ExtremeWare 7.0.0 Software Quick Reference Guide

Commands for Accessing the Switch

Command	Description
clear session <number>	Terminates a Telnet session from the switch.
config account <user account> {encrypted} {<password>}	Configures a user account password.
config banner	Configures the banner string that is displayed at the beginning of each login prompt of each session.
config banner netlogin	Configures the network login banner that is displayed at the beginning of each login prompt of each session.
config dns-client add <ipaddress>	Adds a DNS name server to the available server list for the DNS client.
config dns-client add domain-suffix <domain_name>	Adds a domain name to the domain suffix list.
config dns-client add name-server <ipaddress>	Adds a DNS name server to the available server list for the DNS client.
config dns-client default-domain <domain_name>	Configures the domain that the DNS client uses if a fully qualified domain name is not entered.
config dns-client delete <ipaddress>	Removes a DNS name server from the available server list for the DNS client.
config dns-client delete domain-suffix <domain_name>	Deletes a domain name from the domain suffix list.
config dns-client delete name-server <ipaddress>	Removes a DNS name server from the available server list for the DNS client.

Command	Description
config idletimeouts <minutes>	Configures the time-out for idle HTTP, console, and Telnet sessions.
config time <date> <time>	Configures the system date and time.
config timezone {name <std_timezone_ID>} <GMT_offset> {autodst {name <dst_timezone_ID>} {<dst_offset>} {begins [every <floatingday> | on <absoluteday>] {at <time_of_day>} {ends [every <floatingday> | on <absoluteday>] {at <time_of_day>}}} | noautodst}	Configures the Greenwich Mean Time (GMT) offset and Daylight Saving Time (DST) preference.
create account [admin | user] <username> {encrypted} {<password>}	Creates a new user account.
delete account <username>	Deletes a specified user account.
disable clipaging	Disables pausing at the end of each show screen.
disable idletimeouts	Disables the timer that disconnects idle sessions from the switch.
enable clipaging	Enables the pause mechanism and does not allow the display to print continuously to the screen.
enable idletimeouts	Enables a timer that disconnects Telnet and console sessions after 20 minutes of inactivity.
enable license [basic_L3 | advanced_L3 | full_L3] <license_key>	Enables a particular software feature license.
history	Displays a list of the previous 49 commands entered on the switch.
reboot {time <date> <time> | cancel} {slot <slot>}	Reboots the switch or the module in the specified slot at a specified date and time.
show accounts pppuser	Displays user account information for all users on the switch.
show banner	Displays the user-configured banner string.
show dns-client	Displays the DNS configuration.
show switch	Displays the current switch information.
traceroute <host name/ip> {from <source IP address>} {ttl <number>} {port <port number>}	Enables you to trace the routed path between the switch and a destination endstation.

Commands for Managing the Switch

Command	Description
config snmp access-profile readonly [<access-profile> | none]	Assigns an access profile that limits which stations have read-only access to the switch.
config snmp access-profile readwrite [<access-profile> | none]	Assigns an access profile that limits which stations have read/write access to the switch.
config snmp add <ipaddress> {<mask>}	Adds the IP address or a set of IP addresses of an SNMP management station to the access list.
config snmp add community [readonly | readwrite] {encrypted} <alphanumeric string>	Adds an SNMP read or read/write community string.
config snmp add trapreceiver <ip address> {port <udp_port>} community <community string> {from <source ip address>} {mode [enhanced | standard]}	Adds the IP address of a specified trap receiver to the trap receiver list.
config snmp community [readonly | readwrite] {encrypted} <alphanumeric string>	Configures the value of the default SNMP read or read/write community string.
config snmp delete [<ip address> {<mask>} | all]	Deletes an IP address or range of IP addresses of a specified SNMP management station or all SNMP management stations.
config snmp delete community [readonly | readwrite] {encrypted} [all | <alphanumeric string>]	Deletes an SNMP read or read/write community string.
config snmp delete trapreceiver [<ip address> {community <community string>} | all]	Deletes a specified trap receiver or all authorized trap receivers.
config snmp syscontact <alphanumeric string>	Configures the name of the system contact.
config snmp syslocation <alphanumeric string>	Configures the location of the switch.
config snmp sysname <alphanumeric string>	Configures the name of the switch.
config sntp-client [primary | secondary] server [<ipaddress> | <host_name>]	Configures an NTP server for the switch to obtain time information.
config sntp-client update-interval <seconds>	Configures the interval between polls for time information from SNTP servers.
config web login-timeout <seconds>	Configures the timeout for user to enter username/password in the pop-up window.
disable snmp access	Disables SNMP on the switch.
disable snmp dot1dtpfdbtable	Disables SNMP GetNext responses for the dot1dTpFdbTable in the BRIDGE-MIB.
disable snmp traps	Prevents SNMP traps from being sent from the switch.

