JUNIPER NETWORKS

Junos® OS

J-Web User Guide for Security Devices

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15.1X49-D60

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Junos® OS J-Web User Guide for Security Devices
15.1X49-D60

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

YEAR 2000 NOTICE

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

END USER LICENSE AGREEMENT

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

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About the Documentation

Documentation and Release Notes

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

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

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

Supported Platforms

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

- vSRX
- SRX 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.xsl;
       }
     }
   }
   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.xsl; }
   ```

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 xi 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 xi 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`
Italic text like this	• Introduces or emphasizes important new terms. • Identifies guide names. • Identifies RFC and Internet draft titles.	• A policy *term* is a named structure that defines match conditions and actions. • *Junos OS CLI User Guide* • RFC 1997, *BGP Communities Attribute*
Italic text like this	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.	• To configure a stub area, include the **stub** statement at the **[edit protocols ospf area area-id]** hierarchy level. • The console port is labeled **CONSOLE**.
< > (angle brackets)	Encloses optional keywords or variables.	**stub <default-metric** ***metric*****>;**
| (pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	**broadcast | multicast** **(*string1* | *string2* | *string3*)**
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	**rsvp { # Required for dynamic MPLS only**
[ ] (square brackets)	Encloses a variable for which you can substitute one or more values.	**community name members [** ***community-ids*** **]**

Indention and braces ({ })	Identifies a level in the configuration hierarchy.	[edit]
		routing-options {
		  static {
		  route default {
		  nexthop *address*;
		  retain;
		  }
		  }
		}

; (semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	• 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 of the Juniper Networks TechLibrary 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 http://www.juniper.net/techpubs/feedback/.
- E-mail—Send your comments to **techpubs-comments@juniper.net**. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

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

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

Self-Help Online Tools and Resources

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

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

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

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

Opening a Case with JTAC

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

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

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

PART 1

Overview

CHAPTER 1

Understanding the J-Web User Interface

J-Web Overview

The J-Web interface allows you to monitor, configure, troubleshoot, and manage the routing platform by means of a Web browser enabled with Hypertext Transfer Protocol (HTTP) or HTTP over Secure Sockets Layer (HTTPS). J-Web provides access to all the configuration statements supported by the routing platform, so you can fully configure it without using the Junos OS CLI.

You can perform the following tasks with the J-Web interface:

- Monitoring—Display the current configuration and information about the system, interfaces, chassis, routing protocols, routing tables, routing policy filters, and other features.
