp/dcd.core.990413
user@host> file list /var/tmp
dcd.core.990413
rpd.core
snmpd.core
```

file rename (Routing Matrix)

The following example lists the files in `/var/tmp`, renames one of the files, and then displays the list of files again to reveal the newly named file.

```
user@host> file list lcc0-re1:/var/tmp
lcc0-re1:
-----

/var/tmp:
.pccardd
sartre.conf
snmpd
syslogd.core-tarball.0.tgz
```

```
user@host> file rename lcc0-re0:/var/tmp/snmpd /var/tmp/snmpd.rr
user@host> file list lcc0-re1:/var/tmp
lcc0-re1:
```

```
-----
/var/tmp:
.pccardd
sartre.conf
snmpd.rr
syslogd.core-tarball.0.tgz
```

file show

Syntax	<code>file show filename</code> <encoding (base64 raw)>
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	Display the contents of a file.
Options	filename —Name of a file. For a routing matrix, the filename must include the chassis information. encoding (base64 raw) —(Optional) Encode file contents with base64 encoding or show raw text.
Required Privilege Level	maintenance
List of Sample Output	file show on page 67 file show (Routing Matrix) on page 67
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

file show

```
user@host> file show /var/log/messages
Apr 13 21:00:08 romney /kernel: so-1/1/2: loopback suspected; going to standby.
Apr 13 21:00:40 romney /kernel: so-1/1/2: loopback suspected; going to standby.
Apr 13 21:02:48 romney last message repeated 4 times
Apr 13 21:07:04 romney last message repeated 8 times
Apr 13 21:07:13 romney /kernel: so-1/1/0: Clearing SONET alarm(s) RDI-P
Apr 13 21:07:29 romney /kernel: so-1/1/0: Asserting SONET alarm(s) RDI-P
...
```

file show (Routing Matrix)

```
user@host> file show lcc0-re0:/var/tmp/gdbinit
lcc0-re0:
-----
#####
# Settings
#####


set print pretty

#####
# Basic stuff
#####

define msgbuf
    printf "%s", msgbufp->msg_ptr
end
```

```
# hex dump of a block of memory
# usage: dump address length
define dump
  p $arg0, $arg1
  set $ch = $arg0
  set $j = 0
  set $n = $arg1
  while ($j < $n)
    #printf "%x %x ",&$ch[$j],$ch[$j]
    printf "%x ",$ch[$j]
    set $j = $j + 1
    if (!($j % 16))
      printf "\n"
    end
  end
end
end
```

request system configuration rescue delete


Syntax	request system configuration rescue delete
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	Delete an existing rescue configuration.
<div>  NOTE: The [edit system configuration] hierarchy is not available on QFabric systems. </div>	
Options	This command has no options.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • request system configuration rescue save on page 70 • request system software rollback • show system commit on page 79
List of Sample Output	request system configuration rescue delete on page 69
Output Fields	This command produces no output.

Sample Output

request system configuration rescue delete

```
user@host> request system configuration rescue delete
```

request system configuration rescue save

Syntax	request system configuration rescue save
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	Save the most recently committed configuration as the rescue configuration so that you can return to it at any time by using the rollback command.
<div> NOTE: The [edit system configuration] hierarchy is not available on QFabric systems.</div>	
Options	This command has no options.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>request system software delete</i>• <i>request system software rollback</i>• show system commit on page 79
List of Sample Output	request system configuration rescue save on page 70
Output Fields	This command produces no output.

Sample Output

request system configuration rescue save

