

Symbols

- \$ matches the end of a string [1-7](#)
- () in commands [1-11](#)
- * matches 0 or more sequences of a pattern [1-7](#)
- + matches 1 or more sequences of a pattern [1-7](#)
- . matches any single character [1-7](#)
- ? command [1-1](#)
- ? matches 0 or 1 occurrence of a pattern [1-7](#)
- ^ matches the beginning of a string [1-7](#)
- _ matches a comma (,), left brace ({}), left parenthesis [1-7](#)
- “ [1-10](#)

Numerics

- 10-Gigabit Ethernet uplink
 - selecting [2-175](#)
 - showing the mode [2-498, 2-499](#)
- 802.1Q trunk ports and native VLANs [2-826](#)
- 802.1Q tunnel ports
 - configuring [2-768](#)
- 802.1S Multiple Spanning Tree
 - see MST
- 802.1X
 - configuring for multiple hosts [2-142](#)
 - configuring for single host [2-142](#)
 - configuring multiple domains [2-142](#)
 - disabling port control [2-136](#)
 - enabling port control [2-136](#)
- 802.1X Critical Authentication
 - disabling on a port [2-137](#)
 - disabling on a VLAN [2-140](#)
- EAPOL

- disabling send success packets [2-138](#)
 - enabling send success packets [2-138](#)
- enabling on a port [2-137](#)
- enabling on a VLAN [2-140](#)
- returning delay time to default setting [2-139](#)
- setting delay time on a port [2-139](#)
- 802.1X critical authentication
 - configure parameters [2-23](#)
- 802.1X critical recovery delay, configuring [2-23](#)
- 802.1X Port Based Authentication
 - debugging 802.1X Port Based Authentication [2-96](#)
 - displaying port based authentication [2-482](#)
 - enabling accounting for authentication sessions [2-4](#)
 - enabling authentication on the system [2-154](#)
 - enabling guest VLAN [2-141](#)
 - enabling guest VLAN supplicant [2-134, 2-142](#)
 - enabling manual control of auth state [2-150](#)
 - enabling periodic re-authentication of the client [2-153](#)
 - initializing re-authentication of dot1x ports [2-152](#)
 - initializing state machines [2-145](#)
 - receive session termination message upon reboot [2-5](#)
 - setting maximum number for EAP requests [2-148](#)
 - setting the reauthentication timer [2-155](#)

A

- abbreviating commands
 - context-sensitive help [1-1](#)
- Access Gateway Module
 - connecting to a module [2-20](#)
 - connecting to a remote module [2-418](#)
 - connecting to a specific remote module [2-430](#)
- access-group

- displaying mac interface [2-605](#)
- show mode interface [2-363, 2-449, 2-659](#)
- access groups
 - IP [2-6](#)
- access lists
 - clearing an access template [2-60](#)
 - defining ARP [2-19](#)
 - displaying ARP information [2-453](#)
 - See also ACLs, MAC ACLs, and VACLs
- access maps
 - applying with VLAN filter [2-828](#)
- access-node-identifier, setting for the switch [2-367](#)
- access-policies, applying using host-mode [2-27](#)
- ACLs
 - access-group mode [2-6](#)
 - balancing hardware regions [2-12](#)
 - capturing control packets [2-8](#)
 - determining ACL hardware programming [2-10](#)
 - disabling hardware statistics [2-170](#)
 - displaying mac access-group interface [2-605](#)
 - enabling hardware statistics [2-170](#)
 - using ACL naming conventions for MAC ACLs [2-282](#)
- action clause
 - specifying drop or forward action in a VACL [2-13](#)
- addresses, configuring a maximum [2-359](#)
- adjacency
 - debugging the adjacency table [2-89](#)
 - disabling the debug facility [2-89](#)
 - displaying information about the adjacency table [2-450](#)
 - displaying IPC table entries [2-89](#)
- aggregate policer
 - displaying information [2-660](#)
- aging time
 - displaying MAC address aging time [2-608](#)
 - MAC address table [2-285](#)
- alarms
 - displaying operational status [2-486](#)
- alternation
 - description [1-10](#)
- anchoring
 - description [1-10](#)
- anycp, show multicast [2-452](#)
- ANCP client
 - port identifier [2-14](#)
 - remote server [2-15](#)
 - set router to become [2-16](#)
- ARP
 - access list, displaying detailed information [2-453](#)
 - defining access-lists [2-19](#)
- ARP inspection
 - enforce certain types of checking [2-192](#)
- ARP packet
 - deny based on DHCP bindings [2-130](#)
 - permit based on DHCP bindings [2-332](#)
- authentication [2-23, 2-29](#)
 - changing the control-direction [2-21](#)
 - configure actions for events
 - configuring the actions [2-24](#)
 - configuring port-control [2-33](#)
 - enabling reauthentication [2-32](#)
 - enabling Webauth fallback [2-26](#)
 - host-mode configuration [2-27](#)
 - setting priority of methods [2-35](#)
 - setting the timer [2-37](#)
 - setting username [2-813](#)
 - specifying the order of methods [2-30](#)
 - using an MD5-type encryption method [2-813](#)
 - verifying MD5 signature [2-815](#)
 - verifying the checksum for Flash memory [2-815](#)
- authentication control-direction command [2-21](#)
- authentication critical recovery delay command [2-23](#)
- authentication event command [2-24](#)
- authentication fallback command [2-26](#)
- authentication host-mode [2-27](#)
- authentication methods, setting priority [2-35](#)

authentication methods, specifying the order of attempts [2-30](#)

authentication open command [2-29](#)

authentication order command [2-30](#)

authentication periodic command [2-32](#)

authentication port-control command [2-33](#)

authentication priority command [2-35](#)

authentication timer, setting [2-37](#)

authentication timer command [2-37](#)

auth fail VLAN

- enable on a port [2-135](#)
- set max number of attempts [2-134](#)

Auth Manager

- configuring
 - authentication timer [2-37](#)

authorization state

- enabling manual control [2-150](#)

authorization state of a controlled port [2-150](#)

automatic installation

- displaying status [2-458](#)

automatic medium-dependent interface crossover

- See Auto-MDIX

Auto-MDIX

- disabling [2-314](#)
- enabling [2-314](#)

auto-negotiate interface speed

- example [2-757](#)

auto-QoS

- configuring for VoIP [2-39](#)
- displaying configuration [2-459](#)

B

baby giants

- displaying the system MTU setting [2-691](#)
- setting the maximum Layer 2 payload size [2-793](#)