- Configuring—The J-Web interface provides the following different configuration methods:
  - Configure the routing platform quickly and easily without configuring each statement individually.
  - Edit a graphical version of the Junos OS CLI configuration statements and hierarchy.
  - Edit the configuration in a text file.
  - Upload a configuration file.

  The J-Web interface also allows you to manage configuration history and set a rescue configuration.
- Troubleshooting—Troubleshoot routing problems by running the ping or traceroute diagnostic tool. The diagnostic tools also allow you to capture and analyze routing platform control traffic.

- Maintaining—Manage log, temporary, and core (crash) files and schedule reboots on the routing platforms.
- Configuring and monitoring events—Filter and view system log messages that record events occurring on the router. You can configure files to log system log messages and also assign attributes, such as severity levels, to messages.

Starting the J-Web User Interface

Before you start the user interface, you must perform the initial device configuration described in the Getting Started Guide for your device. After the initial configuration, you use your username and password, and the hostname or IP address of the device, to start the user interface.

To start the J-Web user interface:

1. Launch your HTTP-enabled or HTTPS-enabled Web browser.

   To use HTTPS, you must have installed the certificate provided by the device.

   NOTE: If the device is running the worldwide version of the Junos OS and you are using the Microsoft Internet Explorer Web browser, you must disable the **Use SSL 3.0** option in the Web browser to access the device.

2. Type **http://** or **https://** in your Web browser followed by the hostname or IP address of the device, and press Enter.

   The J-Web login page appears.

3. Type your username and password, and click **Log In**.

   To correct or change the username or password you typed, click **Reset**, type the new entry or entries, and click **Log In**.

   NOTE: The default username is **root** with no password. You must change this during initial configuration or the system does not accept the configuration.

To explicitly terminate a J-Web session at any time, click **Logout** in the top pane.

Understanding the J-Web Interface Layout

Each page of the J-Web interface is divided into the following panes, as shown in Figure 1 on page 5.

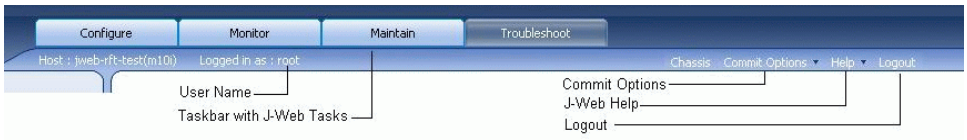
Figure 1: J-Web Layout

- Top pane—Displays identifying information and links.
- Main pane—Location where you monitor, configure, troubleshoot, and manage the Juniper Networks device by entering information in text boxes, making selections, and clicking buttons.
- Side pane—Displays subtasks of the Configure, Monitor, Maintain, or Troubleshoot task currently displayed in the main pane. For the configuration editor, this pane displays the hierarchy of configuration statements committed on the router. Click an item to access it in the main pane.

Top Pane

The top pane comprises the elements shown in Figure 2 on page 5.

Figure 2: Top Pane Elements



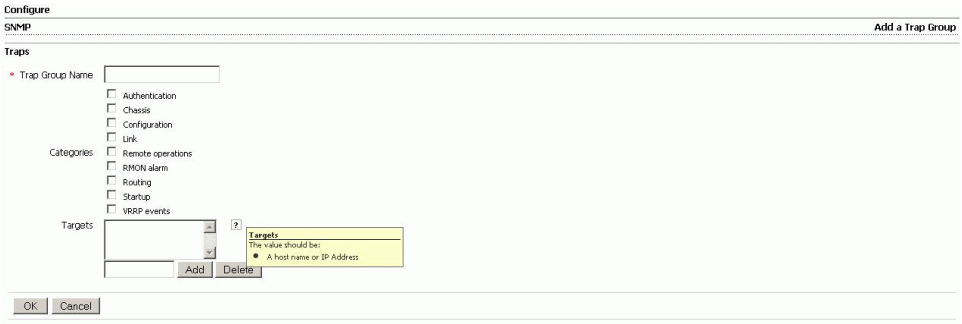
- *hostname – model*—Hostname and model of the Juniper Networks device.
- Logged in as: *username*—Username you used to log in to the device.
- Chassis—The chassis view of the device.
- Commit Options
  - Commit—Commits the candidate configuration. Changes made by other users as well as changes made in other J-Web sessions will be committed.
  - Compare—Displays the differences between the committed and uncommitted configuration on the device.
  - Discard—Discards the candidate configuration. Changes made by other users as well as changes made in other J-Web sessions will be discarded.