```
user@host> request system configuration rescue save
```

request system scripts refresh-from commit

Syntax	<code>request system scripts refresh-from commit file <i>file-name</i> url <i>url-path</i></code>
Release Information	Command introduced in Junos OS Release 10.1 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series.
Description	<p>Automatically download the initial Junos OS configuration and a set of standard commit scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.</p> <p>The Junos XML management protocol equivalent for this operational mode command is:</p> <pre><request-script-refresh-from> <type>commit</type> <file>file-name</file> <URL>URL</URL> </request-script-refresh-from></pre>
Options	<p>file <i>file-name</i>—Name of the file to be downloaded.</p> <p>url <i>url-path</i>—URL of the file to be downloaded.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • Understanding Automatic Refreshing of Scripts on EX Series Switches on page 11 • Junos OS Junos XML Management Protocol Guide • Junos OS NETCONF XML Management Protocol Guide
List of Sample Output	<code>request system scripts refresh-from commit file config.txt url http://host1.juniper.net</code> on page 71

Sample Output

`request system scripts refresh-from commit file config.txt url http://host1.juniper.net`

```
user@switch> request system scripts refresh-from commit file config.txt url
http://host1.juniper.net
user@switch>
```

request system scripts refresh-from event

Syntax	<code>request system scripts refresh-from event file <i>file-name</i> url <i>url-path</i></code>
Release Information	Command introduced in Junos OS Release 10.1 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series.
Description	<p>Automatically download the initial Junos OS configuration and a set of standard event scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.</p> <p>The Junos XML management protocol equivalent for this operational mode command is:</p> <pre><request-script-refresh-from> <type>event</type> <file>file-name</file> <URL>URL</URL> </request-script-refresh-from></pre>
Options	<p><code>file <i>file-name</i></code>—Name of the file to be downloaded.</p> <p><code>url <i>url-path</i></code>—URL of the file to be downloaded.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• Understanding Automatic Refreshing of Scripts on EX Series Switches on page 11• Junos OS Junos XML Management Protocol Guide• Junos OS NETCONF XML Management Protocol Guide
List of Sample Output	request system scripts refresh-from event file config.txt url http://host1.juniper.net on page 72

Sample Output

`request system scripts refresh-from event file config.txt url http://host1.juniper.net`

```
user@switch> request system scripts refresh-from event file config.txt url http://host1.juniper.net
user@switch>
```

request system scripts refresh-from op


Syntax	<code>request system scripts refresh-from op file <i>file-name</i> url <i>url-path</i></code>
Release Information	Command introduced in Junos OS Release 10.1 for EX Series switches.
Description	<p>Automatically download the initial Junos OS configuration and a set of standard op scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.</p> <p>The Junos XML management protocol equivalent for this operational mode command is:</p> <pre><request-script-refresh-from> <type>op</type> <file>file-name</file> <URL>URL</URL> </request-script-refresh-from></pre>
Options	<p>file <i>file-name</i>—Name of the file to be downloaded.</p> <p>url <i>url-path</i>—URL of the file to be downloaded.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • Understanding Automatic Refreshing of Scripts on EX Series Switches on page 11 • Junos OS Junos XML Management Protocol Guide • Junos OS NETCONF XML Management Protocol Guide
List of Sample Output	request system scripts refresh-from op file config.txt url http://host1.juniper.net on page 73

Sample Output

`request system scripts refresh-from op file config.txt url http://host1.juniper.net`