BackboneFast

- displaying debugging messages [2-117](#)
- displaying spanning tree status [2-681](#)

- enabling debugging [2-117](#)

bandwidth command [2-43](#)

bindings

- store for DHCP snooping [2-204](#)

BOOT environment variable

- displaying information [2-462](#)

bootflash

- displaying information [2-460](#)

BPDUs

- debugging spanning tree activities [2-115](#)

bridge protocol data units

- See BPDUs

broadcast

- counters [2-86](#)

broadcast suppression level

- configuring [2-758, 2-760](#)
- enabling [2-758, 2-760](#)

C

cable diagnostics

- TDR
 - displaying test results [2-463](#)
 - testing conditions of copper cables [2-795](#)

Catalyst 4507R [2-355](#)

CDP

- configuring tunneling encapsulation rate [2-272](#)
- displaying
 - neighbor information [2-465](#)
- enabling protocol tunneling for [2-267](#)
- set drop threshold for [2-270](#)

CEF

- displaying next-hop information [2-535](#)
- displaying VLAN configuration information [2-535](#)

chassis

- displaying
 - chassis MAC address ranges [2-602](#)
 - current and peak traffic meter readings [2-602](#)
 - percentage of backplane utilization [2-602](#)

- switching clock failure recovery mode [2-602](#)
 - circuit-id
 - setting for an interface [2-369](#)
 - circuit-id, setting for an interface VLAN range [2-371](#)
 - cisco-desktop
 - macro apply [2-292](#)
 - Cisco Express Forwarding
 - See CEF
 - cisco-phone
 - macro apply [2-294](#)
 - cisco-router
 - macro apply [2-296](#)
 - cisco-switch
 - macro apply [2-298](#)
 - class maps
 - creating [2-53](#)
 - defining the match criteria [2-307](#)
 - clear commands
 - clearing Gigabit Ethernet interfaces [2-58](#)
 - clearing IGMP group cache entries [2-67](#)
 - clearing interface counters [2-55](#)
 - clearing IP access lists [2-60, 2-61](#)
 - clearing IP ARP inspection statistics VLAN [2-62](#)
 - clearing IP DHCP snooping database statistics [2-66](#)
 - clearing MFIB counters and routes [2-70](#)
 - clearing MFIB fastdrop entries [2-71](#)
 - clearing PAgP channel information [2-76](#)
 - clearing QoS aggregate counters [2-80](#)
 - clearing VLAN interfaces [2-59](#)
 - CLI string search
 - anchoring [1-10](#)
 - expressions [1-7](#)
 - filtering [1-6](#)
 - multiple-character patterns [1-8](#)
 - multipliers [1-9](#)
 - parentheses for recall [1-11](#)
 - searching outputs [1-6](#)
 - single-character patterns [1-7](#)
 - using [1-6](#)
 - command modes
 - accessing privileged EXEC mode [1-5](#)
 - exiting [1-5](#)
 - understanding user EXEC and configuration modes [1-5](#)
 - condition interface
 - debugging interface-related activities [2-91](#)
 - condition vlan
 - debugging VLAN output [2-94](#)
 - configuration, saving [1-11](#)
 - configuring
 - root as secondary [2-741](#)
 - configuring a SPAN session to monitor
 - limit SPAN source traffic [2-319](#)
 - configuring critical recovery [2-23](#)
 - configuring forward delay [2-737](#)
 - configuring root as primary [2-741](#)
 - CoPP
 - attaching
 - policy map to control plane [2-428](#)
 - displaying
 - policy-map class information [2-634](#)
 - entering configuration mode [2-84](#)
 - removing
 - service policy from control plane [2-428](#)
 - CoS
 - assigning to Layer 2 protocol packets [2-269](#)
 - CoS QoS default
 - defining value on an interface [2-394](#)
 - Cost of Service
 - See QoS CoS
 - counters
 - clearing interface counters [2-55](#)
 - critical authentication, configure 802.1X parameters [2-23](#)
 - critical recovery, configuring 802.1X parameter [2-23](#)
-
- ## D
- DAI

- clear statistics [2-62](#)
- DBL
 - displaying qos dbl [2-661](#)
 - enabling DBL globally on the switch [2-395](#)
- debug commands
 - debugging backup events [2-90](#)
 - debugging DHCP snooping events [2-101](#)
 - debugging DHCP snooping messages [2-102](#)
 - debugging EtherChannel/PAgP/shim [2-97](#)
 - debugging IPC activity [2-100](#)
 - debugging IP DHCP snooping security messages [2-103](#)
 - debugging NVRAM activities [2-106](#)
 - debugging PAgP activities [2-107](#)
 - debugging port manager activities [2-110](#)
 - debugging spanning tree activities [2-115](#)
 - debugging spanning tree backbonefast [2-117](#)
 - debugging spanning tree UplinkFast [2-120](#)
 - debugging supervisor redundancy [2-114](#)
 - debugging VLAN manager activities [2-121](#)
 - displaying monitor activity [2-105](#)
 - displaying the adjacency table [2-89](#)
 - enabling debug dot1x [2-96](#)
 - enabling debugging messages for ISL VLAN IDs [2-124](#)
 - enabling debugging messages for VTP [2-125](#)
 - enabling debugging of UDLD activity [2-126](#)
 - enabling switch shim debugging [2-118](#)
 - enabling VLAN manager file system error tests [2-122](#)
 - limiting debugging output for VLANs [2-94](#)
 - limiting interface debugging output [2-91](#)
 - limiting output for debugging standby state changes [2-92](#)
 - shortcut to the debug condition interface [2-99](#)
- debugging
 - activity monitoring [2-105](#)
 - DHCP snooping events [2-101](#)
 - DHCP snooping packets [2-102](#)
 - IPC activities [2-100](#)
 - IP DHCP snooping security packets [2-103](#)
 - NVRAM activities [2-106](#)
 - PAgP activities [2-107](#)
 - PAgP shim [2-97](#)
 - PM activities [2-110](#)
 - PPPoE Intermediate Agent [2-112](#)
 - spanning tree BackboneFast events [2-117](#)
 - spanning tree switch shim [2-118](#)
 - spanning tree UplinkFast events [2-120](#)
 - VLAN manager activities [2-121](#)
 - VLAN manager IOS file system error tests [2-122](#)
 - VTP protocol debug messages [2-125](#)
- debug spanning tree switch [2-118](#)
- debug sw-vlan vtp [2-125](#)
- default CoS value [2-394](#)
- default form of a command, using [1-6](#)
- defining egress DSCP-to-CoS mapping [2-401](#)
- DHCP
 - clearing database statistics [2-66](#)
- DHCP bindings
 - configuring bindings [2-202](#)
 - deny ARP packet based on matches [2-130](#)
 - permit ARP packet based on matches [2-332](#)
- DHCP snooping
 - clearing binding entries [2-63](#)
 - clearing database [2-65](#)
 - displaying binding table [2-538](#)
 - displaying configuration information [2-536](#)
 - displaying status of DHCP database [2-541](#)
 - displaying status of error detection [2-489](#)
 - enabling DHCP globally [2-201](#)
 - enabling IP source guard [2-241](#)
 - enabling on a VLAN [2-211](#)
 - enabling option 82 [2-206](#), [2-208](#)
 - enabling option-82 [2-213](#)
 - enabling rate limiting on an interface [2-209](#)
 - enabling trust on an interface [2-210](#)
 - establishing binding configuration [2-202](#)
 - renew binding database [2-420](#)
 - store generated bindings [2-204](#)