  - Preference—Enables you to select preferences for committing configuration. **Commit Check** only validates the configuration and reports errors. **Commit** validates and commits the configuration specified on every J-Web page.
- Help
  - Help Contents—Link to context-sensitive help information.

    - About—Link to information about the J-Web interface, such as the version number.
- Logout—Ends your current login session with the Juniper Networks device and returns you to the login page.
- Taskbar—Menu of J-Web tasks. Click a J-Web task to access it.
    - **Configure**—Configure the device by using Configuration pages or the configuration editor, and view configuration history.
    - **Monitor**—View information about configuration and hardware on the device.
    - **Maintain**—Manage files and licenses, upgrade software, and reboot the device.
    - **Troubleshoot**—Troubleshoot network connectivity problems.

Main Pane

The main pane comprises the elements shown in Figure 3 on page 6.

Figure 3: Main Pane Elements

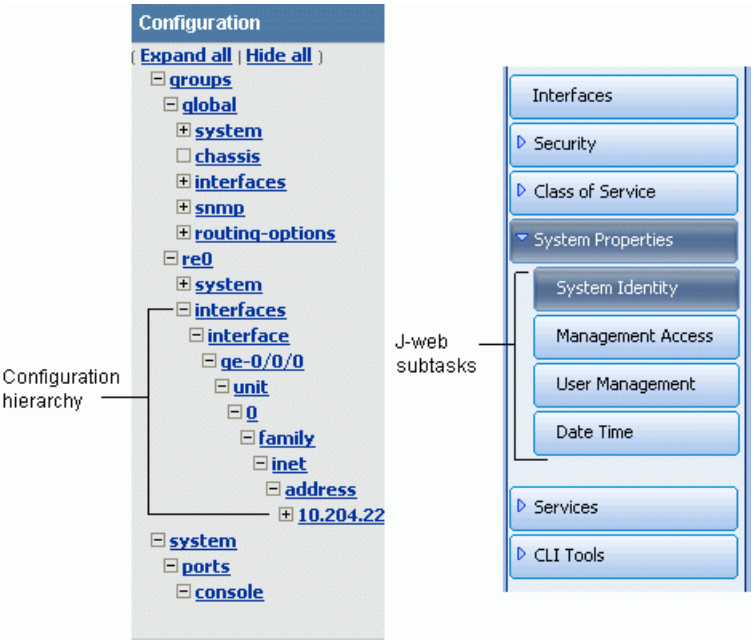


- Help (?) icon—Displays useful information when you move the cursor over the question mark. This help displays field-specific information, such as the definition, format, and valid range of the field.
- Red asterisk (*)—Indicates a required field.

Side Pane

The side pane comprises the elements shown in Figure 4 on page 7.

Figure 4: Side Pane Elements



- Subtask—Displays options related to the selected task in the J-Web taskbar.
- Configuration hierarchy—For the J-Web configuration editor, displays the hierarchy of committed statements in the device configuration.
  - Click **Expand all** to display the entire hierarchy.
  - Click **Hide all** to display only the statements at the top level.
  - Click plus signs (+) to expand individual items.
  - Click minus signs (–) to hide individual items.

Getting Help in the J-Web User Interface

To get Help in the J-Web user interface, use the following methods:

- Field-sensitive Help—Move the cursor over the question mark (**?**) next to the field for which you want more information. Typically, this Help includes one line of information about what this field does or what you must enter in a given text box. For example, Help for the Peer Autonomous System Number text box states, "The value should be a number between 1 and 65535."
- Context-sensitive Help—Click **Help** in the taskbar to open a separate page displaying the summary of all the fields on that page. To exit Help, close the page.
- Wizard Help (SRX100, SRX110, SRX210, SRX220, SRX240, SRX550, and SRX650)—Use the Firewall Policy, VPN, and NAT wizards to perform basic configurations. Click a field in a wizard page to display information about that field in the lower-left corner of the wizard page.

PART 2

Configuring and Managing a Device Using J-Web

CHAPTER 2

Installing J-Web

J-Web Software Requirements

To access the J-Web interface for all platforms, your management device requires the following software:

- Supported browsers— Microsoft Internet Explorer version 7.0 or Mozilla Firefox version 3.0
- Language support— English-version browsers
- Supported OS— Microsoft Windows XP Service Pack 3

Other browser versions might not provide access to the J-Web interface.

Installing the J-Web Software

Your Juniper Networks device comes with the Junos OS installed on it. When you power on the Juniper device, all software starts automatically.

If your device is not shipped with the J-Web software on it, you must download the J-Web software package from the Juniper Networks webpage and install it on your device. After the installation, you must enable Web management of the device with the CLI.

To install and enable the J-Web software:

1. Using a Web browser, navigate to the Juniper Networks Customer Support Center at https://www.juniper.net/customers/csc/software/.