```
user@switch> request system scripts refresh-from op file config.txt url http://host1.juniper.net
user@switch>
```

request system zeroize

Syntax	request system zeroize <media> <local>
Release Information	Command introduced before Junos OS Release 9.0. Command introduced in Junos OS Release 11.2 for EX Series switches. Option media added in Junos OS Release 11.4 for EX Series switches. Command introduced in Junos OS Release 12.2 for MX Series devices. Command introduced in Junos OS Release 12.3 for the QFX Series. Option <i>local</i> added in Junos OS Release 14.1.
Description	<div> NOTE: The media option is not available on the QFX Series.</div> <p>Remove all configuration information on the Routing Engines and reset all key values. If the device has dual Routing Engines, the command is broadcast to all Routing Engines on the device. The command removes all data files, including customized configuration and log files, by unlinking the files from their directories. The command removes all user-created files from the system including all plain-text passwords, secrets, and private keys for SSH, local encryption, local authentication, IPsec, RADIUS, TACACS+, and SNMP.</p> <p>This command reboots the device and sets it to the factory default configuration. After the reboot, you cannot access the device through the management Ethernet interface. Log in through the console as root and start the Junos OS command-line interface (CLI) by typing cli at the prompt.</p> <p>To completely erase user-created data so that it is unrecoverable, use the media option.</p> <p>Options</p> <p>media—(Optional) In addition to removing all configuration and log files, the media option causes memory and the media to be scrubbed, removing all traces of any user-created files. Every storage device attached to the system is scrubbed, including disks, flash drives, removable USBs, and the like. The duration of the scrubbing process is dependent on the size of the media being erased. As a result, the request system zeroize media operation can take considerably more time than the request system zeroize operation. However, the critical security parameters are all removed at the beginning of the process.</p> <p>local—(Optional) Removes all the configuration information and restores all the key values on the active Routing Engine.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"><i>request system snapshot</i><i>request system snapshot</i>

- [Reverting to the Default Factory Configuration for the EX Series Switch on page 20](#)
- [Reverting to the Rescue Configuration for the EX Series Switch on page 24](#)
- *Reverting to the Default Factory Configuration*
- *Reverting to the Rescue Configuration*
- *Reverting to the Default Factory Configuration by Using the request system zeroize Command*

List of Sample Output [request system zeroize on page 75](#)
[request system zeroize media on page 76](#)

Sample Output

request system zeroize

```
user@host> request system zeroize
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

0 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 5d19h20m26s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Mar 11 2011 - 04:39:06)

Board: EX4200-24T 2.11
EPLD: Version 6.0 (0x85)
DRAM: Initializing (1024 MB)
FLASH: 8 MB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.4
(user@juniper.net, Fri Mar 11 03:03:36 UTC 2011)
Memory: 1024MB
bootsequencing is enabled
bootsuccess is set
new boot device = disk0s1:
Loading /boot/defaults/loader.conf
/kernel data=0x915c84+0xa1260 syms=[0x4+0x7cbd0+0x4+0xb1c19]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1996-2011, Juniper Networks, Inc.
```

```
All rights reserved.
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    The Regents of the University of California. All rights reserved.
JUNOS 11.1R1.8 #0: 2011-03-09 20:14:25 UTC

user@juniper.net:/volume/build/junos/11.1/release/11.1R1.8/obj-powerpc/bsd/kernels/
JUNIPER-EX/kernel
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080
...
```

request system zeroize media

```
user@host> request system zeroize media
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

warning: ipsec-key-management subsystem not running - not needed by configuration.
warning: zeroizing fpc0

{master:0}
root> Waiting (max 60 seconds) for system process `vnlr' to stop...done
. . .
Syncing disks, vnodes remaining...2 4 2 4 3 2 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 14m50s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD: Version 8.0 (0x82)
DRAM: Initializing (512 MB)
FLASH: 8 MB
NAND: No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@sv1-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1996-2011, Juniper Networks, Inc.
```

```

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The Regents of the University of California. All rights reserved.
JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid)!
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080<EMCP,TBEN,EN_MAS7_UPDATE>
real memory = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s2a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20055 free (31 frags, 2503 blocks, 0.0% fragmentation)
zeroizing /dev/da0s1a ...
. . .
zeroizing /dev/da0s3d ...
. . .
zeroizing /dev/da0s3e ...
. . .
zeroizing /dev/da0s4d ...
. . .
zeroizing /dev/da0s4e ...
. . .

syncing disks... All buffers synced.
Uptime: 3m40s
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD: Version 8.0 (0x82)
DRAM: Initializing (512 MB)
FLASH: 8 MB
NAND: No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@svl-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...

```