- diagnostic test
 - bootup packet memory [2-476](#)
 - displaying attributes [2-470](#)
 - display module-based results [2-472](#)
 - running [2-133](#)
 - show results for TDR [2-463](#)
 - testing conditions of copper cables [2-795](#)
 - displaying error disable recovery [2-490](#)
 - displaying inline power status [2-649](#)
 - displaying monitoring activity [2-105](#)
 - displaying PoE policing and monitoring status [2-656](#)
 - displaying SEEPROM information
 - GBIC [2-500](#)
 - displaying SPAN session information [2-690, 2-759](#)
 - document conventions [1-xx](#)
 - document organization [1-xix](#)
 - DoS
 - CoPP
 - attaching policy map to control plane [2-428](#)
 - displaying policy-map class information [2-634](#)
 - entering configuration mode [2-84](#)
 - removing service policy from control plane [2-428](#)
 - entering
 - CoPP configuration mode [2-84](#)
 - DOS attack
 - protecting system's resources [2-187](#)
 - drop threshold, Layer 2 protocol tunneling [2-270](#)
 - DSCP rewrite for IP packets
 - enable [2-405](#)
 - dual-capable port
 - selecting a connector [2-316](#)
 - duplex mode
 - configuring autonegotiation on an interface [2-157](#)
 - configuring full duplex on an interface [2-157](#)
 - configuring half duplex on an interface [2-157](#)
 - dynamic ARP inspection
 - preventing [2-187](#)
 - Dynamic Buffer Limiting
 - See DBL
 - Dynamic Host Configuration Protocol
 - See DHCP
-
- E**
- EAP
 - restarting authentication process [2-148](#)
 - EDCS-587028 [2-454, 2-602](#)
 - EIGRP (Enhanced IGRP)
 - filters
 - routing updates, preventing [2-329](#)
 - enabling
 - debugging for UDLD [2-126](#)
 - voice VLANs [2-761](#)
 - enabling open access [2-29](#)
 - environmental
 - alarms [2-486](#)
 - displaying information [2-486](#)
 - status [2-486](#)
 - temperature [2-486](#)
 - erase a file [2-159](#)
 - error disable detection
 - enabling error disable detection [2-162](#)
 - error-disabled state
 - displaying [2-519](#)
 - error disable recovery
 - configuring recovery mechanism variables [2-164](#)
 - displaying recovery timer information [2-490](#)
 - enabling ARP inspection timeout [2-164](#)
 - specifying recovery cause [2-164](#)
 - EtherChannel
 - assigning interfaces to EtherChannel groups [2-46](#)
 - debugging EtherChannel [2-97](#)
 - debugging PAgP shim [2-97](#)
 - debugging spanning tree activities [2-115](#)
 - displaying information for a channel [2-492](#)
 - removing interfaces from EtherChannel groups [2-46](#)
 - EtherChannel guard
 - detecting STP misconfiguration [2-727](#)

Explicit Host Tracking

- clearing the database [2-69](#)
- enabling per-VLAN [2-225](#)

expressions

- matching multiple expression occurrences [1-9](#)
- multiple-character patterns [1-8](#)
- multiplying pattern occurrence [1-11](#)
- single-character patterns [1-7](#)

Extensible Authentication Protocol

- See EAP

F

fallback profile, specifying [2-26](#)

field replaceable unit (FRU)

- displaying status information [2-486](#)

filters

EIGRP

- routing updates, preventing [2-329](#)

Flash memory file system

- displaying file system information [2-460](#)
- verifying checksum [2-815](#)

flow control

- configuring a gigabit interface for pause frames [2-167](#)
- displaying per-interface statistics for flow control [2-496](#)

G

GBIC

- displaying SEEPROM information [2-500](#)

generic-error-message, setting for the switch [2-367](#)

Gigabit Ethernet interface

- clearing the hardware logic [2-58](#)

Gigabit Ethernet uplink

- selecting [2-175](#)
- showing the mode [2-498, 2-499](#)

global configuration mode

- using [1-5](#)

H

hardware module

- resetting a module by toggling the power [2-172](#)

hardware statistics

- disabling [2-170](#)
- enabling [2-170](#)

hardware uplink

- changing the mode [2-173](#)
- selecting the mode [2-175](#)
- showing the mode [2-498, 2-499](#)

helper addresses, IP [2-556](#)

hot standby protocol

- debugging [2-92](#)
- disabling debugging [2-92](#)
- limiting output [2-92](#)

I

identifier-string, setting for the switch [2-367](#)

ID mapping, creating an ANCP client [2-14](#)

IDPROMs

displaying SEEPROM information

- chassis [2-500](#)
- clock module [2-500](#)
- fan trays [2-500](#)
- module [2-500](#)
- mux buffer [2-500](#)
- power supplies [2-500](#)
- supervisor engine [2-500](#)

ifIndex persistence

- clearing SNMP ifIndex commands [2-713](#)
- compress SNMP ifIndex table format [2-720](#)
- disabling globally [2-719](#)
- disabling on an interface [2-715](#)
- enabling globally [2-719](#)
- enabling on an interface [2-715](#)