2. Log in to the Juniper Networks authentication system with the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
3. Download the J-Web software to your local host. Select the version that is the same as the Junos OS version running on the device.
4. Copy the software package to the device. We recommend that you copy it to the **/var/tmp** directory.

5. If you have previously installed the J-Web software on the device, you must delete it before installing the new version. To do so, from operational mode in the CLI, enter the following command:

   user@host> **request system software delete jweb**

6. Install the new package on the device. From operational mode in the CLI, enter the following command:

   user@host> **request system software add *path/filename***

   Replace ***path*** with the full pathname to the J-Web software package. Replace ***filename*** with the filename of the J-Web software package.

7. Enable Web management of the device. From configuration mode in the CLI, enter the following command:

   user@host# **system services web-management http**

CHAPTER 3

Configuring Secure Web Access to a Device

Secure Web Access Overview

A Juniper Networks device uses the Secure Sockets Layer (SSL) protocol to provide secure management of devices through the Web interface. SSL uses public-private key technology that requires a paired private key and an authentication certificate for the SSL service. SSL encrypts communication between your device and the Web browser with a session key negotiated by the SSL server certificate.

An SSL certificate includes identifying information such as a public key and a signature made by a certificate authority (CA). When you access the device through HTTPS, an SSL handshake authenticates the server and the client and begins a secure session. If the information does not match or the certificate has expired, you are not able to access the device through HTTPS.

Without SSL encryption, communication between your device and the browser is sent in the open and can be intercepted. We recommend that you enable HTTPS access on your WAN interfaces.

Generating SSL Certificates

To enable secure Web access, you must first generate a digital SSL certificate, and then enable HTTPS access on the Juniper Networks device.

To generate an SSL certificate:

1. Enter the following **openssl** command in your Secure Shell command-line interface. The **openssl** command generates a self-signed SSL certificate in the Privacy-Enhanced Mail (PEM) format. It writes the certificate and an unencrypted 1024-bit RSA private key to the specified file.

% openssl req –x509 –nodes –newkey rsa:1024 –keyout *filename*.pem -out *filename*.pem

Replace ***filename*** with the name of a file in which you want the SSL certificate to be written—for example, **new.pem**.

2. When prompted, type the appropriate information in the identification form. For example, type **US** for the country name.
3. Display the contents of the **new.pem** file.

   cat new.pem

   Copy the contents of this file for installing the SSL certificate.

Go on to "Configuring Secure Web Access" on page 14 to install the SSL certificate and enable HTTPS.

Configuring Secure Web Access

Navigate to the Management Access Configuration page by selecting **Configure>System Properties>Management Access**. Click **Edit** from the main pane to open the Edit Management Access page. On this page, you can enable HTTP and HTTPS access on interfaces for managing Services Routers through the Web interface. You can also install SSL certificates and enable JUNOScript over SSL with the Secure Access page.

For more information, see *Help Contents* of this J-Web page.

Establishing J-Web Sessions

