



INDEX

Symbols

- \$ matches the end of a string **1-7**
- () in commands **1-10**
- * 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

- 802.1Q trunk ports and native VLANs **2-503**
- 802.1Q tunnel ports
 - configuring **2-462**
- 802.1s Multiple Spanning Tree
 - see MST
- 802.1x Port Based Authentication
 - allowing multiple hosts on a port **2-86**
 - debugging 802.1x Port Based Authentication **2-49**
 - displaying port based authentication **2-256**
 - enabling accounting for authentication sessions **2-3**
 - enabling authentication on the system **2-91**
 - enabling guest VLAN **2-82**
 - enabling manual control of auth state **2-87**
 - enabling periodic re-authentication of the client **2-90**
 - initializing re-authentication of dot1x ports **2-89**
 - initializing state machines **2-83**
 - receive session termination message upon reboot **2-4**
 - setting maximum number for EAP requests **2-85**

A

- abbreviating commands
- context-sensitive help **1-1**
- Access Gateway Module
 - connecting to a module **2-11**
 - connecting to a remote module **2-229**
 - connecting to a specific remote module **2-235**
- access-group
 - displaying mac interface **2-336**
 - show mode interface **2-239**
- access groups
 - IP **2-5**
- access lists
 - clearing an access template **2-26**
 - defining ARP **2-10**
 - displaying ARP information **2-240**
 - See also ACLs, MAC ACLs, and VACLs
- access maps
 - applying with VLAN filter **2-504**
- ACLs
 - access-group mode **2-5**
 - determining ACL hardware programming **2-6**
 - displaying mac access-group interface **2-336**
 - using ACL naming conventions for MAC ACLs **2-163**
- action clause
 - specifying drop or forward action in a VACL **2-8**
- adjacency
 - debugging the adjacency table **2-43**
 - disabling the debug facility **2-43**
 - displaying IPC table entries **2-43**
- aggregate policer
 - displaying information **2-369**

aging time
 displaying MAC address aging time **2-339**
 MAC address table **2-166**

alarms
 displaying operational status **2-259**

alternation
 description **1-9**

anchoring
 description **1-10**

ARP
 access list, displaying detailed information **2-240**
 defining access-lists **2-10**

ARP inspection
 enforce certain types of checking **2-118**

ARP packet
 deny based on DHCP bindings **2-79**
 permit based on DHCP bindings **2-190**

authentication
 setting username **2-494**
 using an MD5-type encryption method **2-494**
 verifying MD5 signature **2-495**
 verifying the checksum for Flash memory **2-495**

authorization state
 enabling manual control **2-87**

authorization state of a controlled port **2-87**

automatic installation
 displaying status **2-241**

auto-QoS
 configuring for VoIP **2-12**
 displaying configuration **2-242**

enabling debugging **2-68**
 bindings
 store for DHCP snooping **2-126**
 BOOT environment variable
 displaying information **2-246**
 bootflash
 displaying information **2-244**
 BPDUs
 debugging spanning tree activities **2-67**
 bridge protocol data units
 See BPDUs
 broadcast suppression level
 configuring **2-454, 2-456**
 enabling **2-454, 2-456**

C

Catalyst 4507R **2-199**
 power redundancy mode **2-201**

CDP
 configuring tunneling encapsulation rate **2-160**
 enabling protocol tunneling for **2-157**
 set drop threshold for **2-159**

CEF
 displaying next-hop information **2-300**
 displaying VLAN configuration information **2-300**

cisco-desktop
 macro apply **2-172**

Cisco Express Forwarding
 See CEF

cisco-phone
 macro apply **2-174**

cisco-router
 macro apply **2-176**

cisco-switch
 macro apply **2-178**

clear commands
 clearing Gigabit Ethernet interfaces **2-24**
 clearing IGMP group cache entries **2-31**

B

baby giants
 displaying the system MTU setting **2-394**
 setting the maximum Layer 2 payload size **2-479**

BackboneFast
 displaying debugging messages **2-68**
 displaying spanning tree status **2-385**