```
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1996-2011, Juniper Networks, Inc.
All rights reserved.
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Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
The Regents of the University of California. All rights reserved.
JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid)!
Timecounter "decrementer" frequency 500000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HIO 80004080 <EMCP,TBEN,EN_MAS7_UPDATE>
real memory = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s1a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20064 free (48 frags, 2502 blocks, 0.1% fragmentation)
zeroizing /dev/da0s2a ...
. . .
Creating initial configuration...mgd: error: Cannot open configuration file:
/config/juniper.conf
mgd: warning: activating factory configuration
mgd: commit complete
mgd: -----
mgd: Please login as 'root'. No password is required.
mgd: To start Initial Setup, type 'ezsetup' at the JUNOS prompt.
mgd: To start JUNOS CLI, type 'cli' at the JUNOS prompt.
mgd: -----
Setting initial options: debugger_on_panic=NO debugger_on_break=NO.
Starting optional daemons: .
Doing initial network setup:
. . .

Amnesiac (ttyu0)
```

show system commit


Syntax	<pre>show system commit <revision> <server></pre>	
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Option server introduced in Junos OS Release 12.1 for the PTX Series router.</p> <p>Option revision introduced in Junos OS Release 14.1.</p>	
Description	Display the system commit history and any pending commit operation.	
Options	<p>none—Display the last 50 commit operations listed, most recent to first.</p> <p>revision—(Optional) Display the revision number of the active configuration of the Routing Engine(s).</p> <p>server—(Optional) Display commit server status.</p>	
	<div>  <p>NOTE: By default, the status of the commit server is “Not running”. The commit server starts running only when a commit job is added to the batch.</p> </div>	
Required Privilege Level	view	
Related Documentation	<ul style="list-style-type: none"> clear system commit on page 51 show system commit revision 	
List of Sample Output	show system commit on page 81 show system commit (At a Particular Time) on page 81 show system commit (At the Next Reboot) on page 81 show system commit (Rollback Pending) on page 81 show system commit (QFX Series) on page 81	
Output Fields	<p>Table 13 on page 79 describes the output fields for the show system commit command. Output fields are listed in the approximate order in which they appear.</p>	

Table 13: show system commit Output Fields

Field Name	Field Description	Level of Output
<number>	Displays the last 50 commit operations listed, most recent to first. The identifier <number> designates a configuration created for recovery using the request system configuration rescue save command.	none

Table 13: show system commit Output Fields (*continued*)

Field Name	Field Description	Level of Output
<time-stamp>	Date and time of the commit operation.	none
<root>/<username>	User who executed the commit operation.	none
<method>	Method used to execute the commit operation: <ul style="list-style-type: none"> • CLI—CLI interactive user performed the commit operation. • Junos XML protocol—Junos XML protocol client performed the commit operation. • synchronize—The commit synchronize command was performed on the other Routing Engine. • snmp—An SNMP set request caused the commit operation. • button—A button on the router or switch was pressed to commit a rescue configuration for recovery. • autoinstall—A configuration obtained through autoinstallation was committed. • other—When there is no login name associated with the session, the values for user and client default to root and other. For example, during a reboot after package installation, mgd commits the configuration as a system commit, and there is no login associated with the commit. 	none

Sample Output

show system commit

```
user@host> show system commit
0   2003-07-28 19:14:04 PDT by root via other
1   2003-07-25 22:01:36 PDT by regress via cli
2   2003-07-25 22:01:32 PDT by regress via cli
3   2003-07-25 21:30:13 PDT by root via button
4   2003-07-25 13:46:48 PDT by regress via cli
5   2003-07-25 05:33:21 PDT by root via autoinstall
...
rescue 2002-05-10 15:32:03 PDT by root via other
```

show system commit (At a Particular Time)

```
user@host> show system commit
commit requested by root via cli at Tue May  7 15:59:00 2002
```

show system commit (At the Next Reboot)

```
user@host> show system commit
commit requested by root via cli at reboot
```

show system commit (Rollback Pending)

```
user@host> show system commit
0 2005-01-05 15:00:37 PST by root via cli commit confirmed, rollback in 3mins
```

show system commit (QFX Series)