You establish a J-Web session through an HTTP-enabled or HTTPS-enabled Web browser. The HTTPS protocol, which uses 128-bit encryption, is available only in domestic versions of the Junos OS. To use HTTPS, you must have installed the certificate provided by the device.

When you attempt to log in through the J-Web interface, the system authenticates your username with the same methods used for Telnet and SSH.

The device can support multiple J-Web sessions for a single user who logs in to each session. However, if a single user attempts to launch multiple J-Web *windows*—for example, by right-clicking a link to launch another instance of a Web browser—the session can have unpredictable results.

If the device does not detect any activity through the J-Web user interface for 15 minutes, the session times out and is terminated. You must log in again to begin a new session.

To explicitly terminate a J-Web session at any time, click **Logout** in the top pane.

Table 3 on page 15 shows the maximum number of concurrent J-Web sessions on SRX Series devices.

Table 3: Concurrent Web Sessions on SRX Series Devices

Device Type	Maximum Number of Users
SRX300, SRX320, SRX340, SRX345, SRX1500	7
SRX5400, SRX5600, SRX5800	1024

CHAPTER 4

Configuring a Device Using J-Web

Configuring Basic Settings

Before you begin initial configuration, complete the following tasks:

- Install the Juniper Networks device in its permanent location, as described in the hardware installation guide or the Getting Started Guide for your device.
- Gather the following information:
  - Hostname for the router on the network
  - Domain that the router belongs to on the network
  - Password for the root user
  - Time zone where the router is located
  - IP address of a Network Time Protocol (NTP) server (if NTP is used to set the time on the router)
  - IP address of a Domain Name System (DNS) server
  - List of domains that can be appended to hostnames for DNS resolution
  - IP address of the default gateway
  - IP address to be used for the loopback interface
  - IP address of the built-in Ethernet interface that you will use for management purposes
- Collect the following equipment:
  - A management device, such as a laptop, with an Ethernet port
  - An Ethernet cable

To configure basic settings with J-Web Initial Configuration:

1. Enter information into the Initial Configuration Set Up page (see Figure 5 on page 19), as described in Table 4 on page 19.
2. Click **Apply** to apply the configuration.

Figure 5: J-Web Set Up Initial Configuration Page

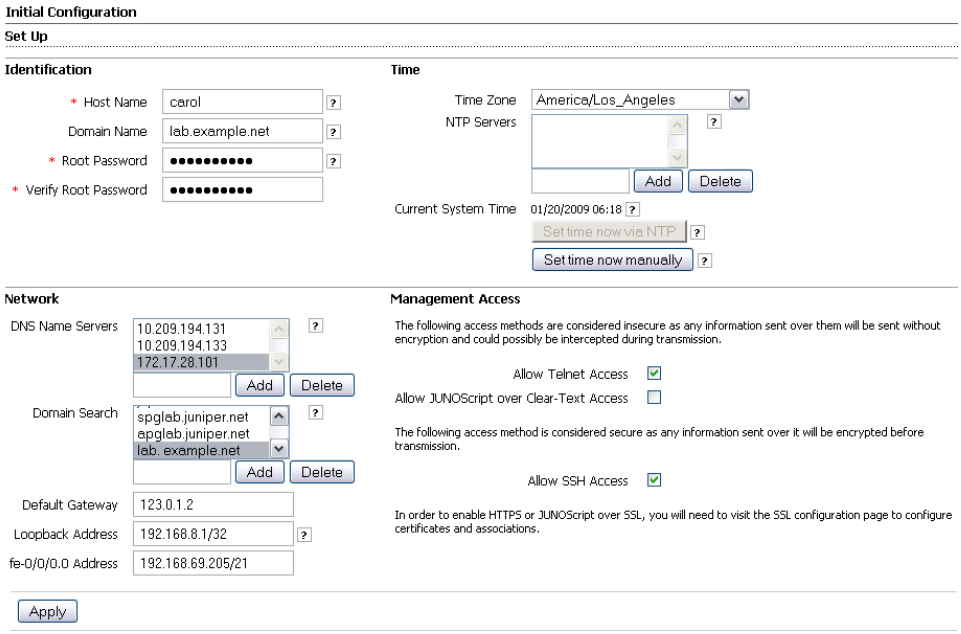


Table 4: Initial Configuration Set Up Summary

Field	Function	Your Action
Identification		
Host Name (required)	Defines the hostname of the router.	Type the hostname.
Domain Name	Defines the network or subnetwork that the machine belongs to.	Type the domain name.
Root Password (required)	Sets the root password that the user “root” can use to log in to the router.	Type a plain-text password that the system encrypts. NOTE: After a root password has been defined, it is required when you log in to the J-Web user interface or the CLI.
Verify Root Password (required)	Verifies that the root password has been typed correctly.	Retype the password.
Time		
Time Zone	Identifies the time zone that the router is located in.	From the list, select the appropriate time zone.
NTP Servers	Specify an NTP server that the router can reach to synchronize the system time.	To add an IP address, type it in the box to the left of the Add button, then click **Add**. To delete an IP address, click it in the box above the Add button, then click **Delete**.

Table 4: Initial Configuration Set Up Summary *(continued)*

Field	Function	Your Action