IGMP

- applying filters for host joining on Layer 2 interfaces [2-215](#)
- clearing IGMP group cache entries [2-67](#)
- configuring frequency for IGMP host-query messages [2-218](#)
- creating an IGMP profile [2-217](#)
- displaying IGMP interface configuration information [2-543](#)
- displaying profiles [2-545](#)
- setting maximum group numbers [2-216](#)
- IGMP profiles
 - displaying [2-545](#)
- IGMP snooping
 - clearing the EHT database [2-69](#)
 - configuring a Layer 2 interface as a group member [2-231](#)
 - configuring a Layer 2 interface as a multicast router [2-229](#)
 - configuring a static VLAN interface [2-231](#)
 - displaying multicast information [2-552](#)
 - displaying VLAN information [2-546, 2-550, 2-553](#)
 - enabling [2-220](#)
 - enabling immediate-leave processing [2-227](#)
 - enabling on a VLAN [2-224](#)
 - enabling per-VLAN Explicit Host Tracking [2-225](#)
- informs
 - enabling [2-717](#)
- inline power
 - displaying inline power status [2-649](#)
- In Service Software Upgrade
 - See ISSU
- inspection log
 - clearing log buffer [2-61](#)
- interface
 - displaying suppressed multicast bytes [2-513](#)
- interface capabilities
 - displaying [2-509](#)
- interface configuration mode
 - summary [1-5](#)
- interface link
 - display cable disconnect time [2-516](#)
- interfaces
 - configuring dot1q tunnel ports [2-768](#)
 - creating an interface-range macro [2-129](#)
 - debugging output of interface related activities [2-91](#)
 - displaying description [2-515](#)
 - displaying error-disabled state [2-519](#)
 - displaying information when tunneling is enabled [2-596](#)
 - displaying status [2-515](#)
 - displaying traffic for a specific interface [2-506](#)
 - entering interface configuration mode [2-179](#)
 - executing a command on multiple ports in a range [2-182](#)
 - selecting an interface to configure [2-179](#)
 - setting a CoS value for Layer 2 packets [2-269](#)
 - setting drop threshold for Layer 2 packets [2-270](#)
 - setting the interface type [2-768](#)
- interface speed
 - configuring interface speed [2-755](#)
- interface transceiver
 - displaying diagnostic data [2-523](#)
- internal VLAN allocation
 - configuring [2-829](#)
 - default setting [2-829](#)
 - displaying allocation information [2-703](#)
- Internet Group Management Protocol
 - See IGMP
- IP address of remote ANCP server, setting [2-15](#)
- IP ARP
 - applying ARP ACL to VLAN [2-185](#)
 - clearing inspection statistics [2-62](#)
 - clearing status of log buffer [2-61](#)
 - controlling packet logging [2-196](#)
 - enabling dynamic inspection [2-194](#)
 - limit rate of incoming requests [2-187](#)
 - set per-port config trust state [2-191](#)
 - showing status of dynamic ARP inspection [2-530](#)
 - showing status of log buffer [2-533](#)

- IPC
 - debugging IPC activities [2-100](#)
 - IP DHCP Snooping
 - See DHCP snooping
 - IP header validation
 - disabling [2-240](#)
 - enabling [2-240](#)
 - IP interfaces
 - displaying usability status [2-555](#)
 - IP multicast
 - displaying multicast routing table information [2-561](#)
 - IP packets
 - enable DSCP rewrite [2-405](#)
 - IP phone and standard desktop
 - enabling Cisco-recommended features [2-294](#)
 - IP Port Security
 - enabling [2-241](#)
 - IP source binding
 - adding or deleting [2-237](#)
 - displaying bindingstagging [2-566](#)
 - IP source guard
 - debugging messages [2-103](#)
 - displaying configuration and filters [2-567](#)
 - enabling on DHCP snooping [2-241](#)
 - IPv6 MLD
 - configuring queries [2-247, 2-249](#)
 - configuring snooping
 - last-listener-query-intervals [2-249](#)
 - configuring snooping
 - listener-message-suppression [2-251](#)
 - configuring snooping robustness-variables [2-252](#)
 - configuring ten topology change notifications [2-254](#)
 - counting snooping last-listener-queries [2-247](#)
 - displaying information [2-572](#)
 - displaying ports for a switch or VLAN [2-574](#)
 - displaying querier information [2-575](#)
 - enabling snooping [2-245](#)
 - enabling snooping on a VLAN [2-255](#)
 - ISSU
 - canceling process [2-257](#)
 - configuring rollback timer [2-266](#)
 - displaying capability [2-577](#)
 - displaying client information [2-579](#)
 - displaying compatibility matrix [2-581](#)
 - displaying endpoint information [2-586](#)
 - displaying entities [2-587](#)
 - displaying FSM session [2-588](#)
 - displaying messages [2-589](#)
 - displaying negotiated [2-591](#)
 - displaying rollback-timer [2-592](#)
 - displaying session information [2-593](#)
 - displaying software version [2-594](#)
 - displaying state [2-594](#)
 - forcing switchover to standby supervisor engine [2-265](#)
 - loading new image [2-261](#)
 - starting process [2-263](#)
 - stopping rollback timer [2-259](#)
-
- ## J
- Jumbo frames
 - enabling jumbo frames [2-325](#)
-
- ## L
- LACP
 - deselecting channeling protocol [2-48](#)
 - enabling LACP on an interface [2-48](#)
 - setting channeling protocol [2-48](#)
 - Layer 2
 - displaying ACL configuration [2-605](#)
 - Layer 2 interface type
 - specifying a nontrunking, nontagged single VLAN interface [2-768](#)
 - specifying a trunking VLAN interface [2-768](#)
 - Layer 2 protocol ports
 - displaying [2-596](#)

Layer 2 protocol tunneling error recovery [2-272](#)

Layer 2 switching

enabling voice VLANs [2-761](#)

modifying switching characteristics [2-761](#)

Layer 2 traceroute

IP addresses [2-800](#)

Layer 3 switching

displaying information about an adjacency table [2-450](#)

displaying port status [2-521](#)

displaying status of native VLAN tagging [2-521](#)

link-status event messages

disabling

globally [2-276, 2-279](#)

on an interface [2-277, 2-280](#)

enabling

globally [2-276, 2-279](#)

on an interface [2-277, 2-280](#)

log buffer

show status [2-533](#)

logging

controlling IP ARP packets [2-196](#)

M

MAB, display information [2-602](#)

MAB, enable and configure [2-304](#)

mab command [2-304](#)

MAC Access Control Lists

See MAC ACLs

MAC ACLs

defining extended MAC access list [2-282](#)

displaying MAC ACL information [2-700](#)

naming an ACL [2-282](#)

MAC address filtering

configuring [2-291](#)

disabling [2-291](#)

enabling [2-291](#)