Command	Description
disable snmp traps port-up-down ports [all | mgmt | <portlist>]	Prevents SNMP port up/down traps (also known as link up and link down traps) from being sent from the switch for the indicated ports.
disable snmp traps mac-security	Prevents SNMP mac-security traps from being sent from the switch for all ports.
disable sntp-client	Disables the SNTP client.
disable system-watchdog	Disables the system watchdog timer.
disable telnet	Disables Telnet services on the system.
disable web	Disables web access to the switch.
enable dhcp ports <portlist> vlan <vlan name>	Enables DHCP on a specified port in a VLAN.
enable snmp access	Turns on SNMP support for the switch.
enable snmp dot1dtpfdbtable	Enables SNMP GetNext responses for the dot1dTpFdbTable in the BRIDGE-MIB.
enable snmp traps	Turns on SNMP trap support.
enable snmp traps {port-up-down ports [all | mgmt | <portlist>]}	Enables SNMP port up/down traps (also known as link up and link down traps) for the indicated ports.
enable snmp traps mac-security	Enables SNMP mac-security traps for all ports to be sent by the switch.
enable sntp-client	Enables the SNTP client.
enable system-watchdog	Enables the system watchdog timer.
enable telnet {access-profile [<access_profile> | none]} {port <tcp_port_number>}	Enables Telnet access to the switch.
enable web {access-profile [<access_profile> | none]} {port <tcp_port_number>}	Enables ExtremeWare Vista web access to the switch.
exit	Logs out the session of a current user for CLI or Telnet.
logout	Logs out the session of a current user for CLI or Telnet.
quit	Logs out the session of a current user for CLI or Telnet.
show management	Displays the SNMP settings configured on the switch.
show odometer	Displays a counter for each component of a switch that shows how long it has been functioning since it was manufactured.
show session	Displays the currently active Telnet, console, and web sessions communicating with the switch.

Command	Description
show sntp-client	Displays the DNS configuration.
show vlan dhcp-address-allocation vlan <vlan name>	Displays DHCP address allocation information about VLANs.
show vlan dhcp-config vlan <vlan name>	Displays DHCP configuration information about VLANs.

Commands for Configuring Slots and Ports on a Switch

Command	Description
clear slot <slot>	Clears a slot of a previously assigned module type.
config ip-mtu <number> vlan <vlan name>	Sets the maximum transmission unit (MTU) for the VLAN.
config jumbo-frame size <number>	Sets the maximum jumbo frame size for the switch chassis.
config mirroring add [<mac_address> | vlan <vlan name> {ports <port number>} | ports <portnumber> {vlan <vlan name>}]	Adds a particular mirroring filter definition on the switch.
config mirroring delete [<mac_address> | vlan <vlan name> {ports <portnumber>} | ports <portnumber> {vlan <vlan name>}]	Deletes a particular mirroring filter definition on the switch.
config msm-failover link-action [keep-links-up | take-links-down]	Configures external port response when MSM failover occurs.
config ports [<portlist> vlan <vlan name> | all] [limit-learning <number> | lock-learning | unlimited-learning | unlock-learning]	Configures virtual ports for limited or locked MAC address learning.
config ports [<portlist> | all | mgmt] auto off {speed [10 | 100 | 1000]} duplex [half | full]	Manually configures port speed and duplex setting configuration on one or more ports on a switch.
config ports [<portlist> | mgmt | all] auto on	Enables autonegotiation for the particular port type.
config ports [<portlist> | mgmt] display-string <alphanumeric string>	Configures a user-defined string for a port or group of ports.
config port <slot:port> interpacket-gap <byte_time>	Configures the Interpacket Gap for a 10 Gigabit port.
config ports <portlist> link-detection-level <link-detection-level>	Configures the link detection level.
config ports [<portlist> | <portid> | mgmt] redundant [<portlist> | <portid>]	Configures a software-controlled redundant port.
config sharing address-based [L2 | L2_L3 | L2_L3_L4]	Configures the part of the packet examined by the switch when selecting the egress port for transmitting load-sharing data.

Command	Description
config slot <slot> module <module name>	Configures a slot for a particular I/O module card in a modular switch.
disable edp ports [<portlist> | all]	Disables the Extreme Discovery Protocol (EDP) on one or more ports.
disable flooding ports <portlist>	Disables packet flooding on one or more ports.
disable jumbo-frame ports [<portlist> | all]	Disables jumbo frame support on a port.
disable lbdetect port <portlist>	Disables the detection of loops between ports.
disable learning ports <portlist>	Disables MAC address learning on one or more ports for security purposes.
disable mirroring	Disables port-mirroring.
disable ports [<portlist> | all]	Disables one or more ports on the switch.
disable sharing [<port>]	Disables a load-sharing group of ports.
disable slot [<slot number> | all]	Disables one or all slots on a BlackDiamond or Alpine switch, and leaves the blade in a power down state.
disable smartredundancy [<portlist>]	Disables the smart redundancy feature.
enable edp ports [<portlist> | all]	Enables the Extreme Discovery Protocol (EDP) on one or more ports.
enable flooding ports <portlist>	Enables packet flooding on one or more ports.
enable jumbo-frame ports [<portlist> | all]	Enables support on the physical ports that will carry jumbo frames.
enable lbdetect port <portlist> [retry-timeout<seconds>]	Enables the system to detect loops between ports. If a port is looped, it disables the port. Every N seconds, it re-enables the port and tries again, unless “none” is specified
enable learning ports <portlist>	Enables MAC address learning on one or more ports.
enable mirroring to port [<portlist>] [tagged | untagged]	Dedicates a port on the switch to be the mirror output port.
enable ports [<portlist> | all]	Enables a port.
enable sharing <port> grouping <portlist> {dynamic | algorithm {port-based | address-based | round-robin}}	This command enables the switch to configure static port load sharing or dynamic port load sharing. When configuring dynamic port load sharing, LACP will be used to detect and set up for the remote side’s load sharing capabilities.
enable slot [<slot number> | all]	Enables one or all slots on a BlackDiamond or Alpine switch.
enable smartredundancy <portlist>	Enables the Smart Redundancy feature on the redundant Gigabit Ethernet port.