- clearing interface counters **2-21**
 clearing IP access lists **2-26, 2-27**
 clearing IP ARP inspection statistics VLAN **2-28**
 clearing IP DHCP snooping database **2-29**
 clearing IP DHCP snooping database statistics **2-30**
 clearing MFIB counters and routes **2-34**
 clearing MFIB fastdrop entries **2-35**
 clearing PAgP channel information **2-38**
 clearing QoS aggregate counters **2-40**
 clearing VLAN interfaces **2-25**
- CLI string search
 anchoring **1-10**
 expressions **1-7**
 filtering **1-6**
 multiple-character patterns **1-8**
 multipliers **1-9**
 parentheses for recall **1-10**
 searching outputs **1-6**
 single-character patterns **1-7**
 using **1-6**
- command modes
 accessing privileged EXEC mode **1-4**
 exiting **1-4**
 understanding user EXEC and configuration modes **1-4**
- condition interface
 debugging interface-related activities **2-45**
- condition vlan
 debugging VLAN output **2-48**
- configuration, saving **1-11**
- configuring
 root as secondary **2-437**
- configuring a SPAN session to monitor
 limit SPAN source traffic **2-182**
- configuring forward delay **2-433**
- configuring root as primary **2-437**
- CoS
 assigning to Layer 2 protocol packets **2-158**
- CoS QoS default
 defining value on an interface **2-214**
- Cost of Service
 See QoS CoS
- counters
 clearing interface counters **2-21**
-
- D**
- DAI
 clear statistics **2-28**
- DBL
 displaying qos dbl **2-370**
 enabling DBL globally on the switch **2-215**
- debug commands
 debugging backup events **2-44**
 debugging DHCP snooping events **2-54**
 debugging DHCP snooping messages **2-55**
 debugging EtherChannel/PAgP/shim **2-50**
 debugging IPC activity **2-53**
 debugging IP DHCP snooping security messages **2-56**
 debugging NVRAM activities **2-59**
 debugging PAgP activities **2-60**
 debugging port manager activities **2-63**
 debugging software MAC filter updates **2-66**
 debugging spanning tree activities **2-67**
 debugging spanning tree backbonefast **2-68**
 debugging spanning tree UplinkFast **2-71**
 debugging supervisor redundancy **2-65**
 debugging VLAN manager activities **2-72**
 displaying monitor activity **2-58**
 displaying the adjacency table **2-43**
 enabling debug dot1x **2-49**
 enabling debugging messages for ISL VLAN IDs **2-74**
 enabling debugging messages for VTP **2-75**
 enabling debugging of UDLD activity **2-76**
 enabling switch shim debugging **2-69**
 enabling VLAN manager file system error tests **2-73**
 limiting debugging output for VLANs **2-48**
 limiting interface debugging output **2-45**

- limiting output for debugging standby state changes **2-46**
- shortcut to the debug condition interface **2-52**
- debugging
 - activity monitoring **2-58**
 - DHCP snooping events **2-54**
 - DHCP snooping packets **2-55**
 - IPC activities **2-53**
 - IP DHCP snooping security packets **2-56**
 - NVRAM activities **2-59**
 - PAgP activities **2-60**
 - PAgP shim **2-50**
 - PM activities **2-63**
 - SMF address insertions and deletions **2-66**
 - spanning tree BackboneFast events **2-68**
 - spanning tree switch shim **2-69**
 - spanning tree UplinkFast events **2-71**
 - VLAN manager activities **2-72**
 - VLAN manager IOS file system error tests **2-73**
 - VTP protocol debug messages **2-75**
 - debug spanning tree switch **2-69**
 - debug sw-vlan vtp **2-75**
 - default CoS value **2-214**
 - default form of a command, using **1-6**
 - defining egress DSCP-to-CoS mapping **2-219**
 - DHCP
 - clearing database statistics **2-30**
 - DHCP bindings
 - configuring bindings **2-125**
 - deny ARP packet based on matches **2-79**
 - permit ARP packet based on matches **2-190**
 - DHCP snooping
 - clearing database **2-29**
 - displaying **2-301**
 - displaying binding table **2-302**
 - displaying status of DHCP database **2-305**
 - displaying status of error detection **2-262**
 - enabling DHCP globally **2-124**
 - enabling IP source guard **2-155**
 - enabling on a VLAN **2-131**
 - enabling option 82 **2-128**
 - enabling rate limiting on an interface **2-129**
 - enabling trust on an interface **2-130**
 - establishing binding configuration **2-125**
 - renew binding database **2-231**
 - store generated bindings **2-126**
 - diagnostic test
 - display module-based results **2-248**
 - displaying error disable recovery **2-263**
 - displaying inline power status **2-364**
 - displaying monitoring activity **2-58**
 - displaying EEPROM information GBIC **2-270**
 - displaying SPAN session information **2-393, 2-455**
 - document conventions **xvi**
 - document organization **xv**
 - DOS attack
 - protecting system's resources **2-113**
 - drop threshold, Layer 2 protocol tunneling **2-159**
 - DSCP rewrite for IP packets
 - enable **2-222**
 - duplex mode
 - configuring autonegotiation on an interface **2-94**
 - configuring full duplex on an interface **2-94**
 - configuring half duplex on an interface **2-94**
 - dynamic ARP inspection
 - preventing **2-113**
 - Dynamic Buffer Limiting
 - See DBL
 - Dynamic Host Configuration Protocol
 - See DHCP