MAC address table

adding static entries [2-303](#)

clearing dynamic entries [2-73, 2-75](#)

configuring aging time [2-285](#)

displaying dynamic table entry information [2-612](#)

displaying entry count [2-610](#)

displaying information [2-606](#)

displaying interface-based information [2-614](#)

displaying multicast information [2-616](#)

displaying notification information [2-618](#)

displaying protocol-based information [2-620](#)

displaying static table entry information [2-622](#)

displaying the MAC address aging time [2-608](#)

displaying VLAN-based information [2-625](#)

enabling authentication bypass [2-146](#)

enabling notifications [2-289](#)

learning in the protocol buckets [2-286](#)

removing static entries [2-303](#)

MAC address tables

adding static entries [2-291](#)

deleting secure or specific addresses [2-77](#)

disabling IGMP snooping on static MAC addresses [2-291](#)

removing static entries [2-291](#)

mac-address-table static [2-291](#)

MAC address unicast filtering

dropping unicast traffic [2-291](#)

MAC authentication bypass (MAB), display information [2-602](#)

MAC authorization bypass(MAB), enable and configure [2-304](#)

macro

displaying descriptions [2-302](#)

macro keywords

help strings [2-2](#)

macros

adding a global description [2-302](#)

cisco global [2-300](#)

system-cpp [2-301](#)

mapping secondary VLANs to MST instance [2-384](#)

mapping VLAN(s) to an MST instance [2-177](#)

- match (class-map configuration) command [2-307](#)
- maximum transmission unit (MTU)
 - displaying the system MTU setting [2-691](#)
 - setting the maximum Layer 2 payload size [2-793](#)
- MD5
 - verifying MD5 signature [2-815](#)
- message digest 5
 - See MD5
- MFIB
 - clearing ip mfib counters [2-70](#)
 - clearing ip mfib fastdrop [2-71](#)
 - displaying all active MFIB routes [2-558](#)
 - displaying MFIB fastdrop table entries [2-560](#)
 - enabling IP MFIB fastdrops [2-234](#)
- MLD
 - configuring snooping
 - last-listener-query-intervals [2-249](#)
 - configuring snooping
 - listener-message-suppression [2-251](#)
 - configuring snooping robustness-variables [2-252](#)
 - configuring topology change notifications [2-254](#)
 - counting snooping last-listener-queries [2-247](#)
 - enabling snooping [2-245](#)
 - enabling snooping on a VLAN [2-255](#)
- MLD snooping
 - displaying [2-575](#)
- modes
 - access-group [2-6](#)
 - show access-group interface [2-363](#), [2-449](#), [2-659](#)
 - switching between PVST+, MST, and Rapid PVST [2-732](#)
 - See also command modes
- module password clearing [2-57](#)
- module reset
 - resetting a module by toggling the power [2-172](#)
- More-- prompt
 - filter [1-6](#)
 - search [1-7](#)
- MST
 - designating the primary and secondary root [2-741](#)
 - displaying MST protocol information [2-686](#)
 - displaying region configuration information [2-686](#)
 - displaying spanning tree information [2-686](#)
 - entering MST configuration submode [2-735](#)
 - setting configuration revision number [2-422](#)
 - setting path cost and port priority for instances [2-733](#)
 - setting the forward delay timer for all instances [2-737](#)
 - setting the hello-time delay timer for all instances [2-738](#)
 - setting the max-age timer for all instances [2-739](#)
 - setting the MST region name [2-326](#)
 - specifying the maximum number of hops [2-740](#)
 - switching between PVST+ and Rapid PVST [2-732](#)
 - using the MST configuration submode revision command [2-422](#)
 - using the submode name command [2-326](#)
- MTU
 - displaying global MTU settings [2-691](#)
- multi-auth, setting [2-27](#)
- Multicast Listener Discovery
 - See MLD
- multicast
 - counters [2-86](#)
 - enabling storm control [2-760](#)
 - show ancp [2-452](#)
- multicast/unicast packets
 - prevent forwarding [2-767](#)
- Multicast Forwarding Information Base
 - See MFIB
- multi-domain, setting [2-27](#)
- multiple-character patterns [1-8](#)
- Multiple Spanning Tree
 - See MST

N

- native VLAN
 - controlling tagging of traffic [2-788](#)
 - displaying ports eligible for native tagging [2-702](#)

- displaying ports eligible for tagging [2-702](#)
- enabling tagging on 802.1Q trunk ports [2-826](#)
- specifying the tagging of traffic [2-789](#)

NetFlow

- enabling NetFlow statistics [2-235](#)
- including infer fields in routing statistics [2-235](#)

next-hop

- displaying CEF VLAN information [2-535](#)

no form of a command, using [1-6](#)

NVRAM

- debugging NVRAM activities [2-106](#)

O

open access on a port, enabling [2-29](#)

output

- pattern searches [1-7](#)

P

packet counters (statistics)

- clear for PPPoE Intermediate Agent [2-79](#)

packet counters, display for PPPoE Intermediate Agent [2-657](#)

packet forwarding

- prevent unknown packets [2-767](#)

packet memory failure

- direct switch action upon detection [2-132](#)

packet memory test

- bootup, displaying results [2-476](#), [2-478](#)
- ongoing, displaying results [2-480](#)

PACL

- access-group mode [2-6](#)

paging prompt

- see --More-- prompt

PAGP

- clearing port channel information [2-76](#)
- debugging PAGP activity [2-107](#)
- deselecting channeling protocol [2-48](#)

displaying port channel information [2-631](#)

hot standby mode

- returning to defaults [2-328](#)
- selecting ports [2-328](#)

input interface of incoming packets

- learning [2-327](#)
- returning to defaults [2-327](#)

setting channeling protocol [2-48](#)

parentheses [1-11](#)

password

- clearing on an intelligent line module [2-57](#)
- establishing enhanced password security [2-813](#)
- setting username [2-813](#)

PBR

- displaying route maps [1-xx](#)
- redistributing route maps [1-xx](#)

PM activities

- debugging [2-110](#)
- disabling debugging [2-110](#)

PoE policing

- configure on an interface [2-361](#)

PoE policing and monitoring

- displaying status [2-656](#)

police (percent) command [2-339](#)

police (two rates) command [2-341](#), [2-343](#)

police command [2-334](#)

policing, configure PoE [2-361](#)

policing and monitoring status

- displaying PoE [2-656](#)

Policy Based Routing

See PBR

policy maps

- creating [2-347](#)
- marking [2-432](#)

