Preface

This preface describes who should read this document, how it is organized, and its conventions. The preface also tells you how to obtain Cisco documents, as well as how to obtain technical assistance.

Audience

This guide is for experienced network administrators who are responsible for configuring and maintaining Catalyst 4500 series switches.

Organization

This guide is organized into the following chapters:

Chapter	Title	Description
Chapter 1	Product Overview	Presents an overview of the Cisco IOS software for the Catalyst 4500 series switches.
Chapter 2	Command-Line Interfaces	Describes how to use the CLI.
Chapter 3	Configuring the Switch for the First Time	Describes how to perform a baseline configuration of the switch.
Chapter 4	Administering the Switch	Describes how to administer the switch.
Chapter 6	Configuring the Cisco IOS XE In Service Software Upgrade Process	Describes how to configure ISSU on the switch.
Chapter 7	Configuring Interfaces	Describes how to configure non-layer-specific features on Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet interfaces.
Chapter 8	Checking Port Status and Connectivity	Describes how to check module and interface status.
Chapter 5	Configuring Supervisor Engine Redundancy Using RPR and SSO	Describes how to configure RPR and SSO on the Catalyst 4507R and 4510R switches.
Chapter 9	Configuring Cisco NSF with SSO Supervisor Engine Redundancy	Describes how to configure supervisor engine redundancy using Cisco nonstop forwarding (NSF) with stateful switchover (SSO).

Chapter	Title	Description
Chapter 10	Environmental Monitoring and Power Management	Describes how to configure power management and environmental monitoring features.
Chapter 11	Configuring Power over Ethernet	Describes how to configure Power over Ethernet (PoE).
Chapter 12	Configuring VLANs, VTP, and VMPS	Describes how to configure VLANs, VTP, and VMPS.
Chapter 13	Configuring IP Unnumbered Interface	Describes how to configure IP Unnumbered support.
Chapter 14	Configuring Layer 2 Ethernet Interfaces	Describes how to configure interfaces to support Layer 2 features, including VLAN trunks.
Chapter 15	Configuring SmartPort Macros	Describes how to configure SmartPort macros.
Chapter 16	Configuring STP and MST	Describes how to configure the Spanning Tree Protocol (STP) and the Multiple Spanning Tree (MST) protocol and explains how they work.
Chapter 18	Configuring Optional STP Features	Describes how to configure the spanning-tree PortFast, UplinkFast, BackboneFast, and other STP features
Chapter 19	Configuring EtherChannel	Describes how to configure Layer 2 and Layer 3 EtherChannel port bundles.
Chapter 20	Configuring CDP	Describes how to configure the Cisco Discovery Protocol (CDP).
Chapter 21	Configuring IGMP Snooping and Filtering	Describes how to configure Internet Group Management Protocol (IGMP) snooping.
Chapter 22	Configuring IPv6 MLD Snooping	Describes how to configure IPv6 MLD Snooping.
Chapter 23	Configuring LLDP, and LLDP-MED	Describes how to configure Link Layer Discovery Protocol (LLDP).
Chapter 24	Configuring UDLD	Describes how to configure the UniDirectional Link Detection (UDLD) protocol.
Chapter 25	Configuring Unidirectional Ethernet	Describes how to configure Unidirectional Ethernet.
Chapter 26	Configuring Layer 3 Interfaces	Describes how to configure interfaces to support Layer 3 features.
Chapter 27	Configuring Cisco Express Forwarding	Describes how to configure Cisco Express Forwarding (CEF) for IP unicast traffic.
Chapter 28	Configuring Unicast Reverse Path Forwarding	Describes how to configure Unicast Reverse Path Forwarding.
Chapter 29	Configuring IP Multicast	Describes how to configure IP Multicast Multilayer Switching (MMLS).
Chapter 30	Configuring Policy-Based Routing	Describes how to configure policy-based routing.
Chapter 31	Configuring VRF-lite	Describes how to configure multiple VPN routing/forwarding (multi-VRF) instances in customer edge (CE) devices.