E

 - EAP
 - restarting authentication process **2-85**
 - enabling
 - debugging for UDLD **2-76**

-
- voice VLANs [2-457](#)
- environmental
- alarms [2-259](#)
 - displaying information [2-259](#)
 - status [2-259](#)
 - temperature [2-259](#)
- error disable detection
- enabling error disable detection [2-96](#)
- error-disabled state
- displaying [2-286](#)
- error disable recovery
- configuring recovery mechanism variables [2-98](#)
 - displaying recovery timer information [2-263](#)
 - enabling ARP inspection timeout [2-98](#)
 - specifying recovery cause [2-98](#)
- EtherChannel
- assigning interfaces to EtherChannel groups [2-16](#)
 - debugging EtherChannel [2-50](#)
 - debugging PAgP shim [2-50](#)
 - debugging spanning tree activities [2-67](#)
 - displaying information for a channel [2-264](#)
 - removing interfaces from EtherChannel groups [2-16](#)
- EtherChannel guard
- detecting STP misconfiguration [2-424](#)
- Explicit Host Tracking
- clearing the database [2-33](#)
 - displaying host membership [2-313](#)
 - enabling per-VLAN [2-142](#)
- expressions
- matching multiple expression occurrences [1-9](#)
 - multiple-character patterns [1-8](#)
 - multiplying pattern occurrence [1-10](#)
 - single-character patterns [1-7](#)
- Extensible Authentication Protocol
- See EAP
-
- F**
- field replaceable unit (FRU)
- displaying status information [2-259](#)
- Flash memory file system
- displaying file system information [2-244](#)
 - verifying checksum [2-495](#)
- flow control
- configuring a gigabit interface for pause frames [2-101](#)
 - displaying per-interface statistics for flow control [2-268](#)
-
- G**
- GBIC
- displaying SEEPROM information [2-270](#)
- Gigabit Ethernet interface
- clearing the hardware logic [2-24](#)
- global configuration mode
- using [1-5](#)
-
- H**
- hardware module
- resetting a module by toggling the power [2-104](#)
- host membership on an interface
- displaying information [2-313](#)
- hot standby protocol
- debugging [2-46](#)
 - disabling debugging [2-46](#)
 - limiting output [2-46](#)
-
- I**
- IDPROMs
- displaying SEEPROM information
 - chassis [2-270](#)
 - clock module [2-270](#)
 - fan trays [2-270](#)

- module **2-270**
- mux buffer **2-270**
- power supplies **2-270**
- supervisor engine **2-270**
- ifIndex persistence
 - clearing SNMP ifIndex commands **2-413**
 - compress SNMP ifIndex table format **2-418**
 - disabling globally **2-417**
 - disabling on an interface **2-414**
 - enabling globally **2-417**
 - enabling on an interface **2-414**
- IGMP
 - applying filters for host joining on Layer 2 interfaces **2-133**
 - clearing IGMP group cache entries **2-31**
 - configuring frequency for IGMP host-query messages **2-136**
 - creating an IGMP profile **2-135**
 - displaying IGMP interface configuration information **2-307**
 - displaying profiles **2-308**
 - setting maximum group numbers **2-134**
- IGMP profiles
 - displaying **2-308**
- IGMP snooping
 - clearing the EHT database **2-33**
 - configuring a Layer 2 interface as a group member **2-146**
 - configuring a Layer 2 interface as a multicast router **2-144**
 - configuring a static VLAN interface **2-146**
 - displaying host membership **2-313**
 - displaying multicast information **2-315**
 - displaying VLAN information **2-309, 2-316**
 - enabling **2-137**
 - enabling immediate-leave processing **2-143**
 - enabling on a VLAN **2-141**
 - enabling per-VLAN Explicit Host Tracking **2-142**
- informs
 - enabling **2-415**
- inline power
 - displaying inline power status **2-364**
- inspection log
 - clearing log buffer **2-27**
- interface
 - displaying suppressed multicast bytes **2-280**
- interface capabilities
 - displaying **2-277**
- interface configuration mode
 - summary **1-5**
- interface link
 - display cable disconnect time **2-283**
- interfaces
 - configuring dot1q tunnel ports **2-462**
 - creating an interface-range macro **2-78**
 - debugging output of interface related activities **2-45**
 - displaying description **2-282**
 - displaying error-disabled state **2-286**
 - displaying information when tunneling is enabled **2-330**
 - displaying status **2-282**
 - displaying traffic for a specific interface **2-275**
 - executing a command on multiple ports in a range **2-108**
 - setting a CoS value for Layer 2 packets **2-158**
 - setting drop threshold for Layer 2 packets **2-159**
 - setting the interface type **2-462**
- interface speed
 - configuring interface speed **2-451**
- interface transceiver
 - displaying diagnostic data **2-289**
- internal VLAN allocation
 - configuring **2-505**
 - default setting **2-505**
 - displaying allocation information **2-404**
- Internet Group Management Protocol
 - See IGMP
- IP ARP
 - applying ARP ACL to VLAN **2-111**
 - clearing inspection statistics **2-28**
 - clearing status of log buffer **2-27**