Current System Time	Synchronizes the system time with the NTP server, or manually sets the system time and date.	• To immediately set the time using the NTP server, click **Set Time via NTP**. The router sends a request to the NTP server and synchronizes the system time. NOTE: If you are configuring other settings on this page, the router also synchronizes the system time using the NTP server when you click **Apply**. • To set the time manually, click **Set Time Manually**. A pop-up window allows you to select the current date and time from lists.
Network		
DNS Name Servers	Specify a DNS server that the router can use to resolve hostnames into addresses.	To add an IP address, type it in the box to the left of the Add button, then click **Add**. To delete an IP address, click it in the box above the Add button, then click **Delete**.
Domain Search	Adds each domain name that the router is included in to the configuration so that they are included in a DNS search.	To add a domain name, type it in the box to the left of the Add button, then click **Add**. To delete a domain name, click it in the box above the Add button, then click **Delete**.
Default Gateway	Defines a default gateway through which to direct packets addressed to networks not explicitly listed in the routing table.	Type a 32-bit IP address, in dotted decimal notation.
Loopback Address	Defines a reserved IP address that is always available on the router. If no address is entered, this address is set to **127.0.0.1/32**.	Type a 32-bit IP address and prefix length, in dotted decimal notation.
Management Access		
Allow Telnet Access	Allows remote access to the router by using Telnet.	To enable Telnet access, select the check box.
Allow JUNOScript protocol over Clear-Text Access	Allows JUNOScript to access the router by using a protocol for sending unencrypted text over a TCP connection.	To enable JUNOScript access over clear text, select the check box.
Allow SSH Access	Allows remote access to the router by using SSH.	To enable SSH access, select the check box.

J-Web Configuration Pages Overview

J-Web configuration pages offer you several different ways to configure your Juniper Networks device. Configuration pages provide access to all the configuration statements

supported by the device, so you can fully configure it without using the CLI. You can also manage the configuration, monitor user access, and set a rescue configuration.

Table 5 on page 21 provides a summary of the J-Web configuration pages.

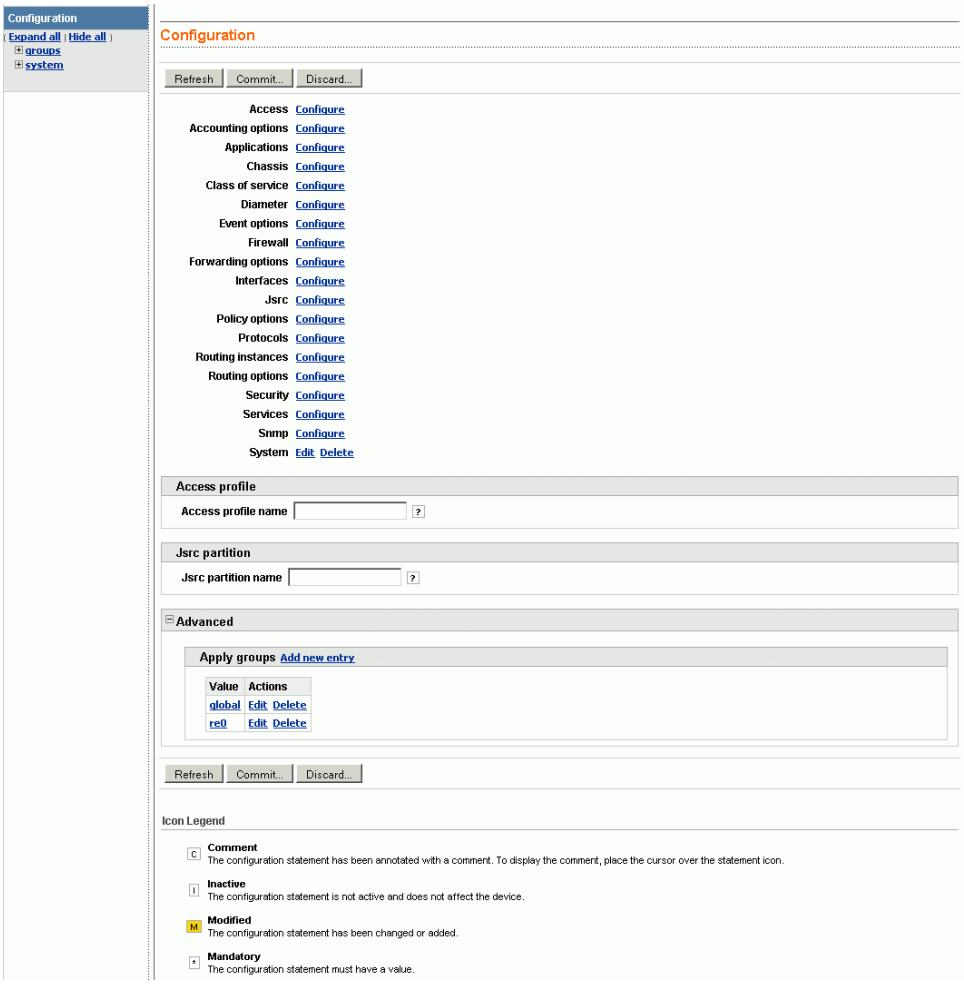
Table 5: J-Web Configuration Pages Summary

J-Web Configuration Task	Description	More Information
Edit the configuration using a clickable interface	Expand the entire configuration hierarchy in the side pane and click a configuration statement to view or edit. The main pane displays all the options for the statement, with a text box for each option.	For more information, go to **Configure>CLI Tools>Point and Click CLI** in the J-Web user interface.
Edit the configuration in text format	Paste a complete configuration hierarchy into a scrollable text box, or edit individual lines in the configuration text.	For more information, go to **Configure>CLI Tools>CLI Editor** in the J-Web user interface.
Upload a configuration file	Upload a complete configuration.	For more information, go to **Maintain>Config Management>Upload** in the J-Web user interface.
View the configuration in text format	View the entire configuration on the device in text format.	For more information, go to **Configure>CLI Tools>CLI Viewer** in the J-Web user interface.

Editing a Configuration

To edit the configuration on a series of pages of clickable options that step you through the hierarchy, select **Configure>CLI Tools>Point and Click**. The side pane displays the top level of the configuration hierarchy, and the main pane displays configured hierarchy options and the Icon Legend (see Figure 6 on page 22).

Figure 6: Edit Configuration Page



See the video for an example of how to use the J-Web configuration editor to configure and manage stateless firewall filters.

Video: Managing Firewall Filters with J-Web