Command	Description
restart ports [<portlist>	Resets autonegotiation for one or more ports by resetting the physical link.
run msm-failover	Causes a user-specified MSM failover.
show edp {<portlist>}	Displays connectivity and configuration information for neighboring Extreme Networks switches.
show mirroring	Displays the port-mirroring configuration on the switch.
show ports {<portlist>} collisions	Displays real-time collision statistics.
show ports {<portlist>} configuration	Displays port configuration statistics.
show ports {<portlist>} info {detail}	Displays detailed system-related information.
show ports {<portlist>} packet	Displays a histogram of packet statistics.
show ports sharing	Displays port loadsharing groups.
show ports {<portlist>} utilization	Displays real-time port utilization information.
show sharing address-based	Displays the address-based load sharing configuration.
show slot <slot number>	Displays the slot-specific information.
unconfig ports <portlist> display-string	Clears the user-defined display string from one or more ports.
unconfig ports [<portlist> | <port id> | mgmt] redundant	Clears a previously configured software-controlled redundant port.
unconfig slot <slot number>	Clears a slot of a previously assigned module type.

VLAN Commands

Command	Description
config dot1q ethertype <ethertype>	Configures an IEEE 802.1Q Ethertype.
config gvrp {listen | send | both | none} port <portlist>	Configures the sending and receiving of Generic VLAN Registration Protocol (GVRP) information on a port.
config mac-vlan add mac-address [any | <mac_address>] mac-group [any | <group_number>] vlan <vlan name>	Adds a MAC address as a potential member of a MAC-based VLAN.
config mac-vlan delete [all | mac-address [<mac_address> | any]]	Removes a MAC address from any MAC-based VLANs with which it was associated.
config ports <portlist> monitor vlan <vlan name>	Configures VLAN statistic monitoring on a per-port basis.

Command	Description
config protocol <protocol_name> add <protocol_type> <hex_value> {<protocol_type> <hex_value>} ...	Configures a user-defined protocol filter.
config protocol <protocol_name> delete <protocol_type> <hex_value> {<protocol_type> <hex_value>} ...	Deletes the specified protocol type from a protocol filter.
config vlan <vlan name> add ports <portlist> {tagged | untagged} {nobroadcast} {soft-rate-limit}	Adds one or more ports in a VLAN.
config vlan <vlan name> add ports <portlist> loopback-vid <vlan-id>	Adds a loopback port to a VLAN.
config vlan <vlan name> delete port <portlist>	Deletes one or more ports in a VLAN.
config vlan <vlan name> ipaddress <ipaddress> {<netmask> | <mask length>}	Assigns an IP address and an optional subnet mask to the VLAN.
config vlan <old_name> name <new_name>	Renames a previously configured VLAN.
config vlan <vlan name> protocol [<protocol_name> | any]	Configures a VLAN to use a specific protocol filter.
config vlan <vlan name> tag <vlanid>	Assigns a unique 802.1Q tag to the VLAN.
create protocol <protocol_name>	Creates a user-defined protocol filter.
create vlan <vlan name>	Creates a named VLAN.
delete protocol <protocol_name>	Deletes a user-defined protocol.
delete vlan <vlan name>	Deletes a VLAN.
disable gvrp	Disables the Generic VLAN Registration Protocol (GVRP).
disable mac-vlan port <portlist>	Disables a port from using the MAC-based VLAN algorithm.
enable gvrp	Enables the Generic VLAN Registration Protocol (GVRP).
enable mac-vlan mac-group [any | <group_number>] port <portlist>	Enables a port to use the MAC-based VLAN algorithm.
show gvrp	Displays the current configuration and status of GVRP.
show mac-vlan {configuration | database}	Displays the MAC-based VLAN configuration and MAC address database content.
show protocol {<protocol>}	Displays protocol filter definitions.
show vlan {<vlan name> | detail | stats {vlan} <vlan name>}	Displays information about VLANs.
unconfig ports <portlist> monitor vlan <vlan name>	Removes port-based VLAN monitoring.

Command	Description
unconfig vlan <vlan name> ipaddress	Removes the IP address of the VLAN.

FDB Commands

Command	Description
clear fdb {<mac_address> | broadcast-mac | locked-mac <mac_address> | vlan <vlan name> | ports <portlist>}	Clears dynamic FDB entries that match the filter.
config fdb agingtime <seconds>	Configures the FDB aging time for dynamic entries.
create fdbentry <mac_address> vlan <vlan name> blackhole {source-mac | dest-mac | both}	Creates a blackhole FDB entry.
create fdbentry [<mac_address> | broadcast-mac | any-mac] vlan <vlan name> dynamic [qosprofile <qosprofile> {ingress-qosprofile <inqosprofile>} | ingress-qosprofile <inqosprofile> {qosprofile <qosprofile>}]	Creates a permanent dynamic FDB entry, and associates it with an ingress and/or egress QoS profile.
create fdbentry <mac_address> vlan <vlan name> ports [<portlist> | all] {qosprofile <qosprofile>} {ingress-qosprofile <inqosprofile>}	Creates a permanent static FDB entry, and optionally associates it with an ingress and/or egress QoS profile.
delete fdbentry [[<mac_address> | broadcast-mac] vlan <vlan name> | all]	Deletes one or all permanent FDB entries.
run fdb-check [index <bucket> <entry> | [<mac_address> | broadcast-mac] {<vlan name>}] {extended} {detail}	Checks MAC FDB entries for consistency.
show fdb {<mac_address> | broadcast-mac | vlan <vlan name> | <portlist> | permanent}	Displays FDB entries.

QOS Commands

Command	Description
clear dlcs	Clears all learned DLCS data.
config diffserv examination code-point <code_point> qosprofile <qosprofile> ports [<portlist> | all] {low-drop-probability | high-drop-probability}	Configures the default ingress Diffserv code points (DSCP) to QoS profile mapping.
config diffserv replacement priority <value> code-point <code_point> ports [<portlist> | all]	Configures the default egress Diffserv replacement mapping.