```
user@switch> show system commit
0 2011-11-25 19:17:49 PST by root via cli
```

show system configuration archival

Syntax show system configuration archival

Release Information Introduced in Junos OS Release 7.6.
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 Display directory and number of files queued for archival transfer.



NOTE: The [edit system configuration] hierarchy is not available on QFabric systems.

Options This command has no options.

Required Privilege Level maintenance

List of Sample Output [show system configuration archival on page 82](#)

Sample Output

show system configuration archival

```
user@host> show system configuration archival

/var/transfer/config/:
total 8
```

show system configuration rescue

Syntax	show system configuration rescue
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	Display a rescue configuration, if one exists.



NOTE: The [edit system configuration] hierarchy is not available on QFabric systems.

Options	This command has no options.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • show system configuration archival on page 82
List of Sample Output	show system configuration rescue on page 83

Sample Output

show system configuration rescue


```

user@switch> show system configuration rescue
version "7.3"; groups {
  global {
    system {
      host-name router1;
      domain-name customer.net;
      domain-search [ customer.net ];
      backup-router 192.168.124.254;
      name-server {
        172.17.28.11;
        172.17.28.101;
        172.17.28.100;
        172.17.28.10;
      }
      login {
        user regress {
          uid 928;
          class ;
          shell csh;
          authentication {
            encrypted-password "$1$kPU..$w.4FGRAGanJ8U4Yq6sbj7."; ##
SECRET-DATA
          }
        }
      }
    }
  }
  services {

```

```
        ftp;  
        rlogin;  
        rsh;  
        telnet;  
    }  
}  
.....
```

show system rollback

Syntax	<code>show system rollback <i>number</i></code> <code><compare <i>number</i>></code>
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	Display the contents of a previously committed configuration, or the differences between two previously committed configurations.
<div>  NOTE: The <code>show system rollback</code> command is a purely operational mode command and cannot be issued with <code>run</code> from the configuration mode. </div>	
Options	<p><i>number</i>—Number of a configuration to view. The output displays the configuration. The range of values is 0 through 49.</p> <p><code>compare <i>number</i></code>—(Optional) Number of another previously committed (rollback) configuration to compare to rollback <i>number</i>. The output displays the differences between the two configurations. The range of values is 0 through 49.</p>
Required Privilege Level	view
List of Sample Output	show system rollback compare on page 85

Sample Output

show system rollback compare

```

user@host> show system rollback 3 compare 1
[edit]
+ interfaces {
+   ge-1/1/1 {
+     unit 0 {
+       family inet {
+         filter {
+           input mf_plp;
+         }
+         address 14.1.1.1/30;
+       }
+     }
+   }
+   ge-1/2/1 {
+     unit 0 {
+       family inet {
+         filter {
+           input mf_plp;
+         }
+         address 13.1.1.1/30;
+       }
+     }
+   }
+ }

```

```
+      }
+    }
+    ge-1/3/0 {
+      unit 0 {
+        family inet {
+          filter {
+            input mf_plp;
+          }
+          address 12.1.1.1/30;
+        }
+      }
+    }
+  }
+}
```

test configuration

Syntax	<code>test configuration filename</code>
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	Verify that the syntax of a configuration file is correct. If the configuration contains any syntax or commit check errors, a message is displayed to indicate the line number and column number in which the error was found. This command only accepts text files.
Options	filename —Name of the configuration file. syntax-only —Check the syntax of a partial configuration file, without checking for commit errors. This option introduced in Junos OS Release 12.1.
Required Privilege Level	view
List of Sample Output	test configuration on page 87
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

test configuration