- controlling packet logging [2-121](#)
 enabling dynamic inspection [2-120](#)
 limit rate of incoming requests [2-113](#)
 set per-port config trust state [2-117](#)
 showing status of dynamic ARP inspection [2-296](#)
 showing status of log buffer [2-299](#)
- IPC**
 debugging IPC activities [2-53](#)
- IP DHCP Snooping**
 See [DHCP snooping](#)
- IP header validation**
 disabling [2-154](#)
 enabling [2-154](#)
- IP multicast**
 displaying multicast routing table information [2-320](#)
- IP packets**
 enable DSCP rewrite [2-222](#)
- IP phone and standard desktop**
 enabling Cisco-recommended features [2-174](#)
- IP source binding**
 adding or deleting [2-151](#)
 displaying bindingstaging [2-325](#)
- IP source guard**
 debugging messages [2-56](#)
 displaying configuration and filters [2-326](#)
 enabling on DHCP snooping [2-155](#)
-
- J**
- Jumbo frames**
 enabling jumbo frames [2-186](#)
-
- L**
- LACP**
 deselecting channeling protocol [2-18](#)
 enabling LACP on an interface [2-18](#)
 setting channeling protocol [2-18](#)
- Layer 2**
 displaying ACL configuration [2-336](#)
Layer 2 interface type
 specifying a nontrunking, nontagged single VLAN interface [2-462](#)
 specifying a trunking VLAN interface [2-462](#)
- Layer 2 protocol ports**
 displaying [2-330](#)
- Layer 2 protocol tunneling error recovery** [2-160](#)
- Layer 2 switching**
 enabling voice VLANs [2-457](#)
 modifying switching characteristics [2-457](#)
- Layer 2 traceroute**
 IP addresses [2-483](#)
- Layer 3 switching**
 displaying port status [2-287](#)
 displaying status of native VLAN tagging [2-287](#)
- log buffer**
 show status [2-299](#)
- logging**
 controlling IP ARP packets [2-121](#)
-
- M**
- MAC Access Control Lists**
 See [MAC ACLs](#)
- MAC ACLs**
 defining extended MAC access list [2-163](#)
 displaying MAC ACL information [2-401](#)
 naming an ACL [2-163](#)
- MAC address filtering**
 configuring [2-170](#)
 disabling [2-170](#)
 enabling [2-170](#)
- MAC address table**
 adding static entries [2-180](#)
 clearing dynamic entries [2-37](#)
 configuring aging time [2-166](#)
 displaying dynamic table entry information [2-341](#)

