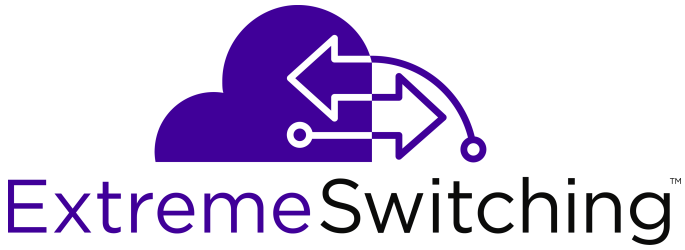


# Documentation Reference for Ethernet Routing Switch 4900 and 5900 Series

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# Chapter 1: Preface

## Purpose

This document provides information on features in the following products:

- Extreme Networks Ethernet Routing Switch 4900 Series
- Extreme Networks Ethernet Routing Switch 5900 Series

This document describes information regarding the suite of documents for Ethernet Routing Switch 4900 and 5900 Series. It also describes how the content is organized across the document suite.

## Training

Ongoing product training is available. For more information or to register, you can access the Web site at www.extremenetworks.com/education/.

## Providing Feedback to Us

We are always striving to improve our documentation and help you work better, so we want to hear from you! We welcome all feedback but especially want to know about:

- Content errors or confusing or conflicting information.
- Ideas for improvements to our documentation so you can find the information you need faster.
- Broken links or usability issues.

If you would like to provide feedback to the Extreme Networks Information Development team about this document, please contact us using our short online feedback form. You can also email us directly at internalinfodev@extremenetworks.com

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- GTAC (Global Technical Assistance Center) for Immediate Support
  - Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact
  - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.
- GTAC Knowledge – Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.
- The Hub – A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
- Support Portal – Manage cases, downloads, service contracts, product licensing, and training and certifications.

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

# Extreme Networks Documentation

To find Extreme Networks product guides, visit our documentation pages at:

| | |
|---|---|
| Current Product Documentation | www.extremenetworks.com/documentation/ |
| Archived Documentation (for previous versions and legacy products) | www.extremenetworks.com/support/documentation-archives/ |
| Release Notes | www.extremenetworks.com/support/release-notes |

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# Subscribing to Service Notifications

Subscribe to receive an email notification for product and software release announcements, Vulnerability Notices, and Service Notifications.

### About this task

You can modify your product selections at any time.

### Procedure

1. In an Internet browser, go to http://www.extremenetworks.com/support/service-notification-form/ .
2. Type your first and last name.
3. Type the name of your company.
4. Type your email address.
5. Type your job title.
6. Select the industry in which your company operates.
7. Confirm your geographic information is correct.
8. Select the products for which you would like to receive notifications.
9. Click **Submit**.

# Chapter 2: New in this document

The following sections detail what is new in *Documentation Reference for Ethernet Routing Switch 4900 and 5900 Series*.

### Features

There are no feature changes in this document.

# Chapter 3: Technical documentation changes

The following sections describe new, restructured, and retired documents.

## New documents

No new documents were introduced in this release.

## Restructured documents

No documents were restructured in this release.

## Retired documents

No documents were retired in this release.

# Chapter 4: Roadmap

Use this section to find the correct document for the task you need to perform.

The technical documents are structured with an emphasis on the tasks you perform.

## Customer documentation packaging

Technical documents are organized according to job functions. Following are the job functions:


- Product Fundamentals on page 10
- Installation and Commissioning on page 11
- Upgrades and Patches on page 12
- Operations on page 12
- Administration and Security on page 13
- Fault and Performance Management on page 13


## Product Fundamentals

Product Fundamentals documentation includes product overview and information that applies to all areas of the product.

**Table 1: Product fundamentals documents**

| Document title | Description |
|---|---|
| *Regulatory Information Reference for Ethernet Routing Switch 4900 and 5900 Series* | This document provides information about regulatory messages. |
| *Documentation Reference for Ethernet Routing Switch 4900 and 5900 Series* | This document contains an overview of the documentation suite and explains how to use task-based documentation. |
| *Using CLI and EDM on Ethernet Routing Switch 4900 and 5900 Series* | This document provides instructions to use the user interfaces, including Command Line Interface (CLI) and |

*Table continues…*

| Document title | Description |
|---|---|
| | Enterprise Device Manager (EDM), and includes procedures to use configuration files. |
| *CLI Commands Reference for Ethernet Routing Switch 4900 and 5900 Series* | This document provides default values and proper syntax for the CLI commands. |
| *Locating the Latest Product Software and Release Notes for Ethernet Routing Switch 5900 Series*<br>*Locating the Latest Product Software and Release Notes for Ethernet Routing Switch 4900 Series* | This document provides information about locating the documentation and software. |

# Installation and Commissioning

Installation and Commissioning documentation includes information that supports initial installation and commissioning (initial configuration) activities, including preparation, processes, safety requirements, and instructions for rollback procedures.

The following table describes installation and commissioning documents.