See also QoS, hierarchical policies

traffic classification

- defining the class
- defining trust states [2-803](#)

port, dual-capable

- selecting the connector [2-316](#)
- Port Aggregation Protocol
 - See PAgP
- port-based authentication
 - displaying debug messages [2-96](#)
 - displaying statistics and status [2-482](#)
 - enabling 802.1X [2-150](#)
 - host modes [2-143](#)
 - manual control of authorization state [2-150](#)
 - periodic re-authentication
 - enabling [2-153](#)
 - re-authenticating 802.1X-enabled ports [2-152](#)
 - switch-to-client frame-retransmission number [2-148](#)
- port channel
 - accessing [2-181](#)
 - creating [2-181](#)
 - displaying information [2-631](#)
 - load distribution method
 - resetting to defaults [2-349](#)
 - setting [2-349](#)
- port control, changing from unidirectional or bidirectional [2-21](#)
- port-control value, configuring [2-33](#)
- port range
 - executing [2-182](#)
- port security
 - debugging ports security [2-111](#)
 - deleting secure or specific addresses [2-77](#)
 - displaying settings for an interface or switch [2-642](#)
 - enabling [2-773](#)
 - filter source IP and MAC addresses [2-241](#)
 - setting action upon security violation [2-773](#)
 - setting the rate limit for bad packets [2-773](#)
 - sticky port [2-773](#)
- Port Trust Device
 - displaying [2-662](#)
- power status
 - displaying inline power [2-649](#)
 - displaying power status [2-649](#)
- power supply
 - configuring combined and redundant power on the Catalyst 4507R [2-355](#)
 - configuring inline power [2-352](#)
 - configuring power consumption [2-354](#)
 - displaying the SEEPROM [2-500](#)
 - setting inline power state [2-351](#)
- PPPoE Discovery
 - enable vendor-tag stripping on packetsPPPoE Server
 - enable vendor-tag stripping on Discovery packets [2-374](#)
- PPPoE Discovery packets, limit rate arriving on an interface [2-372](#)
- PPPoE Intermediate Agent
 - clear statistics (packet counters) [2-79](#)
 - debugging [2-112](#)
- pppoe intermediate-agent
 - enable intermediate agent on a switch [2-363](#)
 - enable on an interface VLAN range [2-366](#)
 - enable PPPoE Intermediate Agent on an interface [2-364](#)
 - enable vendor-tag stripping of Discovery packets [2-374](#)
 - format-type (global) [2-367](#)
 - limit rate of PPPoE Discovery packets [2-372](#)
 - set circuit-id or remote-id for an interface [2-369](#)
 - set circuit-id or remote-id for an interface VLAN range [2-371](#)
 - set trust configuration on an interface [2-372, 2-373](#)
- PPPoE Intermediate Agent, display configuration and statistics (packet counters) [2-657](#)
- priority command [2-375](#)
- priority-queue command [2-87](#)
- Private VLAN
 - See PVLANS
- privileged EXEC mode, summary [1-5](#)
- prompts
 - system [1-5](#)
- protocol tunneling
 - configuring encapsulation rate [2-272](#)
 - disabling [2-267](#)

- displaying port information [2-596](#)
- enabling [2-267](#)
- setting a CoS value for Layer 2 packets [2-269](#)
- setting a drop threshold for Layer 2 packets [2-270](#)

PVLANs

- configuring isolated, primary, and community PVLANs [2-377](#)
- controlling tagging of native VLAN traffic [2-788](#)
- disabling sticky-ARP [2-238](#)
- displaying map information for VLAN SVIs [2-518](#)
- displaying PVLAN information [2-705](#)
- enabling interface configuration mode [2-768](#)
- enabling sticky-ARP [2-238](#)
- mapping VLANs to the same SVI [2-381](#)
- specifying host ports [2-768](#)
- specifying promiscuous ports [2-768](#)

PVST+

- switching between PVST and MST [2-732](#)

Q

QoS

- account Layer 2 encapsulation [2-387](#)
- attaching a policy-map to an interface [2-423](#)
- automatic configuration [2-39](#)
- class maps
 - creating [2-53](#)
 - defining the match criteria [2-307](#)
- clearing aggregate counters [2-80](#)
- configuring auto [2-39](#)
- defining a named aggregate policer [2-389](#)
- defining default CoS value [2-394](#)
- defining ingress CoS-to-DSCP mapping [2-399](#)
- displaying aggregate policer information [2-660](#)
- displaying auto configuration [2-459](#)
- displaying class maps information [2-468](#)
- displaying configuration information [2-459](#)
- displaying configurations of policies [2-637](#)
- displaying policy map information [2-633, 2-640](#)

- displaying QoS information [2-659](#)
- displaying QoS map information [2-664](#)
- egress queue-sets
 - enabling the priority queue [2-87](#)
- enabling global configuration mode [2-385](#)
- enabling on control packets [2-392](#)
- enabling per-VLAN QoS for a Layer 2 interface [2-408](#)
- enabling QoS on an interface [2-386](#)
- hierarchical policies
 - average-rate traffic shaping on a class [2-445](#)
 - bandwidth allocation for a class [2-43, 2-52](#)
 - creating a service policy [2-426](#)
 - marking [2-432](#)
 - strict priority queueing (LLQ) [2-375](#)
- mapping DSCP values to transmit queues [2-401](#)
- mapping egress DSCP-to-CoS [2-401](#)
- mapping the DSCP-to-CoS value [2-401](#)
- policy maps

- creating [2-347](#)

- marking [2-432](#)

- traffic classifications

- trust states [2-803](#)

- setting the mapping of policed DSCP values [2-403](#)

- setting the trust state [2-406](#)

- specifying flow-based match criteria [2-310](#)

- Supervisor Engine 6-E

- setting CoS [2-434](#)

- setting DSCP [2-437](#)

- setting precedence values [2-440](#)

- setting QoS group identifiers [2-443](#)

QoS CoS

- configuring for tunneled Layer 2 protocol packets [2-269](#)

- defining default CoS value [2-394](#)

- qos dbl [2-395](#)

- quality of service

- See QoS

- question command [1-1](#)

queueing information

displaying [2-662](#)

queue limiting

configuring packet limits [2-410](#)