Command	Description
config dot1p type <dot1p_priority> qosprofile <qosprofile>	Configures the default QoS profile to 802.1p priority mapping.
config ipqos add {tcp | udp | other | all} <dest_ipaddress>/<mask_length> {l4-dstport <tcp/udp_port_number>} {<ip_src_address>/<mask_length>} {l4-srcport <tcp/udp_port_number>} [qosprofile <qosname> | blackhole]	Applies a set of destination IP addresses to an IPQoS traffic grouping by specifying a network address and subnet mask.
config ipqos delete {tcp | udp | other | all} <dest_ipaddress>/<mask_length> {l4-dstport <tcp/udp_port_number>} {<ip_src_address>/<mask_length>} {l4-srcport <tcp/udp_port_number>} [qosprofile <qosname> | blackhole]	Removes a set of destination IP addresses from an IPQoS traffic grouping.
config ports <portlist> qosprofile <qosprofile>	Configures one or more ports to use a particular QoS profile.
config qosmode [ingress | egress]	Changes the QoS mode to ingress mode or egress mode.
config qosprofile <qosprofile> minbw <min_percent> maxbw <max_percent> priority <level> {[minbuf <percent> maxbuf <number> [K | M] | maxbuff <number> [K | M] | <portlist>]}	Modifies the default QoS profile parameters.
config qostype priority [source-mac | dest-mac | access-list | vlan | diffserv | dot1p] <priority>	Configures the priority of the specified QoS traffic grouping.
config red drop-probability <percent>	Configures the Random Early Detect (RED) drop-probability.
config vlan <vlan name> priority <priority>	Configures the 802.1p priority value for traffic generated on the switch.
config vlan <vlan name> qosprofile <qosprofile>	Configures a VLAN to use a particular QoS profile.
create qosprofile <qosprofile>	Creates a QoS profile.
delete qosprofile <qosprofile>	Deletes a QoS profile created in egress mode.
disable diffserv examination ports [<portlist> | all]	Disables the examination of the Diffserv field in an IP packet.
disable diffserv replacement ports [<portlist> | all]	Disables the replacement of diffserv code points in packets transmitted by the switch.
disable dlcs {fast-ethernet-ports | ports [all | <port_number>]}	This command disables WINS snooping for ports on this switch.
disable dot1p replacement ports [<portlist> | all]	Disables the ability to overwrite 802.1p priority values for a given set of ports.
disable isq vlan <vlan name>	Disables Intra-subnet QoS (ISQ) on a VLAN.

Command	Description
disable qosmonitor	Disables the QoS monitoring capability.
disable red ports <portlist>	Disables Random Early Detection (RED) on the specified ports.
enable diffserv examination ports [<portlist> | all]	Enables the Diffserv field of an ingress IP packet to be examined in order to select a QoS profile.
enable diffserv replacement ports [<portlist> | all]	Enables the diffserv code point to be overwritten in packets transmitted by the switch.
enable dlcs {fast-ethernet-ports | ports [all | <port_number>]}	This command enables WINS snooping for ports on the switch.
enable dot1p replacement ports [<portlist> | all]	Allows the 802.1p priority field to be overwritten on egress according to the QoS profile to 802.1p priority mapping for a given set of ports.
enable isq vlan <vlan name>	Enables Intra-Subnet QoS (ISQ) on a per-VLAN basis.
enable qosmonitor {port <port>}	Enables the QoS monitoring capability on the switch.
enable red ports [mgmt | <portlist>]	Enables Random Early Detection (RED) on a port.
show dlcs	Displays the status of DLCS (enabled or disabled) and the status of ports that are snooping WINS packets.
show dot1p	Displays the 802.1p-to-QoS profile mappings.
show ports {<portlist>} qosmonitor {egress | ingress} {discards}	Displays real-time QoS statistics for egress packets on one or more ports.
show qosprofile {<qosprofile>}	Displays QoS information on the switch.
show qostype priority	Displays QoS traffic grouping priority settings.
unconfig diffserv examination ports [<portlist> | all]	Removes the Diffserv examination code point from a port.
unconfig diffserv replacement ports [<portlist> | all]	Removes the diffserv replacement mapping from a port.
unconfig qostype priority	Resets all traffic grouping priority values to their defaults.

NAT Commands

Command	Description
clear nat [connections | stats}	Clears NAT connections or statistics.

Command	Description
config nat add vlan <vlan name> map source [any | <source_ipaddress>/<mask>] {l4-port [any | <port> {- <port>}]} {destination <dest_ipaddress>/<mask> {l4-port [any | <port> {- <port>}]}} to <ip address> [/<mask> | - <ip address>] [tcp | udp | both] [portmap {<min> - <max>} | auto-constrain]	Adds a NAT translation rule that translates private IP addresses to public IP addresses on the outside VLAN.
config nat delete [all | vlan <vlan name> map source [any | <ip address>/<mask>] {l4-port [any | <port> {- <port>}]} {destination <ip address>/<mask> {l4-port [any | <port> {- <port>}]}} to <ip address> [/<mask> | - <ip address>] [tcp | udp | both] [portmap {<min> - <max>} | auto-constrain]	Deletes a NAT translation rule.
config nat finrst-timeout <seconds>	Configures the timeout for a TCP session that has been torn down or reset.
config nat icmp-timeout <seconds>	Configures the timeout for an ICMP packet.
config nat syn-timeout <seconds>	Configures the timeout for an entry with an unacknowledged TCP SYN state.
config nat tcp-timeout <seconds>	Configures the timeout for a fully setup TCP SYN session.
config nat timeout <seconds>	Configures the timeout for any IP packet that is not TCP, UDP, or ICMP.
config nat udp-timeout <seconds>	Configures the timeout for a UDP session.
config nat vlan <vlan name> [inside | outside | none]	Configures a VLAN to participate in NAT.
disable nat	Disables network address translation on the switch.
enable nat	Enables network address translation on the switch.
show nat {timeout | stats | connections | rules {vlan <outside_vlan>}}	Displays NAT settings.

