



Preface

This preface describes the intended audience for this manual, how it is organized, the document conventions, and how to obtain additional documentation and technical support.

Audience

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

Organization

The major sections of this guide are as follows:

Chapter	Title	Description
Part 1—Getting Started		
Chapter 1	Product Overview	Presents an overview of the Catalyst enterprise LAN switches.
Chapter 2	Using the Command-Line Interface	Describes how to use the different command-line interfaces (CLIs).
Chapter 3	Configuring the Switch IP Address and Default Gateway	Describes how to perform a baseline configuration of the switch.
Part 2—Configuring Ethernet Switching		
Chapter 4	Configuring Ethernet and Fast Ethernet Switching	Describes how to configure Ethernet and Fast Ethernet switching on the switch.
Chapter 5	Configuring Gigabit Ethernet Switching	Describes how to configure Gigabit Ethernet switching on the switch.
Chapter 6	Configuring Fast EtherChannel and Gigabit EtherChannel	Describes how to configure Fast EtherChannel and Gigabit EtherChannel port bundles.

Chapter	Title	Description
Part 3—Spanning Tree		
Chapter 7	Configuring Spanning Tree	Describes how to configure the Spanning Tree Protocol and explains how spanning tree works.
Chapter 8	Configuring Spanning Tree PortFast, UplinkFast, and BackboneFast, and Loop Guard	Describes how to configure the spanning tree PortFast, UplinkFast, and BackboneFast features.
Part 4—Configuring VLANs and VLAN Trunks		
Chapter 9	Configuring VTP	Describes how to configure VLAN Trunk Protocol (VTP) on the switch.
Chapter 10	Configuring VLANs	Describes how to configure VLANs and private VLANs on the switch.
Chapter 11	Configuring VLAN Trunks on Fast Ethernet and Gigabit Ethernet Ports	Describes how to configure Inter-Switch Link (ISL) and IEEE 802.1Q VLAN trunks on Fast Ethernet and Gigabit Ethernet ports.
Chapter 12	Configuring Dynamic Port VLAN Membership with VMPS	Describes how to configure VLAN Membership Policy Server (VMPS) and dynamic ports on the switch.
Chapter 13	Configuring GVRP	Describes how to configure GARP VLAN Registration Protocol (GVRP) on the switch.
Part 5—Directing and Filtering Traffic		
Chapter 14	Configuring QoS	Describes how to configure quality of service (QoS).
Chapter 15	Configuring Multicast Services	Describes how to configure Cisco Group Management Protocol (CGMP), Internet Group Management Protocol (IGMP) snooping, and GARP Multicast Registration Protocol (GMRP) on the switch.
Chapter 16	Configuring Port Security	Describes how to configure port security on the switch.
Chapter 17	Configuring the IP Permit List	Describes how to configure IP permit list on the switch.
Chapter 18	Configuring Protocol Filtering	Describes how to configure protocol filtering on Ethernet, Fast Ethernet, and Gigabit Ethernet ports.
Part 6—Monitoring and Managing the Switch		
Chapter 19	Checking Port Status and Connectivity	Describes how to display information about modules and switch ports and how to check connectivity using ping, Telnet, and IP traceroute.
Chapter 20	Configuring CDP	Describes how to configure Cisco Discovery Protocol (CDP) on the switch.
Chapter 21	Using Switch TopN Reports	Describes how to generate switch TopN reports on the switch.
Chapter 22	Configuring UDLD	Describes how to configure the UniDirectional Link Detection (UDLD) protocol on the switch.
Chapter 23	Configuring SNMP	Describes how to configure the Simple Network Management Protocol (SNMP) on the switch.

Chapter	Title	Description
Chapter 24	Configuring RMON	Describes how to configure Remote Monitoring (RMON) on the switch.
Chapter 25	Configuring SPAN and RSPAN	Describes how to configure the Switch Port Analyzer (SPAN) on the switch.
Part 7—Administering the Switch		
Chapter 26	Administering the Switch	Describes how to set the system name, create a login banner, and perform other administrative tasks on the switch.
Chapter 27	Configuring Switch Access Using AAA	Describes how to configure local and TACACS+ authentication on the switch.
Chapter 28	Modifying the Switch Boot Configuration	Describes how to modify the switch boot configuration, including the BOOT environment variable and the configuration register.
Chapter 29	Working with System Software Images	Describes how to download and upload system software images.
Chapter 30	Using the Flash File System	Describes how to work with the Flash file system available on some switch platforms.
Chapter 31	Working with Configuration Files	Describes how to create, download, and upload switch configuration files.
Chapter 32	Configuring Switch Acceleration	Describes the Backplane Channel module and the switch acceleration feature.
Chapter 33	Configuring System Message Logging	Describes how to configure system message logging (syslog) on the switch.
Chapter 34	Configuring DNS	Describes how to configure Domain Name System (DNS) on the switch.
Chapter 35	Configuring NTP	Describes how to configure Network Time Protocol (NTP) on the switch.

Related Documentation

The following publications are available for the Catalyst enterprise LAN switches:

- *Catalyst 4000 Family Installation Guide*
- *Catalyst 4912G Installation Guide*
- *Catalyst 2948G and 2980G Installation Guide*
- *Quick Software Configuration—Catalyst 5000 Family, 4000 Family, 2926G Series, 2948G, and 2980G Switches*
- *Command Reference—Catalyst 4000 Family, Catalyst 2948G, and Catalyst 2980G Switches*
- *Layer 3 Switching Software Configuration Guide—Catalyst 5000 Family, 4000 Family, 2926G Series, 2926 Series, 2948G, and 2980G Switches*
- *System Message Guide—Catalyst 6000 Family, 5000 Family, 4000 Family, 2926G Series, 2948G, and 2980G Switches*
- *Release Notes for Catalyst 4000 Family Supervisor Engine Software Release 6.x*

Conventions

Throughout this publication, these conventions are used when referring to switch platforms:

- Catalyst enterprise LAN switches—Refers to the Catalyst 4000 family, Catalyst 2948G, and Catalyst 2980G switches.
- Catalyst 4000 family switches—Refers to the Catalyst 4003, Catalyst 4006, and Catalyst 4912G switches.

Command descriptions use these conventions:

boldface font	Commands and keywords are in boldface .
<i>italic font</i>	Arguments for which you supply values are in <i>italics</i> .
[]	Elements in square brackets are optional.
{ x y z }	Alternative keywords 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 or the string will include the quotation marks.

Screen examples use these conventions:

screen font	Terminal sessions and information the system displays are in <code>screen font</code> .
boldface screen font	Information you must enter is in boldface screen font .
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .
^	The symbol ^ 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.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.
.	Indicates that screen output not relevant to the example was removed to save space and preserve clarity.

Notes use these conventions:

**Note**

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

Cautions use these conventions:

**Caution**

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

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered CCO users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

Documentation Feedback

If you are reading Cisco product documentation on the World Wide Web, you can submit technical comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco.

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, for your convenience many documents contain a response card behind the front cover. Otherwise, you can mail your comments to the following address:

Cisco Systems, Inc.
Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