```

user@host> test configuration terminal
[Type ^D to end input]
system {
host-name bluesky;
paris-23;
login;
}
terminal:3:(8) syntax error: paris
[edit system]
    'paris-23;'
      syntax error
terminal:4:(11) statement must contain additional statements: ;
[edit system login]
    'login ;'
      statement must contain additional statements
configuration syntax failed

```


PART 4

Troubleshooting

- [Troubleshooting Procedures on page 91](#)

Troubleshooting Procedures

- Troubleshooting Loss of the Root Password on page 91

Troubleshooting Loss of the Root Password

Problem **Description:** If you forget the root password for a switch, use the password recovery procedure to reset the root password.



NOTE: You need physical access to the switch to recover the root password.

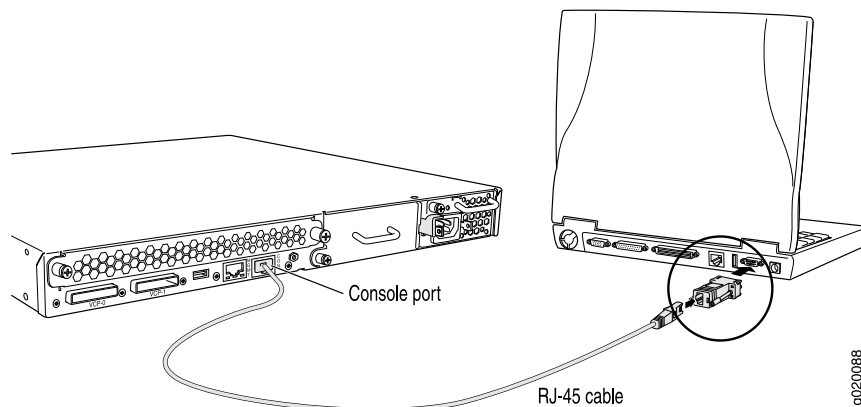


TIP: For a video on recovering the root password for routers, see *Recovering the Root Password*. The procedure is similar for switches.

Solution To recover the root password:

1. Power off your switch by unplugging the power cord or turning off the power at the wall switch.
2. Insert one end of the Ethernet cable into the serial port on the management device and connect the other end to the console port on the back of the switch. See [Figure 2 on page 92](#).

Figure 2: Connecting to the Console Port on the EX Series Switch



3. On the management device, start your asynchronous terminal emulation application (such as Microsoft Windows Hyperterminal) and select the appropriate COM port to use (for example, COM1).
4. Configure the port settings as follows:
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None
5. Power on your switch by plugging in the power cord or turning on the power at the wall switch.
6. When the following prompt appears, press the Spacebar to access the switch's bootstrap loader command prompt:


```
Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [kernel] in 1 second...
```



NOTE: If the switch is in unattended mode for U-Boot, access to the bootstrap loader command prompt is blocked. If the root password is lost, you must reset the switch to the factory default configuration using the LCD panel. For more information, see [“Reverting to the Default Factory Configuration for the EX Series Switch” on page 20](#).

7. At the following prompt, type **boot -s** to start up the system in single-user mode:


```
loader> boot -s
```
8. At the following prompt, type **recovery** to start the root password recovery procedure:


```
Enter full path name of shell or 'recovery' for root password recovery or RETURN for /bin/sh: recovery
```

A series of messages describe consistency checks, mounting of filesystems, and initialization and checkout of management services. Then the CLI prompt appears.

9. Enter configuration mode in the CLI:

```
user@switch> configure
```

10. Set the root password. For example:

```
user@switch# set system root-authentication plain-text-password
```

11. At the following prompt, enter the new root password. For example, juniper1:

```
user@switch# juniper1
```

```
Retype new password:
```

12. At the second prompt, reenter the new root password.

13. If you are finished configuring the network, commit the configuration.

```
root@switch# commit
```

```
commit complete
```

14. Exit configuration mode in the CLI.

```
root@switch# exit
```

15. Exit operational mode in the CLI.

```
root@switch> exit
```

16. At the prompt, enter **y** to reboot the switch.

```
Reboot the system? [y/n] y
```

Related Documentation

- *Connecting and Configuring an EX Series Switch (CLI Procedure)*
- *Connecting and Configuring an EX Series Switch (J-Web Procedure)*
- For information about configuring an encrypted root password, configuring SSH keys to authenticate root logins, and configuring special requirements for plain-text passwords, see *Configuring the Root Password*.