SLB Commands

Command	Description
clear slb connections {ipaddress <ip address> : <port> | vip <vipname>}	Clears all existing SLB connections.

Command	Description
clear slb vip [<vipname> | all] persistence	Clears the connection information in the persistence table.
config flow-redirect <flow redirect> add next-hop <ip address>	Adds the next hop host (gateway) that is to receive the packets that match the flow redirect policy.
config flow-redirect <flow redirect> delete next-hop <ip address>	Deletes the next hop host (gateway).
config flow-redirect <flow redirect> service-check ftp user <user name> <password>	Configures the flow redirect FTP check.
config flow-redirect <flow redirect> service-check http url <url> match-string <alphanumeric string>	Configures the flow redirect HTTP check.
config flow-redirect <flow redirect> service-check L4-port	Configures the flow redirect layer 4 port check.
config flow-redirect <flow redirect> service-check nntp <newsgroup>	Configures the flow redirect NNTP check.
config flow-redirect <flow redirect> service-check ping	Configures the flow redirect ping check.
config flow-redirect <flow redirect> service-check pop3 user <user name> <password>	Configures the flow redirect POP3 check.
config flow-redirect <flow redirect> service-check smtp <dns domain>	Configures the flow redirect SMTP check.
config flow-redirect <flow redirect> service-check telnet user <user name> <password>	Configures the flow redirect Telnet check.
config flow-redirect timer ping-check frequency <seconds> timeout <seconds>	Configures the flow redirect ping-check frequency and timeout.
config flow-redirect timer service-check frequency <seconds> timeout <seconds>	Configures the flow redirect service-check frequency and timeout.
config flow-redirect timer tcp-port-check frequency <seconds> timeout <seconds>	Configures the flow redirect TCP port check frequency and timeout.
config slb esrp vlan <vlan name> [add | delete] unit [number]	Configures all virtual servers with the specified unit number to match the state of the specified ESRP VLAN.
config slb failover alive-frequency <seconds> timeout <seconds>	Configures the frequency at which the local SLB device polls the remote SLB device.
config slb failover dead-frequency <seconds>	Configures the frequency at which the local switch attempts to re-establish communication with the unresponsive remote switch.
config slb failover failback-now	Configures the local SLB to release the remote SLB resources if the remote SLB is alive.
config slb failover ping-check <ip address> {frequency <seconds> timeout <seconds>}	Configures the SLB device to actively determine if a remote gateway is reachable by performing a ping.

Command	Description
config slb failover unit <number> remote-ipaddress <ip address> local-ipaddress <ip address> {L4-port <port number>}	Configures the switch for active-active operation.
config slb global connection-block <number>	Configures the number of SLB connections to allocate in memory, which improves performance.
config slb global connection-timeout <seconds>	Configures the connection timeout for transparent and translation modes.
config slb global ftp user <user name> {password {encrypted} <password>}	Configures the default parameters for layer 7 FTP service checking.
config slb global http url <url> match-string [<any-content> | alphanumeric string]	Configures the default parameters for layer 7 HTTP service checking.
config slb global nntp <newsgroup>	Configures the default parameters for layer 7 NNTP service checking.
config slb global persistence-level [same-vip-same-port | same-vip-any-port | any-vip]	Configures the persistence level globally.
config slb global persistence-method [per-packet | per-session]	Configures the behavior of the persistence timer.
config slb global ping-check frequency <seconds> timeout <seconds>	Configures default health checking frequency and timeout period using layer 3-based pinging of the physical node.
config slb global pop3 user <user name> {password {encrypted} <password>}	Configures the default parameters for layer 7 POP3 service checking.
config slb global service-check frequency <seconds> timeout <seconds>	Configures default health checking frequency and timeout period using layer 7-based application-dependent checking.
config slb global smtp <dns domain>	Configures the default parameters for layer 7 SMTP service checking.
config slb global synguard max-unacknowledged-SYNs <number>	Configures the the SYN-guard feature.
config slb global tcp-port-check frequency <seconds> timeout <seconds>	Configures default health checking frequency and timeout period using layer 4-based TCP port testing.
config slb global telnet userid <userid> password {encrypted} {<password>}	Configures the default parameters for layer 7 telnet service checking.
config slb gogo-mode <port number> health-check <ip address>	Configures the health checker with the common IP addresses of the GoGo mode servers in this group.
config slb gogo-mode <port number> ping-check frequency <seconds> timeout <seconds>	Overrides the global default ping-check frequency and timeout values for this GoGo mode group.

Command	Description
config slb gogo-mode <port number> service-check ftp {<L4-port>} {user <user> | password {encrypted} <password>}	Configures the FTP service check parameters for a GoGo mode group.
config slb gogo-mode <port number> service-check http {<L4-port>} {url <url> match-string [any-content | <alphanumeric string>]}	Configures the HTTP service check parameters for a GoGo mode group.
config slb gogo-mode <port number> service-check pop3 {<L4-port>} {userid <userid> | password {encrypted} <password>}	Configures the service check parameters for a GoGo mode group.
config slb gogo-mode <port number> service-check smtp {<L4-port>} {<dns domain>}	Configures the service check parameters for a GoGo mode group.
config slb gogo-mode <port number> service-check telnet {<L4-port>} {user <user name> | password {encrypted} <password>}	Configures the service check parameters for a GoGo mode group.
config slb gogo-mode <port number> service-check timer [all | ftp | http | telnet | smtp | nntp | pop3 | <TCP port number>] frequency <seconds> timeout <seconds>	Overrides the global service-check frequency and timeout values.
config slb gogo-mode <port number> tcp-port-check add [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP port number>]	Adds the specified layer 4 port.
config slb gogo-mode <port number> tcp-port-check delete [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP port number>]	Deletes the specified layer 4 port.
config slb gogo-mode <port number> tcp-port-check timer [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP port number>] frequency <seconds> timeout <seconds>	Overrides the global TCP-port-check frequency and timeout values.
config slb L4-port [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] [treaper-timeout <seconds> } udp-idle-timeout <seconds>]	Configures the inactive period for TCP or UDP before the connection is aged out.
config slb node <ip address>:[ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] max-connections <number>	Configures the maximum number of simultaneous connections that can be established to a node.
config slb node <ip address> ping-check frequency <seconds> timeout <seconds>	Overrides the global default frequency and timeout values for this node.

