



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	Configuring Interfaces	Describes how to configure non-layer-specific features on Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet interfaces
Chapter 5	Checking Port Status and Connectivity	Describes how to check module and interface status
Chapter 6	Configuring Supervisor Engine Redundancy Using RPR and SSO	Describes how to configure RPR and SSO on the Catalyst 4507R and 4510R switches
Chapter 7	Environmental Monitoring and Power Management	Describes how to configure power management and environmental monitoring features
Chapter 8	Configuring Power over Ethernet	Describes how to configure Power over Ethernet (PoE)
Chapter 9	Configuring Switches with Web-Based Tools	Describes how to install and configure Network Assistant and Embedded CiscoView

Chapter	Title	Description
Chapter 10	Understanding and Configuring VLANs	Describes how to set up and modify VLANs
Chapter 11	Configuring Dynamic VLAN Membership	Describes how to configure dynamic VLAN membership
Chapter 11	Configuring Layer 2 Ethernet Interfaces	Describes how to configure interfaces to support Layer 2 features, including VLAN trunks
Chapter 12	Configuring SmartPort Macros	Describes how to configure SmartPort macros
Chapter 13	Understanding and Configuring STP	Describes how to configure the Spanning Tree Protocol (STP) and explains how spanning tree works
Chapter 14	Configuring STP Features	Describes how to configure the spanning-tree PortFast, UplinkFast, BackboneFast, and other STP features
Chapter 15	Understanding and Configuring Multiple Spanning Trees	Describes how to configure the Multiple Spanning Tree (MST) protocol and explains how it works
Chapter 16	Understanding and Configuring EtherChannel	Describes how to configure Layer 2 and Layer 3 EtherChannel port bundles
Chapter 17	Configuring IGMP Snooping and Filtering	Describes how to configure Internet Group Management Protocol (IGMP) snooping
Chapter 18	Configuring 802.1Q and Layer 2 Protocol Tunneling	Describes how to configure 802.1Q and Layer 2 protocol Tunneling
Chapter 19	Understanding and Configuring CDP	Describes how to configure the Cisco Discovery Protocol (CDP)
Chapter 20	Configuring UDLD	Describes how to configure the UniDirectional Link Detection (UDLD) protocol
Chapter 21	Configuring Unidirectional Ethernet	Describes how to configure unidirectional Ethernet
Chapter 22	Configuring Layer 3 Interfaces	Describes how to configure interfaces to support Layer 3 features
Chapter 23	Configuring Cisco Express Forwarding	Describes how to configure Cisco Express Forwarding (CEF) for IP unicast traffic
Chapter 24	Understanding and Configuring IP Multicast	Describes how to configure IP Multicast Multilayer Switching (MMLS)
Chapter 25	Configuring Policy-Based Routing	Describes how to configure policy-based routing
Chapter 27	Understanding and Configuring VTP	Describes how to configure the VLAN Trunking Protocol
Chapter 26	Configuring VRF-lite	Describes how to configure multiple VPN routing/forwarding (multi-VRF) instances in customer edge (CE) devices
Chapter 27	Configuring QoS and Per Port Per VLAN QoS	Describes how to configure quality of service (QoS) and per-port per-VLAN QoS (PVQoS).
Chapter 28	Configuring Voice Interfaces	Describes how to configure multi-VLAN access ports for use with Cisco IP phones

Chapter	Title	Description
Chapter 29	Understanding and Configuring 802.1X Port-Based Authentication	Describes how to configure 802.1X port-based authentication
Chapter 30	Configuring Port Security and Trunk Port Security	Describes how to configure port security and trunk port security.
Chapter 31	Configuring DHCP Snooping and IP Source Guard	Describes how to configure DHCP snooping and IP Source Guard
Chapter 32	Understanding and Configuring Dynamic ARP Inspection	Describes how to configure Dynamic ARP Inspection
Chapter 33	Configuring Network Security with ACLs	Describes how to configure ACLs, VACLs, and MACLS
Chapter 34	Configuring Private VLANs	Describes how to set up and modify private VLANs
Chapter 35	Port Unicast and Multicast Flood Blocking	Describes how to configure unicast flood blocking
Chapter 36	Configuring Port-Based Traffic Control	Describes how to configure storm control suppression
Chapter 37	Configuring SPAN and RSPAN	Describes how to configure the Switched Port Analyzer (SPAN)
Chapter 38	Configuring NetFlow Statistics Collection	Describes how to configure NetFlow statistics gathering
Appendix A	Acronyms and Abbreviations	Defines acronyms and abbreviations used in this book

Related Documentation

Although their Release Notes are unique, the 4 platforms (Catalyst 4500, Catalyst 4900, Catalyst ME 4900, and Catalyst 4900M) use the same *Software Configuration Guide*, *Command Reference Guide*, and *System Message Guide*. Refer to the following home pages for additional information:

- Catalyst 4500 Series Switch Documentation Home
<http://www.cisco.com/go/cat4500/docs>
- Catalyst 4900 Series Switch Documentation Home
<http://www.cisco.com/go/cat4900/docs>
- Cisco ME 4900 Series Ethernet Switches Documentation Home
http://www.cisco.com/en/US/products/ps7009/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/module/guide/mod_inst.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
- Catalyst 4900 and 4900M hardware installation information is available at:
http://www.cisco.com/en/US/products/ps6021/prod_installation_guides_list.html
- Cisco ME 4900 Series Ethernet Switches installation information is available at:
http://www.cisco.com/en/US/products/ps7009/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
- Catalyst 4900 release notes are available at:
http://www.cisco.com/en/US/products/ps6021/prod_release_notes_list.html
- Cisco ME4900 4900 Series Ethernet Switch release notes are available at:
http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/release/note/OL_11511.html

Software documents for the Catalyst 4500 Classic, Catalyst 4500 E-Series, Catalyst 4900, and Cisco ME 4900 Series Ethernet Switches 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/cgi-bin/Support/Errordecoder/index.cgi>

- For information about MIBs, refer to:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

Conventions

This document uses the following typographical conventions:

Convention	Description
boldface font	Commands, command options, and keywords are in boldface .
<i>italic font</i>	Command arguments for which you supply values are in <i>italics</i> .
[]	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 <code>screen font</code> .
boldface screen font	Information you must enter verbatim is in boldface screen font .
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .

Convention	Description
→	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*.

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>

Subscribe to the *What's New in Cisco Product Documentation* as an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