R

Rapid PVST

switching between PVST and MST [2-732](#)

re-authenticating 802.1X-enabled ports [2-152](#)

re-authentication

periodic [2-153](#)

set the time [2-155](#)

reauthentication, enabling [2-32](#)

reboots

restoring bindings across [2-202](#)

redundancy

accessing the main CPU [2-412](#)

changing from active to standby supervisor engine [2-416](#)

displaying information [2-666](#)

displaying ISSU config-sync failure information [2-670](#)

displaying redundancy facility information [2-666](#)

displaying RF client list [2-666](#)

displaying RF operational counters [2-666](#)

displaying RF states [2-666](#)

enabling automatic synchronization [2-42](#)

forcing switchover to standby supervisor engine [2-416](#)

mismatched command listing [2-414](#)

set the mode [2-317](#)

synchronizing the route processor configurations [2-303](#)

related documentation [1-xix](#)

remote-id, setting for an interface [2-369](#)

remote-id, setting for an interface VLAN range [2-371](#)

remote SPAN

See RSPAN

renew commands

ip dhcp snooping database [2-420](#)

resetting PVLAN trunk

setting switchport to trunk [2-768](#)

retry failed authentication, configuring [2-24](#)

rj45 connector, selecting the connector [2-316](#)

ROM monitor mode

summary [1-6](#)

Route Processor Redundancy

See redundancy

router, set to become ANCP client [2-16](#)

RPF

disabling IPv4 exists-only checks [2-243](#)

enabling IPv4 exists-only checks [2-243](#)

RPR

set the redundancy mode [2-317](#)

RSPAN

converting VLAN to RSPAN VLAN [2-419](#)

displaying list [2-707](#)

S

saving configuration changes [1-11](#)

secure address, configuring [2-357](#)

secure ports, limitations [2-774](#)

server (AAA) alive actions, configuring [2-24](#)

server (AAA) dead actions, configuring [2-24](#)

service-policy command (policy-map class) [2-426](#)

session classification, defining [2-27](#)

set the redundancy mode [2-317](#)

sfp connector, selecting the connector [2-316](#)

shape command [2-445](#)

show ancp multicast [2-452](#)

show authentication interface command [2-454](#)

show authentication registration command [2-454](#)

show authentication sessions command [2-454](#)

show commands

filtering parameters [1-7](#)

searching and filtering [1-6](#)

show platform commands [1-11](#)

- show mab command [2-602](#)
- Simple Network Management Protocol
 - See SNMP
- single-character patterns
 - special characters [1-7](#)
- single-host, setting [2-27](#)
- slaveslot0
 - displaying information on the standby supervisor [2-677](#)
- slot0
 - displaying information about the system [2-679](#)
- SNMP
 - debugging spanning tree activities [2-115](#)
 - ifIndex persistence
 - clearing SNMP ifIndex commands [2-713](#)
 - compress SNMP ifIndex table format [2-720](#)
 - disabling globally [2-719](#)
 - disabling on an interface [2-715](#)
 - enabling globally [2-719](#)
 - enabling on an interface [2-715](#)
 - informs
 - disabling [2-717](#)
 - enabling [2-717](#)
 - traps
 - configuring to send when storm occurs [2-758](#)
 - disabling [2-717](#)
 - enabling [2-717](#)
 - mac-notification
 - adding [2-721](#)
 - removing [2-721](#)
- SPAN commands
 - configuring a SPAN session to monitor [2-319](#)
 - displaying SPAN session information [2-690, 2-759](#)
- SPAN enhancements
 - displaying status [2-629](#)
- Spanning Tree Protocol
 - See STP
- SPAN session
 - displaying session information [2-629](#)
- filter ACLs [2-319](#)
- specify encapsulation type [2-319](#)
- turn off host learning based on ingress packets [2-319](#)
- special characters
 - anchoring, table [1-10](#)
- SSO [2-317](#)
- standard desktop
 - enabling Cisco-recommended features [2-292](#)
- standard desktop and Cisco IP phone
 - enabling Cisco-recommended features [2-294](#)
- sticky address, configuring [2-358](#)
- sticky-ARP
 - disabling on PVLANS [2-238](#)
 - enabling on PVLANS [2-238](#)
- sticky port
 - deleting [2-77](#)
 - enabling security [2-773](#)
- storm control
 - configuring for action when storm occurs [2-758](#)
 - disabling suppression mode [2-489](#)
 - displaying settings [2-689](#)
 - enabling [2-758](#)
 - enabling broadcast [2-758, 2-760](#)
 - enabling multicast [2-758, 2-760](#)
 - enabling suppression mode [2-489](#)
 - enabling timer to recover from error disable [2-164](#)
 - enabling unicast [2-758, 2-760](#)
 - multicast, enabling [2-760](#)
 - setting high and low levels [2-758](#)
 - setting suppression level [2-489](#)
- STP
 - configuring link type for a port [2-730](#)
 - configuring tunneling encapsulation rate [2-272](#)
 - debugging all activities [2-115](#)
 - debugging spanning tree activities [2-115](#)
 - debugging spanning tree BackboneFast events [2-117](#)
 - debugging spanning tree UplinkFast [2-120](#)
 - detecting misconfiguration [2-727](#)
 - displaying active interfaces only [2-681](#)

- displaying BackboneFast status [2-681](#)
- displaying bridge status and configuration [2-681](#)
- displaying spanning tree debug messages [2-115](#)
- displaying summary of interface information [2-681](#)
- enabling BPDU filtering by default on all PortFast ports [2-746](#)
- enabling BPDU filtering on an interface [2-723](#)
- enabling BPDU guard by default on all PortFast ports [2-748](#)
- enabling BPDU guard on an interface [2-725](#)
- enabling extended system ID [2-728](#)
- enabling loop guard as a default on all ports [2-731](#)
- enabling PortFast by default on all access ports [2-749](#)
- enabling PortFast mode [2-744](#)
- enabling protocol tunneling for [2-267](#)
- enabling root guard [2-729](#)
- enabling spanning tree BackboneFast [2-722](#)
- enabling spanning tree on a per VLAN basis [2-753](#)
- enabling spanning tree UplinkFast [2-751](#)
- setting an interface priority [2-750](#)
- setting drop threshold for [2-270](#)
- setting pathcost [2-726](#)
- setting the default pathcost calculation method [2-743](#)
- subinterface configuration mode, summary [1-6](#)
- SVI
 - creating a Layer 3 interface on a VLAN [2-184](#)
- switching characteristics
 - excluding from link-up calculation [2-765](#)
 - modifying [2-765](#)
 - returning to interfaces
 - capture function [2-765](#)
- switchport [2-789](#)
- switchport interfaces
 - displaying status of Layer 3 port [2-521](#)
 - displaying status of native VLAN tagging [2-521](#)
- switch shim
 - debugging [2-118](#)
 - disabling debugging [2-118](#)
- switch to router connection