**Table 2: Installation and commissioning documents**

| Document title | Description |
|---|---|
| *Quick Start Configuration for Ethernet Routing Switch 4900 and 5900 Series* | This document provides instructions to connect and initially configure the switch for your network. |
| *Installing Ethernet Routing Switch 5900 Series*<br>*Installing Ethernet Routing Switch 4900 Series* | This document provides instructions to install the switch in an equipment rack (individually or in a stack) or on a shelf. It also provides instructions to perform the initial IP configuration on the switch using CLI, BootP, or the IP.CFG file. It also provides instructions to verify the switch status using the front-panel LEDs. |
| *Installing Transceivers and Optical Components on Ethernet Routing Switch 4900 and 5900 Series* | This document provides instructions to install small form factor pluggable transceivers, 10 Gigabit small form factor pluggable transceivers, and includes specifications for these hardware components. |
| *Quick Install for Ethernet Routing Switch 5900 Series*<br>*Quick Install for Ethernet Routing Switch 59100 Series*<br>*Quick Install for Ethernet Routing Switch 4900 Series* | This document provides instructions to install the switch in an equipment rack or on a shelf and prepare for network connectivity. |

*Table continues…*

| Document title | Description |
|---|---|
| *Installation Job Aid (English) for Ethernet Routing Switch 5900 Series*<br>*Installation Job Aid (English) for Ethernet Routing Switch 4900 Series* | This document provides instructions to install the switch in English. The document also includes safety messages and power connection instructions. |
| *Configuring Systems on Ethernet Routing Switch 4900 and 5900 Series* | This document provides instructions to perform basic configuration of the switch including procedures to configure the switch IP address after hardware installation. It also provides instructions to configure system-level features such as stacking, feature licensing, Simple Network Time Protocol (SNTP), BootP, Domain Name System, Power over Ethernet (PoE), and Layer Discovery Protocol (LLDP). |

# Upgrades

Upgrades documentation enables you to upgrade hardware and software from one release to another for the product.

**Table 3: Upgrades documents**

| Document title | Description |
|---|---|
| *Release Notes for Ethernet Routing Switch 4900 and 5900 Series* | This document describes new features and important information about the latest release. Release Notes includes a list of known issues (including workarounds where appropriate) and a list of fixed issues. |

# Operations

Operations documents include information that supports tasks related to configuration (post-commissioning) of services or applications, routine maintenance of hardware or software, and accounting or billing activities.

The following table describes the switch operations documents.

**Table 4: Operations documents**

| Document title | Description |
|---|---|
| *Configuring VLANs, Spanning Tree, and MultiLink Trunking on Ethernet Routing Switch 4900 and 5900 Series* | This document describes procedures and conceptual information to configure VLANs, Spanning Tree, Link |

*Table continues…*

| Document title | Description |
|---|---|
| | Aggregation Control Protocol, and Multi-Link Trunking. |
| *Configuring Quality of Service on Ethernet Routing Switch 4900 and 5900 Series* | This document provides procedures and conceptual information to configure Quality of Service. |
| *Configuring IP Routing and Multicast on Ethernet Routing Switch 4900 and 5900 Series* | This document provides procedures and conceptual information to configure IP routing features on the switch, including static routes, Proxy ARP, DHCP Relay, and UDP forwarding. It also provides procedures and conceptual information to manage multicast traffic using IGMP and MLD snooping. |
| *Configuring Fabric Connect on Ethernet Routing Switch 4900 and 5900 Series* | This document provides procedures and conceptual information to configure Shortest Path Bridging MAC. |

# Administration and Security

Administration and Security documentation includes information that supports tasks performed by operations personnel, which relate to network administration or product security, including the configuration and management of systems data and users. The documentation also includes the management and protection of resources from unauthorized or detrimental access and use.

The following table describes the switch administration and security documents.

**Table 5: Administration and security documents**

| Document title | Description |
|---|---|
| *Configuring Security on Ethernet Routing Switch 4900 and 5900 Series* | This document provides procedures and conceptual information to administer and configure security features for the switch, including MAC-based security, RADIUS, EAPOL, SSH, and IPv6 First Hop Security (FHS). |

# Fault and Performance Management

Fault and Performance Management documents include information that supports the tasks performed by operations personnel, which relate to managing or preventing faults, troubleshooting, and monitoring and improving the performance of the network or product

The following table describes fault and performance management documents.

**Table 6: Fault and performance management documents**

| Document title | Description |
|---|---|
| *Configuring System Monitoring on Ethernet Routing Switch 4900 and 5900 Series* | This document provides information about system diagnostics tools including syslog, Remote Monitoring, port mirroring, and displaying port and chassis statistics. |
| *Troubleshooting Switch 4900 and 5900 Series* | This document describes common problems and error messages and the techniques to resolve them. |

# Chapter 5: Information quality

Technical documents are tested by subject matter experts (SMEs) throughout the product development lifecycle. SMEs from Design, Product Verification (PV), Product Line Management (PLM), and Verification Office (VO), all contribute to document quality.

Technical documents that are in the early stages of development and have not completed all testing milestones, are released on a limited basis. Documents that have not completed testing bear a Draft watermark on every page to indicate that the content they contain may change as the product is refined and document testing is completed. Draft documents are not widely available.

# Chapter 6: Text conventions

This chapter describes the text conventions used in the documentation.