Command	Description
config slb node <ip address>:[ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] tcp-port-check frequency <seconds> timeout <seconds>	Overrides the global default frequency and timeout values for this node.
config slb pool <pool name> add <ip address>:[ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] {ratio <number> | priority <number>}	Adds a node to a pool.
config slb pool <pool name> delete <ip address>:[ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]	Deletes a node from a pool.
config slb pool <pool name> lb-method [round-robin | ratio | priority | least-connections]	Configures the SLB load balancing method.
config slb pool <pool name> member <ip address>:[ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] [ratio <number> | priority <number>]	Configures the ratio or priority of an existing pool member.
config slb proxy-client-persistence [add | delete] <ip address>/<netmask>	Configures a client subnet that should be treated as one persistent entity.
config slb vip <vip name> unit [number]	Configures the unit number for active-active failover.
config slb vip [<vip name> | all] client-persistence-timeout <seconds>	Configures the client persistence timeout value.
config slb vip <vip name> max-connections <number>	Configures the maximum connections allowed to a particular virtual server.
config slb vip <vip name> service-check frequency <seconds> timeout <seconds>	Configures the layer 7 service check frequency and timeout for a particular virtual server.
config slb vip <vip name> service-check ftp {user <user name> password {encrypted} <password>}	Configures layer 7 FTP service checking for a specific virtual server.
config slb vip <vip name> service-check http {url <url> match-string [any-content | <alphanumeric string>]}	Configures layer 7 HTTP service checking for a specific virtual server.
config slb vip <vip name> service-check nntp <newsgroup>	Configures layer 7 NNTP service checking for a specific virtual server.
config slb vip <vip name> service-check pop3 user <user name> password {encrypted} {password}	Configures layer 7 POP3 service checking for a specific virtual server.
config slb vip <vip name> service-check smtp {<dns domain>}	Configures layer 7 SMTP service checking for a specific virtual server.

Command	Description
config slb vip <vip name> service-check telnet {user <user name> password {encrypted} <password>}	Configures layer 7 telnet service checking for a specific virtual server.
config vlan <vlan name> slb-type [server | client | both | none]	Marks a VLAN as either a server VLAN or a client VLAN.
create flow-redirect <flow redirect> [any | tcp | tup | udp] destination [<ip address> / <mask> | any] ip-port [<port> | any] source [<ip address> / <mask> | any]	Creates a flow redirect policy.
create slb pool <pool name> {lb-method [least-connections | priority | ratio | round-robin]}	Creates a server pool and optionally assigns a load-balancing method to the pool.
create slb vip <vip name> pool <pool name> mode [transparent | translation | port-translation] <ip address> {- <upper range>} : <L4 port> {unit <number>}	Creates one or more new virtual servers.
delete flow-redirect <flow redirect>	Deletes a flow redirect policy.
delete slb pool [<pool name> | all]	Deletes a server pool.
delete slb vip [<vip name> | all]	Deletes one or all virtual servers.
disable flow-redirect [all | <flow redirect>]	Disables flow redirect.
disable slb	Disables SLB processing.
disable slb 3dns iquery-client	Disables 3DNS support.
disable slb failover	Disables the SLB failover mechanism.
disable slb failover manual-failback	Disables manual failback.
disable slb failover ping-check	Disables ping-check to an external gateway.
disable slb global synguard	Disables the TCP SYN-guard feature.
disable slb gogo-mode <port number>	Disables GoGo mode processing.
disable slb gogo-mode <port number> ping-check	Disables layer-3 ping-check to this GoGo mode group.
disable slb gogo-mode <port number> service-check [all | ftp | http | nntp | pop3 | smtp | telnet | <TCP port number>]	Disables layer 7 service check to this GoGo mode group.
disable slb gogo-mode <port number> tcp-port-check [all | ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP port number>]	Disables layer 4 TCP-port-check to this GoGo mode group.
disable slb L4-port [all | ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]	Disables one or all SLB ports.

Command	Description
disable slb node [all | <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]] {close-connections-now}	Disables one or all nodes.
disable slb node [all | <ip address>] ping-check	Disables layer 3 ping-check.
disable slb node [all | <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]] tcp-port-check	Disables layer 4 TCP-port-checking.
disable slb proxy-client-persistence	Disables proxy client persistence.
disable slb vip [all | <vip name> | ipaddress <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]] {close-connections-now}	Disables one or all virtual servers.
disable slb vip [all | <vip name>] client-persistence	Disables client persistence.
disable slb vip [all | <vip name>] service-check	Disables layer 7 service-check.
disable slb vip [all | <vip name>] sticky-persistence	Disables sticky persistence.
disable slb vip [all | <vip name>] svcdown-reset	Disables svcdown-reset.
enable flow-redirect [all | <flow redirect>]	Enables flow redirect.
enable slb	Enables SLB processing.
enable slb 3dns iquery-client	Enables 3DNS support.
enable slb failover	Enables SLB failover.
enable slb failover manual-failback	Enables manual failback.
enable slb failover ping-check	Enables ping-check.
enable slb global synguard	Enables the TCP SYN-guard feature.
enable slb gogo-mode <port number> grouping <port list>	Enables GoGo mode processing for a group of ports.
enable slb gogo-mode <port number> ping-check <ip address>	Enables layer-3 ping-check for the GoGo mode group.
enable slb gogo-mode <port number> service-check [all | ftp | http | nntp | pop3 | smtp | telnet | <TCP port number>]	Enables layer 7 service checking for the GoGo mode group.
enable slb gogo-mode <port number> tcp-port-check [all | ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP port number>]	Enables layer 4 TCP-port-check for the GoGo mode group.