- enabling Cisco-recommended features [2-296](#)
- switch to switch connection
 - enabling Cisco-recommended features [2-298](#)
- switch virtual interface
 - See SVI
- sw-vlan [2-121](#)
- system prompts [1-5](#)

T

- Tab key
 - command completion [1-1](#)
- tables
 - characters with special meaning [1-7](#)
 - mac access-list extended subcommands [2-282](#)
 - multipliers [1-9](#)
 - relationship between duplex and speed commands [2-756](#)
 - show cable-diagnostics tdr command output fields [2-464](#)
 - show cdp neighbors detail field descriptions [2-467](#)
 - show cdp neighbors field descriptions [2-466](#)
 - show ip dhcp snooping command output [2-455, 2-602](#)
 - show ip interface field descriptions [2-556](#)
 - show policy-map control-plane field descriptions [2-636](#)
 - show vlan command output fields [2-706](#)
 - show vtp command output fields [2-711](#)
 - special characters [1-9](#)
 - special characters used for anchoring [1-10](#)
 - speed command options [2-310, 2-756](#)
 - valid interface types [2-179](#)
- TAC
 - displaying information useful to TAC [2-692](#)
- TCAM
 - debugging spanning tree activities [2-115](#)
- TDR
 - displaying cable diagnostic test results [2-463](#)
 - test condition of copper cables [2-795](#)

temperature readings
 displaying information [2-486](#)

Ten-Gigabit Ethernet uplink
 blocking ports on redundant Supervisor Engine 6-E [2-173](#)

timer information [2-490](#)

traffic monitor
 display status [2-602](#)

traffic shaping
 enable on an interface [2-447](#)

traps, enabling [2-717](#)

trunk encapsulation
 setting format [2-789](#)

trunk interfaces
 displaying trunk interfaces information [2-528](#)

trust configuration, setting on an interface [2-372, 2-373](#)

trust state
 setting [2-191](#)

tunnel ports
 displaying information about Layer 2 protocol [2-596](#)

TX queues
 allocating bandwidth [2-805](#)
 returning to default values [2-805](#)
 setting priority to high [2-805](#)
 specifying burst size [2-805](#)
 specifying traffic rate [2-805](#)

U

UDLD

displaying administrative and operational status [2-694](#)

enabling by default on all fiber interfaces [2-807](#)

enabling on an individual interface [2-809](#)

preventing a fiber interface from being enabled [2-809](#)

resetting all shutdown ports [2-811](#)

setting the message timer [2-807](#)

unicast

counters [2-86](#)

Unidirectional Link Detection

See UDLD

unidirection port control, changing from bidirectional [2-21](#)

unknown multicast traffic, preventing [2-767](#)

unknown unicast traffic, preventing [2-767](#)

user EXEC mode, summary [1-5](#)

username

setting password and privilege level [2-813](#)

V

VACLs

access-group mode [2-6](#)

applying VLAN access maps [2-828](#)

displaying VLAN access map information [2-700](#)

specifying an action in a VLAN access map [2-13](#)

specifying the match clause for a VLAN access-map sequence [2-305](#)

using a VLAN filter [2-828](#)

VLAN

applying an ARP ACL [2-185](#)

configuring [2-817](#)

configuring service policies [2-822](#)

converting to RSPAN VLAN [2-419](#)

displaying CEF information [2-535](#)

displaying CEF next-hop information [2-535](#)

displaying information on switch interfaces [2-546, 2-550](#)

displaying information on VLAN switch interfaces [2-553](#)

displaying information sorted by group IP address [2-546, 2-550](#)

displaying IP address and version information [2-546, 2-550](#)

displaying Layer 2 VLAN information [2-696](#)

displaying statistical information [2-627](#)

displaying VLAN information [2-698](#)

enabling dynamic ARP inspection [2-194](#)

enabling Explicit Host Tracking [2-225](#)

- enabling guest per-port [2-141](#)
- enabling guest VLAN supplicant [2-134, 2-142](#)
- entering VLAN configuration mode [2-822, 2-824](#)
- native frames
 - enabling tagging on all 802.1Q trunk ports [2-826](#)
- pruning the list for VTP [2-789](#)
- setting the list of allowed [2-789](#)
- VLAN Access Control Lists
 - See VACLs
- VLAN access map
 - See VACLs
- VLAN database
 - resetting [2-421](#)
- VLAN debugging
 - limiting output [2-94](#)
- VLAN link-up calculation
 - excluding a switch port [2-765](#)
 - including a switch port [2-765](#)
- VLAN manager
 - debugging [2-121](#)
 - disabling debugging [2-121](#)
 - IOS file system error tests
 - debugging [2-122](#)
 - disabling debugging [2-122](#)
- VLAN Query Protocol
 - See VQP
- VLAN query protocol (VQPC)
 - debugging [2-128](#)
- VLANs
 - clearing
 - counters [2-82](#)
 - clearing hardware logic [2-59](#)
 - configuring
 - internal allocation scheme [2-829](#)
 - displaying
 - internal VLAN allocation information [2-703](#)
 - RSPAN VLANs [2-707](#)
 - entering VLAN configuration mode [2-824](#)
- configuring servers [2-833](#)
- reconfirming dynamic VLAN assignments [2-128, 2-831](#)
- voice VLANs
 - enabling [2-761](#)
- VoIP
 - configuring auto-QoS [2-39](#)
- VQP
 - per-server retry count [2-832](#)
 - reconfirming dynamic VLAN assignments [2-128, 2-831](#)
- VTP
 - configuring the administrative domain name [2-837](#)
 - configuring the device in VTP client mode [2-836](#)
 - configuring the device in VTP server mode [2-840](#)
 - configuring the device in VTP transparent mode [2-841](#)
 - configuring tunnel encapsulation rate [2-272](#)
 - creating a VTP domain password [2-838](#)
 - displaying domain information [2-710](#)
 - displaying statistics information [2-710](#)
 - enabling protocol tunneling for [2-267](#)
 - enabling pruning in the VLAN database [2-839](#)
 - enabling VTP version 2 mode [2-842](#)
 - modifying the VTP configuration storage file name [2-835](#)
 - set drop threshold for [2-270](#)
- VTP protocol code
 - activating debug messages [2-125](#)
 - deactivating debug messages [2-125](#)

W

- Webauth fallback, enabling [2-26](#)