## Angle brackets

Indicates that you choose the text to enter based on the description inside the brackets. Do not type the brackets when entering the command.

Example: If the command syntax is **`ping <ip_address>`**, you enter `ping 192.32.10.12`.

## Bold or Bold Courier text

**Bold** or **`Bold Courier`** text indicates command names. Example 2 displays how the text that you type appears. Example 3 displays how file paths appear.

**Example**

Use the **`info`** command.

**Example**

Enter `show ip {alerts|routes}`.

**Example**

**Protocols** > **IP** identifies the IP command on the Protocols menu.

## Braces

Braces ({ }) indicate required elements in syntax descriptions where more than one option is available. You must choose only one option. Do not type the braces when you enter the command.

Example: If the command syntax is **`show ip {alerts|routes}`**, you must enter either `show ip alerts` or `show ip routes`, but not both.

# Brackets

Brackets ([ ]) indicate optional elements in syntax descriptions. Do not type the brackets when you enter the command.

Example: If the command syntax is **`show ip interfaces [-alerts]`**, you can enter either `show ip interfaces` or `show ip interfaces -alerts`.

# Ellipses

An ellipsis (...) indicates that you repeat the last element of the command as needed.

Example: If the command syntax is **`ethernet/2/1 [`** <*parameter*> <*value*> **`]...`**, you enter `ethernet/2/1` and as many parameter-value pairs as you need.

# Italic text

*Italic* text indicates book titles or new terms followed by a definition.

Example: *Release Notes for Ethernet Routing Switch 4900 and 5900 Series*.

# Plain Courier text

`Plain Courier` text indicates system output, for example, prompts and system messages.

Example: `Set Trap Monitor Filters`

# Separator

A separator ( >) shows menu paths.

Example: **Protocols** > **IP** identifies the IP command on the Protocols menu.

## Vertical bar

A vertical bar ( | ) separates choices for command keywords and arguments. Enter only one choice. Do not type the vertical line when you enter the command.

Example: If the command syntax is **`show ip {alerts|routes}`**, you enter either `show ip alerts` or `show ip alerts`, but not both.

## cr convention

In CLI procedures, when you see <cr> as an option for a command, you can press the Enter key on your keyboard to execute the command.

# Chapter 7: Task-based information

Task-based information, a quick reference for using the task-based documentation, describes the structure of task-based information and how it can be used most effectively.

## Task-based documentation

Task-based documentation is a new way of packaging customer information in a structured, task-centric format.

Task-based documentation focuses on what the user must do and the sequence in which to perform tasks.

The goal is to make documentation easy to find, easy to use, timely, and accurate.

## How to use task-based documentation

In task-based documentation, procedural information is included in the document. Conceptual and reference information is provided, and the user is guided on how to use conceptual and reference material by identified prerequisites or direct links and references.

The user navigates the information by following the flows that are provided for tasks and procedures.

## Task flow overview

Task flows are flowcharts that illustrate which procedures and decisions are involved to complete an activity.

The task flows guide you through activities to use the switch, whether it is configuration, upgrading, installation, maintenance, or troubleshooting.

Each flow provides the prerequisites and links to the tasks or procedures.

To perform or refer to a procedure, always follow the task flow. Following the task flows ensures that you meet all the requirements for successful completion of the task.

# Work flows, task flows, and procedures

Work flows, task flows, and procedures have similar elements to maintain consistency and usability. Each of the following sections have a specific function:


- Purpose statements on page 20
- Prerequisites on page 20
- Work flows or task flows on page 20
- Procedure steps on page 20
- Example procedures on page 21
- Variable definitions on page 21
- Job aid on page 21


## Purpose statements

Purpose statements explain why or when you would perform a work flow, task, or procedure and impact.

## Prerequisites

Prerequisites list everything you must do or understand before you start the workflow, task, or procedure. Prerequisites can include tasks that should already be completed, risks, confirmation of system status, required knowledge, time estimates or limitations, and links to supporting information.

The prerequisite section is omitted if no required prerequisites exist.

## Work flows or task flows

This section is the flow chart diagram that represents the task flow with navigational links to the tasks or procedures in the flow.

## Procedure steps

Procedures provide numerical steps that help you perform the procedure. Each step is a single action.

## Example procedures

Some procedures use examples to show how to correctly perform the procedure with realistic settings.

## Variable definitions

Variable definitions provide the possible values, ranges, or definitions of variables used in the procedure steps.

If variables are not used in the procedure; then the variables definition section is omitted.

## Job aid

Job aids provide information help to successfully perform the procedure.

A job aid is only used when required.

# Task-based documentation terms

The following table describes task-based documentation terms.

| Term | Description |
|---|---|
| Work flow | A high or top-level group of tasks. |
| Task or task flow | A logical group of procedures represented as a single action in a flowchart diagram. Complex tasks can be divided into simpler tasks or subtasks. |
| Procedure | A logical group of single action steps in a task. |
| Step | A single action performed in a procedure. |
| Variable | A placeholder in procedure steps representing a value or definition. |

Restructuring technical documents into a task-based format is an ongoing initiative. The documentation for some roducts is already converted to the new format.