Command	Description
enable slb L4-port [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]	Enables an SLB port.
enable slb node [all | <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]]	Enables one or all nodes.
enable slb node [all | <ip address>] ping-check	Enables layer 3 ping-check.
enable slb node [all | <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]] tcp-port-check	Enables layer 4 TCP-port-check.
enable slb proxy-client-persistence	Enables proxy client persistence.
enable slb vip [all | <vip name> | ipaddress <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]]	Enables one or all virtual servers.
enable slb vip [all | <vip name>] client-persistence {netmask <netmask>}	Enables client persistence.
enable slb vip [all | <vip name>] service-check	Enables layer 7 service check.
config slb vip [all | <vip name>] sticky-persistence {netmask <netmask>}	Enables the sticky persistence feature and specifies the client address mask.
enable slb vip [all | <vipname>] svcdown-reset	Enables svcdown-reset.
show flow-redirect <flow redirect>	Displays the current flow redirect configuration and statistics.
show slb 3dns members	Displays the current connection information between the switch and the 3DNS querier.
show slb connections [ipaddress <ip address>: [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>] | vip <vip name>]	Displays information on current connections.
show slb esrp	Displays SLB configuration for ESRP.
show slb failover	Displays SLB failover configuration and status.
show slb global	Displays the current SLB global configuration information.
show slb gogo-mode <port number> {configuration}	Displays GoGo mode ping-check, TCP-port-check, and service-check status.
show slb L4-port [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]	Displays the SLB configuration for the active layer 4 ports.

Command	Description
show slb node {<ip address> [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]}	Displays node configuration and status.
show slb persistence	Displays persistence status of existing clients.
show slb pool <pool name>	Displays the current SLB pool configuration and status.
show slb stats [pool <pool name> | vip <vip name>]	Displays the current SLB pool connection status.
show slb vip [<vip name> | ipaddress <ip address> : [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | www | <TCP or UDP port number>]] {detail}	Displays the current virtual server configuration and statistics.
unconfig slb all	Resets SLB global defaults and clears the SLB configuration.
unconfig slb gogo-mode <port number> health-check	Disables and deletes all the ping-check, TCP-port-check, and service-check configurations for this GoGo mode group.
unconfig slb gogo-mode <port number> service-check [all | ftp | http | nntp | pop3 | smtp | telnet | <TCP port number>]	Disables and deletes the GoGo mode service-check configuration.
unconfig slb vip [all | <vip name>] service-check	Disables and deletes the service check configuration.

Commands for Status Monitoring and Statistics

Command	Description
clear counters	Clears all switch statistics and port counters, including port packet statistics, bridging statistics, IP statistics, and MPLS statistics.
clear log {diag-status | static}	Clears the log database.
config flowstats export <group#> add [<ipaddress> | <hostname>] <udp_port>	Adds a flow-collector device to an export group to which NetFlow datagrams are exported.
config flowstats export <group#> delete [<ipaddress> | <hostname>] <udp_port>	Removes a flow-collector device from an export group to which NetFlow datagrams are exported.
config flowstats filter <filter#> {aggregation} {export <group#>} ports <portlist> [ingress | egress] <filterspec>	Configures a flow record filter for the specified ports.
config flowstats source ipaddress <ipaddress>	Configures the IP address that is to be used as the source IP address for NetFlow datagrams to be exported.

Command	Description
config flowstats timeout <minutes> ports [<portlist> | all]	Configures the timeout value for flow records on the specified ports.
config log display {<severity>}	Configures the real-time log display.
config sys-health-check alarm-level [log | system-down | traps | auto-recovery <number of tries> [online | offline]]	Configures the system health checker.
config sys-health-check auto-recovery <number of tries> [offline | online]	Configures the system health checker.
config syslog {add} [<hostname> | <ip_address>] <facility> {<severity>}	Configures the syslog host address, and filters messages to be sent to the syslog host.
config syslog delete [<hostname> | <ip_address>] <facility> {<severity>}	Deletes a syslog host address.
config sys-recovery-level [none | [critical | all] [shutdown | reboot | msm-failover | system-dump [shutdown | reboot | msm-failover | maintenance-mode]]]	Configures a recovery option for instances where an exception occurs in ExtremeWare.
disable cli-config-logging	Disables the logging of CLI configuration commands to the switch Syslog.
disable flowstats	Disables the flow statistics feature on the switch.
disable flowstats filter <filter#> ports <portlist> {ingress | egress}	Disables a specified flow record filter for the specified ports.
disable flowstats ping-check {<group#>}	Disables the flow statistics ping-check function for a specified group of collector devices.
disable flowstats ports <portlist>	Disables the flow statistics function on the specified ports.
disable log display	Disables the log display.
disable rmon	Disables the collection of RMON statistics on the switch.
disable sys-health-check	Disables the BlackDiamond system health checker.
disable syslog	Disables logging to a remote syslog host.
enable cli-config-logging	Enables the logging of CLI configuration commands to the Syslog for auditing purposes.
enable flowstats	Enables the flow statistics feature on the switch.
enable flowstats filter <filter#> ports <portlist> {ingress | egress}	Enables a specified flow record filter for the specified ports.
enable flowstats ping-check {<group#>}	Enables the flow statistics ping-check function for a specified group of collector devices.