- displaying entry count [2-340](#)
- displaying information [2-337](#)
- displaying interface-based information [2-343](#)
- displaying multicast information [2-345](#)
- displaying protocol-based information [2-347](#)
- displaying static table entry information [2-349](#)
- displaying the MAC address aging time [2-339](#)
- displaying VLAN-based information [2-351](#)
- learning in the protocol buckets [2-167](#)
- removing static entries [2-180](#)
- MAC address tables
 - adding static entries [2-170](#)
 - deleting secure or specific addresses [2-39](#)
 - disabling IGMP snooping on static MAC addresses [2-170](#)
 - removing static entries [2-170](#)
- mac-address-table static [2-170](#)
- MAC address unicast filtering
 - dropping unicast traffic [2-170](#)
- macro keywords
 - help strings [2-2](#)
- mapping secondary VLANs to MST instance [2-206](#)
- mapping VLAN(s) to an MST instance [2-105](#)
- match subcommand
 - accessing [2-19](#)
- maximum transmission unit (MTU)
 - displaying the system MTU setting [2-394](#)
 - setting the maximum Layer 2 payload size [2-479](#)
- MD5
 - verifying MD5 signature [2-495](#)
- message digest 5
 - See MD5
- MFIB
 - clearing ip mfib counters [2-34](#)
 - clearing ip mfib fastdrop [2-35](#)
 - displaying all active MFIB routes [2-317](#)
 - displaying MFIB fastdrop table entries [2-319](#)
 - enabling IP MFIB fastdrops [2-148](#)
- modes
 - access-group [2-5](#)
 - show access-group interface [2-239](#)
 - switching between PVST+, MST, and Rapid PVST [2-429](#)
 - See also command modes
- module password clearing [2-23](#)
- module reset
 - resetting a module by toggling the power [2-104](#)
- More-- prompt
 - filter [1-6](#)
 - search [1-7](#)
- MST
 - designating the primary and secondary root [2-437](#)
 - displaying MST protocol information [2-390](#)
 - displaying region configuration information [2-390](#)
 - displaying spanning tree information [2-390](#)
 - entering MST configuration submode [2-431](#)
 - setting configuration revision number [2-233](#)
 - setting path cost and port priority for instances [2-430](#)
 - setting the forward delay timer for all instances [2-433](#)
 - setting the hello-time delay timer for all instances [2-434](#)
 - setting the max-age timer for all instances [2-435](#)
 - setting the MST region name [2-187](#)
 - specifying the maximum number of hops [2-436](#)
 - switching between PVST+ and Rapid PVST [2-429](#)
 - using the MST configuration submode revision command [2-233](#)
 - using the submode name command [2-187](#)
- MTU
 - displaying global MTU settings [2-394](#)
- multicast
 - enabling storm control [2-456](#)
- multicast/unicast packets
 - prevent forwarding [2-461](#)
- Multicast Forwarding Information Base
 - See MFIB
- multiple-character patterns [1-8](#)
- multiple hosts on authorized port [2-86](#)

Multiple Spanning Tree

See MST

N

native VLAN

- controlling tagging of traffic **2-475**
- displaying ports eligible for native tagging **2-403**
- displaying ports eligible for tagging **2-403**
- enabling tagging on 802.1Q trunk ports **2-503**
- specifying the tagging of traffic **2-476**

NetFlow

- enabling NetFlow statistics **2-149**
- including infer fields in routing statistics **2-149**

next-hop

- displaying CEF VLAN information **2-300**

no form of a command, using **1-6**

NVRAM

- debugging NVRAM activities **2-59**
-

O

output

- pattern searches **1-7**
-

P

packet forwarding

- prevent unknown packets **2-461**

packet memory failure

- direct switch action upon detection **2-81**

packet memory test

- bootup, displaying results **2-252**
- ongoing, displaying results **2-254**

PACL

- access-group mode **2-5**

paging prompt

- see --More-- prompt

PAgP

- clearing port channel information **2-38**
- debugging PAgP activity **2-60**
- deselecting channeling protocol **2-18**
- displaying port channel information **2-357**
- hot standby mode
 - returning to defaults **2-189**
 - selecting ports **2-189**
- input interface of incoming packets
 - learning **2-188**
 - returning to defaults **2-188**
- setting channeling protocol **2-18**

parentheses **1-10**

password

- clearing on an intelligent line module **2-23**
- establishing enhanced password security **2-494**
- setting username **2-494**

PBR

- displaying route maps **xvi**
- redistributing route maps **xvi**

PM activities

- debugging **2-63**
- disabling debugging **2-63**

Policy Based Routing

See PBR

Port Aggregation Protocol

See PAgP

port-based authentication

- displaying debug messages **2-49**
- displaying statistics and status **2-256**
- enabling 802.1X **2-87**