Chapter	Title	Description
Chapter 32	Configuring Flexible NetFlow	Describes how to configure Flexible NetFlow.
Chapter 33	Configuring Quality of Service	Describes how to configure quality of service (QoS).
Chapter 34	Configuring Voice Interfaces	Describes how to configure voice interfaces.
Chapter 35	Configuring Private VLANs	Describes how to set up and modify private VLANs.
Chapter 36	Configuring 802.1X Port-Based Authentication	Describes how to conf.igure 802.1X port-based authentication
Chapter 37	Configuring Web-Based Authentication	Describes how to configure web-based authentication.
Chapter 38	Configuring Port Security	Describes how to configure port security and trunk port security.
Chapter 39	Configuring Control Plane Policing	Describes how to protect your Catalyst 4500 series switch using control plane policing (CoPP).
Chapter 40	Configuring DHCP Snooping, IP Source Guard, and IPSG for Static Hosts	Describes how to configure DHCP snooping and IP Source Guard.
Chapter 41	Configuring Dynamic ARP Inspection	Describes how to configure Dynamic ARP Inspection.
Chapter 42	Configuring Network Security with ACLs	Describes how to configure ACLS, VACLs, and MACLs.
Chapter 43	Support for IPv6	Describes the IPv6 support on the switch.
Chapter 44	Port Unicast and Multicast Flood Blocking	Describes how to configure unicast flood blocking.
Chapter 45	Configuring Storm Control	Describes how to configure storm control suppression.
Chapter 46	Configuring SPAN and RSPAN	Describes how to configure the Switched Port Analyzer (SPAN).
Chapter 47	Configuring System Message Logging	Describes how to configure system message logging.
Chapter 48	Configuring Onboard Failure Logging (OBFL)	Describes how to configure OBFL.
Chapter 48	Configuring SNMP	Describes how to configure the Simple Network Management Protocol (SNMP).
Chapter 49	Configuring Cisco IOS IP SLAs Operations	Describes how to configure Cisco IOS IP SLA operations.
Chapter 51	Configuring RMON	Describes how to configure Remote Network Monitoring (RMON).
Chapter 52	Configuring Call Home	Describes how to configure Call Home.
Chapter 53	Performing Diagnostics	Describes vaious types of diagnostics on the Catalyst 4500 series switch.
Chapter 54	ROM Monitor	Describes the ROM Monitor.

Chapter	Title	Description
Chapter 55	Configuring MIB Support	Describes how to configure configure SNMP and MIB support.
Appendix A	Acronyms and Abbreviations	Defines acronyms and abbreviations used in this book.

Notices

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This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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The implementation was written so as to conform with Netscapes SSL.

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Conventions

This document uses the following typographical conventions:

Convention	Description
boldface font	Commands, command options, and keywords are in **boldface**.
italic font	Command arguments for which you supply values are in *italics*.
[ ]	Command elements in square brackets are optional.
{ x	y	z }	Alternative keywords in command lines are grouped in braces and separated by vertical bars.
[x	y	z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string because the string will include the quotation marks.
`screen` font	System displays are in `screen` font.
`boldface screen` font	Information you must enter verbatim is in `boldface screen` font.
`italic screen` font	Arguments for which you supply values are in `italic screen` font.
⟶	This pointer highlights an important line of text in an example.
^	Represents the key labeled Control—for example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
< >	Nonprinting characters such as passwords are in angle brackets.

Notes use the following conventions:

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Cautions use the following conventions:

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Commands in Task Tables

Commands listed in task tables show only the relevant information for completing the task and not all available options for the command. For a complete description of a command, refer to the command in the *Catalyst 4500 Series Switch Cisco IOS Command Reference*.

Related Documentation

Refer to the following documents for additional Catalyst 4500 series information:

- Catalyst 4500 Series Switch Documentation Home

  http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd_products_support_series_home.html

Hardware Documents

Installation guides and notes including specifications and relevant safety information are available at the following URLs:

- *Catalyst 4500 Series Switches Installation Guide*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/installation/guide/78-14409-08/4500inst.html

- *Catalyst 4500 E-series Switches Installation Guide*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/catalyst4500e/installation/guide/Eseries.html

- For information about individual switching modules and supervisors, refer to the *Catalyst 4500 Series Module Installation Guide* at:

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/configuration/notes/OL_25315.html

- *Regulatory Compliance and Safety Information for the Catalyst 4500 Series Switches*

  http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/regulatory/compliance/78_13233.html

- Installation notes for specific supervisor engines or for accessory hardware are available at:

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_installation_guides_list.html

Software Documentation

Software release notes, configuration guides, command references, and system message guides are available at the following URLs:

- Catalyst 4500 release notes are available at:

  http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_release_notes_list.html

Software documents for the Catalyst 4500 Classic and Catalyst 4500 E-Series are available at the following URLs:

- *Catalyst 4500 Series Software Configuration Guide*

http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html

- *Catalyst 4500 Series Software Command Reference*

http://www.cisco.com/en/US/products/hw/switches/ps4324/prod_command_reference_list.html

- *Catalyst 4500 Series Software System Message Guide*

http://www.cisco.com/en/US/products/hw/switches/ps4324/products_system_message_guides_list.html

Cisco IOS Documentation

Platform- independent Cisco IOS documentation may also apply to the Catalyst 4500 and 4900 switches. These documents are available at the following URLs:

- Cisco IOS configuration guides, Release 12.x

http://www.cisco.com/en/US/products/ps6350/products_installation_and_configuration_guides_list.html

- Cisco IOS command references, Release 12.x

http://www.cisco.com/en/US/products/ps6350/prod_command_reference_list.html

You can also use the Command Lookup Tool at:

http://tools.cisco.com/Support/CLILookup/cltSearchAction.do

- Cisco IOS system messages, version 12.x

http://www.cisco.com/en/US/products/ps6350/products_system_message_guides_list.html

You can also use the Error Message Decoder tool at:

http://www.cisco.com/pcgi-bin/Support/Errordecoder/index.cgi

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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