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.

NOTE: **Only those statements included in the committed configuration are displayed in the side pane hierarchy.**

The configuration information in the main pane consists of configuration options that correspond to configuration statements. Configuration options that contain subordinate statements are identified by the term *nested configuration*.

To include, edit, or delete statements in the candidate configuration, click one of the links described in Table 6 on page 23 in the main pane. Then specify configuration information by typing into a field, selecting a value from a list, or clicking a check box (toggle).

Table 6: J-Web Edit 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.
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 upper right of the main pane. You can click a statement or identifier in the hierarchy to return to the corresponding configuration options in the main pane.

The main pane includes icons that display information about statements and identifiers when you place your cursor over them. Table 7 on page 23 describes the meaning of these icons.

Table 7: J-Web Edit Configuration Icons

Icon	Meaning
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 Help information.

J-Web Commit Options Guidelines

Using the J-Web Commit Preference, you can configure the commit options either to commit all global configurations together or to commit each configuration change immediately. Do one of the following to commit a configuration:

- Set Commit Preference to **Validate and commit configuration changes**, and then click **OK**.
- Set Commit Preference to **Validate configuration changes**, click **OK** to check your configuration and save it as a candidate configuration, and then click **Commit Options**>**Commit**.

For example, suppose you want to delete a firewall and add a new one.

- If Commit Preference is set to **Validate and commit configuration changes**, then you would need to commit your changes twice for each action.
- If Commit Preference is set to **Validate configuration changes**, then you work in a copy of the current configuration to create a 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 the changes do not take effect on the device platform until you commit them. 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 the users take effect.

You use the single commit feature to commit all your configurations in J-Web simultaneously. This helps to reduce the time J-Web takes to commit configurations because when changes are committed at every step, rollback configurations pile up quickly.

NOTE: If you end a session with a particular Commit Preference, the subsequent sessions for that particular browser will automatically come up with the preference you previously selected. If you start the subsequent session on a different browser, the session will come up with the default commit preference.

NOTE: There are some pages whose configurations would need to be committed immediately. For such pages, even if you configure the commit options to perform a single global commit for them, the system displays appropriate information notification windows to remind you to commit your changes immediately. Examples of such pages are Switching, Interfaces, and Class of Service.

Committing a Configuration

When you finish making changes to a candidate configuration with the J-Web configuration editor, you must commit the changes to use them in the current operational software running on the Juniper Networks device.

If another user is editing an exclusive candidate configuration with the CLI, you cannot commit a configuration until the user has committed the configuration. For more information about editing an exclusive candidate configuration, see the *Junos OS CLI User Guide*.

To commit a candidate configuration:

1. In the J-Web configuration editor, click **Commit**.

   The main pane displays a summary of your changes in statement form.

2. To confirm the commit operation, click **OK**.

   If multiple users are editing the configuration when you commit the candidate configuration, all changes made by all users take effect.

3. To display all the edits applied to the running configuration, click **Refresh**.

CHAPTER 5

Managing J-Web Sessions and Users

Setting J-Web Session Limits

By default, an unlimited number of users can log in to the J-Web interface on a Juniper Networks device, and each session remains open for 24 hours (1440 minutes). Using CLI commands, you can limit the maximum number of simultaneous J-Web user sessions and set a default session timeout for all users.

- To limit the number of simultaneous J-Web user sessions, enter the following commands:

  user@host# **edit system services web-management session**
  user@host# **set session-limit** ***session-limit***

  Range: **1** through **1024**. Default: Unlimited

- To change the J-Web session idle time limit, enter the following commands:

  user@host# **edit system services web-management session**
  user@host# **set idle-timeout** ***minutes***

  Range: **1** through **1440**. Default: **1440**

You can also configure the maximum number of simultaneous subordinate HTTP processes that the device creates in response to user requests.

To configure the maximum number of subordinate httpd processes, enter the following commands:

user@host# **edit system services web-management limits**

user@host# **active-child-process** ***process-limit***

The default is **5**, and the range is **0** through **32**.

Terminating J-Web Sessions

To explicitly terminate a J-Web session at any time, click **Logout** in the top pane. You must log in again to begin a new session.

By default, if the Juniper Networks device does not detect any activity through the J-Web interface for 24 hours, the session times out and is terminated. For information about changing the idle time limit, see "Setting J-Web Session Limits" on page 27.

PART 3

Troubleshooting

CHAPTER 6

Troubleshooting the J-Web User Interface

Lost Router Connectivity

Problem **Description:** After completing initial configuration, I lost connectivity to the Juniper device through J-Web.

Cause If you change the IP address of the management interface and have the management device configured to use DHCP, you lose your DHCP lease and your connection to the Juniper Networks device through the J-Web interface.

Solution To reestablish a connection, either set the IP address on the management device manually, or connect the management interface to the management network and access the Juniper device another way—for example, through the console port.

Unpredictable J-Web Behavior

Problem **Description:** I have multiple J-Web windows open and am experiencing unpredictable results.

Solution Close the extra windows. The Juniper Networks device can support multiple J-Web sessions for a single user who logs in to each session. However, if a single user attempts to launch multiple J-Web windows —for example, by right-clicking a link to launch another instance of a Web browser—the session can have unpredictable results.

No J-Web Access

Problem **Description:** I cannot access J-Web from my browser.

Solution **Solution 1—**On the Juniper Networks device, verify that you have successfully installed the J-Web software package and enabled Web management on the platform, as described in "Installing the J-Web Software" on page 11.

Solution 2—If the device is running the worldwide version of the Junos OS and you are using the Microsoft Internet Explorer Web browser, you must disable the **Use SSL 3.0** option in the Web browser to access J-Web on the device.

PART 4

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