manual control of authorization state **2-87**

multiple hosts on authorized port **2-86**

periodic re-authentication

- enabling **2-90**

re-authenticating 802.1X-enabled ports **2-89**

switch-to-client frame-retransmission number **2-85**

port channel

- accessing **2-107**

- creating **2-107**
 - displaying information **2-357**
 - load distribution method
 - resetting to defaults **2-194**
 - setting **2-194**
 - port range
 - executing **2-108**
 - port security
 - debugging ports security **2-64**
 - deleting secure or specific addresses **2-39**
 - enabling **2-464**
 - filter source IP and MAC addresses **2-155**
 - setting action upon security violation **2-464**
 - setting the rate limit for bad packets **2-464**
 - sticky port **2-464**
 - Port Trust Device
 - displaying **2-371**
 - power status
 - displaying inline power **2-364**
 - displaying power status **2-364**
 - power supply
 - configuring combined and redundant power on the Catalyst 4507R **2-199**
 - configuring inline power **2-196**
 - configuring power consumption **2-198**
 - configuring power redundancy on the Catalyst 4507R **2-201**
 - displaying the SEEPROM **2-270**
 - setting inline power state **2-195**
 - Private VLAN
 - See PVLANS
 - privileged EXEC mode, summary **1-5**
 - prompts
 - system **1-5**
 - protocol tunneling
 - configuring encapsulation rate **2-160**
 - disabling **2-157**
 - displaying port information **2-330**
 - enabling **2-157**
 - setting a CoS value for Layer 2 packets **2-158**
 - setting a drop threshold for Layer 2 packets **2-159**
 - PVLANS
 - configuring isolated, primary, and community PVLANS **2-202**
 - controlling tagging of native VLAN traffic **2-475**
 - disabling sticky-ARP **2-152**
 - displaying map information for VLAN SVIs **2-285**
 - displaying PVLAN information **2-406**
 - enabling interface configuration mode **2-462**
 - enabling sticky-ARP **2-152**
 - mapping VLANs to the same SVI **2-204**
 - specifying host ports **2-462**
 - specifying promiscuous ports **2-462**
 - PVST+
 - switching between PVST and MST **2-429**
-
- Q**
 - QoS
 - account Layer 2 encapsulation **2-209**
 - attaching a policy-map to an interface **2-234**
 - automatic configuration **2-12**
 - clearing aggregate counters **2-40**
 - configuring a QoS policy map **2-192**
 - configuring auto **2-12**
 - defining a named aggregate policer **2-211**
 - defining default CoS value **2-214**
 - defining ingress CoS-to-DSCP mapping **2-218**
 - displaying aggregate policer information **2-369**
 - displaying auto configuration **2-242**
 - displaying class maps information **2-247**
 - displaying configuration information **2-242**
 - displaying configurations of policies **2-360**
 - displaying policy map information **2-359**
 - displaying QoS information **2-368**
 - displaying QoS map information **2-372**
 - enabling global configuration mode **2-207**
 - enabling per-VLAN QoS for a Layer 2 interface **2-225**

enabling QoS on an interface **2-208**
 mapping DSCP values to transmit queues **2-219**
 mapping egress DSCP-to-CoS **2-219**
 mapping the DSCP-to-CoS value **2-219**
 setting the mapping of policed DSCP values **2-221**
 setting the trust state **2-223**

QoS CoS
 configuring for tunneled Layer 2 protocol packets **2-158**
 defining default CoS value **2-214**

qos dbl **2-215**

question command **1-1**

queueing information
 displaying **2-371**

R

Rapid PVST
 switching between PVST and MST **2-429**

re-authenticating 802.1X-enabled ports **2-89**

re-authentication
 periodic **2-90**

reboots
 restoring bindings across **2-125**

redundancy
 accessing the main CPU **2-226**
 changing from active to standby supervisor engine **2-227**
 displaying information **2-374**
 displaying redundancy facility information **2-374**
 displaying RF client list **2-374**
 displaying RF operational counters **2-374**
 displaying RF states **2-374**
 enabling automatic synchronization **2-15**
 forcing switchover to standby supervisor engine **2-227**
 synchronizing the route processor configurations **2-180**

related documentation **xv**

remote SPAN
 See RSPAN

renew commands

ip dhcp snooping database **2-231**
 resetting PVLAN trunk
 setting switchport to trunk **2-462**

ROM monitor mode
 summary **1-6**

root guard
 displaying root inconsistency status **2-385**

Route Processor Redundancy
 See redundancy

RSPAN
 converting VLAN to RSPAN VLAN **2-230**
 displaying list **2-408**

S

saving configuration changes **1-11**

secure ports, limitations **2-465**

show commands
 filtering parameters **1-7**
 searching and filtering **1-6**
 show platform commands **1-11**

Simple Network Management Protocol
 See SNMP

single-character patterns
 special characters **1-7**

slaveslot0
 displaying information on the standby supervisor **2-381**

slot0
 displaying information about the system **2-383**

SMF
 debugging address insertions and deletions **2-66**

SNMP
 debugging spanning tree activities **2-67**
 ifIndex persistence
 clearing SNMP ifIndex commands **2-413**
 compress SNMP ifIndex table format **2-418**
 disabling globally **2-417**
 disabling on an interface **2-414**
 enabling globally **2-417**

- enabling on an interface [2-414](#)
- informs
 - disabling [2-415](#)
 - enabling [2-415](#)
- traps
 - configuring to send when storm occurs [2-454](#)
 - disabling [2-415](#)
 - enabling [2-415](#)
- software MAC filter
 - See SMF
- SPAN commands
 - configuring a SPAN session to monitor [2-182](#)
 - displaying SPAN session information [2-393, 2-455](#)
- SPAN enhancements
 - displaying status [2-355](#)
- Spanning Tree Protocol
 - See STP
- SPAN session
 - displaying session information [2-355](#)
 - filter ACLs [2-182](#)
 - specify encapsulation type [2-182](#)
 - turn off host learning based on ingress packets [2-182](#)
- special characters
 - anchoring, table [1-10](#)
- standard desktop
 - enabling Cisco-recommended features [2-172](#)
 - standard desktop and Cisco IP phone
 - enabling Cisco-recommended features [2-174](#)
- sticky-ARP
 - disabling on PVLANS [2-152](#)
 - enabling on PVLANS [2-152](#)
- sticky port
 - deleting [2-39](#)
 - enabling security [2-464](#)
- storm control
 - configuring for action when storm occurs [2-454](#)
 - disabling suppression mode [2-262](#)
 - displaying settings [2-392](#)
 - enabling [2-454](#)
- enabling broadcast [2-454, 2-456](#)
- enabling multicast [2-454, 2-456](#)
- enabling suppression mode [2-262](#)
- enabling timer to recover from error disable [2-98](#)
- enabling unicast [2-454, 2-456](#)
- multicast, enabling [2-456](#)
- setting high and low levels [2-454](#)
- setting suppression level [2-262](#)
- STP
 - configuring link type for a port [2-427](#)
 - configuring tunneling encapsulation rate [2-160](#)
 - debugging all activities [2-67](#)
 - debugging spanning tree activities [2-67](#)
 - debugging spanning tree BackboneFast events [2-68](#)
 - debugging spanning tree UplinkFast [2-71](#)
 - detecting misconfiguration [2-424](#)
 - displaying active interfaces only [2-385](#)
 - displaying BackboneFast status [2-385](#)
 - displaying bridge status and configuration [2-385](#)
 - displaying default path cost method [2-385](#)
 - displaying spanning tree debug messages [2-67](#)
 - displaying status information [2-385](#)
 - displaying status per VLAN [2-385](#)
 - displaying summary of interface information [2-385](#)
 - displaying UplinkFast status [2-385](#)
 - enabling BPDU filtering by default on all PortFast ports [2-442](#)
 - enabling BPDU filtering on an interface [2-420](#)
 - enabling BPDU guard by default on all PortFast ports [2-444](#)
 - enabling BPDU guard on an interface [2-422](#)
 - enabling extended system ID [2-425](#)
 - enabling loop guard as a default on all ports [2-428](#)
 - enabling PortFast by default on all access ports [2-445](#)
 - enabling PortFast mode [2-440](#)
 - enabling protocol tunneling for [2-157](#)
 - enabling root guard [2-426](#)
 - enabling spanning tree BackboneFast [2-419](#)
 - enabling spanning tree on a per VLAN basis [2-449](#)

enabling spanning tree UplinkFast **2-447**
 setting an interface priority **2-446**
 setting drop threshold for **2-159**
 setting pathcost **2-423**
 setting the default pathcost calculation method **2-439**
 subinterface configuration mode, summary **1-6**
SVI
 creating a Layer 3 interface on a VLAN **2-110**
switchport **2-476**
 switchport interfaces
 displaying status of Layer 3 port **2-287**
 displaying status of native VLAN tagging **2-287**
 switch shim
 debugging **2-69**
 disabling debugging **2-69**
 switch to router connection
 enabling Cisco-recommended features **2-176**
 switch to switch connection
 enabling Cisco-recommended features **2-178**
 switch virtual interface
 See SVI
sw-vlan **2-72**
 system prompts **1-5**

T

Tab key
 command completion **1-1**
 tables
 characters with special meaning **1-7**
 mac access-list extended subcommands **2-163**
 match syntax description **2-20**
 multipliers **1-9**
 relationship between duplex and speed
 commands **2-452**
 show vlan command output fields **2-407**
 show vtp command output fields **2-411**
 special characters **1-9**
 special characters used for anchoring **1-10**

speed command options **2-451**
TAC
 displaying information useful to TAC **2-395**
TCAM
 debugging spanning tree activities **2-67**
 temperature readings
 displaying information **2-259**
 timer information **2-263**
 traffic shaping
 enable on an interface **2-236**
 traps, enabling **2-415**
 trunk encapsulation
 setting format **2-476**
 trunk interfaces
 displaying trunk interfaces information **2-294**
 trust state
 setting **2-117**
 tunnel ports
 displaying information about Layer 2 protocol **2-330**
TX queues
 allocating bandwidth **2-486**
 returning to default values **2-486**
 setting priority to high **2-486**
 specifying burst size **2-486**
 specifying traffic rate **2-486**

U

UDLD
 enabling by default on all fiber interfaces **2-488**
 enabling on an individual interface **2-490**
 preventing a fiber interface from being enabled **2-490**
 resetting all shutdown ports **2-492**
 setting the message timer **2-488**
Unidirectional Link Detection
 See UDLD
 unknown multicast traffic, preventing **2-461**
 unknown unicast traffic, preventing **2-461**
 user EXEC mode, summary **1-5**

username

 setting password and privilege level **2-494**

V

VACLS

 access-group mode **2-5**

 applying VLAN access maps **2-504**

 displaying VLAN access map information **2-401**

 specifying an action in a VLAN access map **2-8**

 specifying the match clause for a VLAN access-map sequence **2-181**

 using a VLAN filter **2-504**

VLAN

 applying an ARP ACL **2-111**

 configuring **2-497**

 converting to RSPAN VLAN **2-230**

 displaying CEF information **2-300**

 displaying CEF next-hop information **2-300**

 displaying information on switch interfaces **2-309**

 displaying information on VLAN switch interfaces **2-316**

 displaying information sorted by group IP address **2-309**

 displaying IP address and version information **2-309**

 displaying Layer 2 VLAN information **2-398**

 displaying statistical information **2-353**

 displaying VLAN information **2-400**

 enabling dynamic ARP inspection **2-120**

 enabling Explicit Host Tracking **2-142**

 enabling guest per-port **2-82**

 entering VLAN configuration mode **2-501**

 native frames

 enabling tagging on all 802.1Q trunk ports **2-503**

 pruning the list for VTP **2-476**

 setting the list of allowed **2-476**

VLAN Access Control Lists

 See VACLS

VLAN access map

 See VACLS

VLAN database

 resetting **2-232**

VLAN debugging

 limiting output **2-48**

VLAN manager

 debugging **2-72**

 disabling debugging **2-72**

IOS file system error tests

 debugging **2-73**

 disabling debugging **2-73**

VLAN Query Protocol

 See VQP

VLAN query protocol (VQPC)

 debugging **2-77**

VLANS

 clearing

 counters **2-41**

 clearing hardware logic **2-25**

 configuring

 internal allocation scheme **2-505**

 displaying

 internal VLAN allocation information **2-404**

 RSPAN VLANs **2-408**

 entering VLAN configuration mode **2-501**

VMPS

 configuring servers **2-509**

 reconfirming dynamic VLAN assignments **2-507**

voice VLANs

 enabling **2-457**

VoIP

 configuring auto-QoS **2-12**

VQP

 per-server retry count **2-508**

 reconfirming dynamic VLAN assignments **2-507**

VTP

 configuring the administrative domain name **2-513**

 configuring the device in VTP client mode **2-512**

configuring the device in VTP server mode **2-516**
configuring the device in VTP transparent mode **2-517**
configuring tunnel encapsulation rate **2-160**
creating a VTP domain password **2-514**
displaying domain information **2-410**
displaying statistics information **2-410**
enabling protocol tunneling for **2-157**
enabling pruning in the VLAN database **2-515**
enabling VTP version 2 mode **2-518**
modifying the VTP configuration storage file
 name **2-511**
set drop threshold for **2-159**
VTP protocol code
 activating debug messages **2-75**
 deactivating debug messages **2-75**