Command	Description
enable flowstats ports <portlist>	Enables the flow statistics function on the specified ports.
enable log display	Configures the system to maintain a running real-time display of log messages on the console.
enable rmon	Enables the collection of RMON statistics on the switch.
enable sys-backplane-diag	Enables system run time backplane diagnostics, which is done by periodically sending diagnostic packets between MSM and I/O modules while the system is running.
enable sys-health-check	Enables the BlackDiamond system health checker.
enable syslog	Enables logging to a remote syslog host.
show flowstats {<portlist> | export {<group#>}}	Displays status information for the flow statistics function.
show flowstats export [detail |{<group number> detail}]	Displays configuration information an export group.
show flowstats <portlistr>	Displays status information for the flow statistics function.
show log {chronological} {<priority>}	Displays the current snapshot of the log.
show log config	Displays the log configuration.
show memory {detail}	Displays the current system memory information.
show ports {<portlist>} rxerrors	Displays real-time receive error statistics.
show ports {<portlist>} stats	Displays real-time port statistics.
show ports {<portlist>} txerrors	Displays real-time transmit error statistics.
show version {detail}	Displays the hardware serial numbers and versions, and software versions currently running on the switch, and (if applicable) the modules..
unconfig flowstats filter <filter#>	Removes the filter specification for the specified filter.
unconfig flowstats {filter <filter#> ports <portlist>} {ports [<portlist> | all]}	Resets the flow statistics configuration parameters for the specified ports to their default values.

Security Commands

Command	Description
config access-profile <access_profile> add {<seq_number>} {permit | deny} [ipaddress <ip address> <mask> {exact} | as-path <path-expression> | bgp-community [internet | no-export | no-advertise | no-export-subconfed | <as_no:number> | number <community>] | ipxnet <netid> <netid mask> | ipxsap <sap_type> <service_name> | vlan]	Adds an entry to the access profile.
config access-profile <access_profile> delete <seq_number>	Deletes an access profile entry using the sequence number.
config access-profile <access_profile> mode [permit | deny | none]	Configures the access profile mode to permit or deny access, or to require per-entry access control.
config cpu-dos-protect [alert-threshold <packets per second>] [notice-threshold <packets per second>] [timeout <seconds>] [messages [on | off]] [filter-precedence <number>] [filter-type-allowed {destination | source | destination source} {protocol}]	Configures denial of service protection.
config cpu-dos-protect trusted-ports [add <port number> | delete <port number> | all | none]	Configures ports as trusted, so that denial of service protection is not applied to port.
config netlogin base-url <url>	Configures the base URL for Network Login.
config netlogin redirect-url <url>	Configures the redirect URL for Network Login.
config radius [primary | secondary] server [<ipaddress> | <hostname>] {<udp_port>} client-ip [<ipaddress>]	Configures the primary and secondary RADIUS authentication server.
config radius [primary | secondary] shared-secret {encrypted} [<string>]	Configures the authentication string used to communicate with the RADIUS authentication server.
config radius timeout <seconds>	Configures the timeout interval for RADIUS authentication requests.
config radius-accounting [primary | secondary] server [<ipaddress> | <hostname>] {<udp_port>} client-ip [<ipaddress>]	Configures the RADIUS accounting server.
config radius-accounting [primary | secondary] shared-secret {encrypted} [<string>]	Configures the authentication string used to communicate with the RADIUS accounting server.
config radius-accounting timeout <seconds>	Configures the timeout interval for RADIUS-Accounting authentication requests.
config route-map <route-map> add <seq_number> [permit | deny] {match-one | match-all} {set lpm-routing | set iphost-routing}	Adds an entry in the route map with the specified sequence number and action.

Command	Description
config route-map <route_map> <seq_number> add goto <new_route_map>	Configures a route map `goto` statement to transfer evaluation to another route map.
config route-map <route-map> <seq_number> add match [nlri-list <nlri_access_profile> | as-path [access-profile <as_access_profile> | <as_number>] | community [access-profile <com_access_profile> | <as_number>:<number> | number <community> | no-advertise | no-export | no-export-subconfed] | next-hop <ip address> | med <number> | tag <number> | origin [igp | egp | incomplete]]	Configures a route map `match` statement.
config route-map <route-map> <seq_number> add set [as-path <as_number> | community [[access-profile <access-profile> | <as_number>:<number> | number <community> | no-advertise | no-export | no-export-subconfed] | remove | [add | delete] [access-profile <access-profile> | <as no> : <number> | number <community> | no-advertise | no-export | no-export-subconfed]] | next-hop <ip address> | med [internal | <med_number> | remove | [add | delete] <med_number>] local-preference <number> | weight <number> | origin [igp | egp | incomplete] | tag <tag_number> | accounting index <index_number> value <value_number> | cost <number> | cost-type [ase-type-1 | ase-type-2]]	Configures a route map `set` entry.
config route-map <route_map> delete <seq_number>	Deletes an entry from the route map.
config route-map <route_map> <seq_number> delete goto <new_route_map>	Deletes a route map `goto` statement.
config route-map <route-map> <seq_number> delete match [nlri-list <access-profile> | as-path [access-profile <access-profile> | <as_number>] | community [access-profile <access-profile> | <as_number>:<number> | number <community> | no-advertise | no-export | no-export-subconfed] | next-hop <ip address> | med <number> | tag <number> | origin [igp | egp | incomplete]]	Deletes a route map `match` statement.

Command	Description
config route-map <route-map> <seq_number> delete set [as-path <as_number> | community [[access-profile <access-profile> | <as_number>:<number> | number <community> | no-advertise | no-export | no-export-subconfed] | remove | [add | delete] [access-profile <access-profile> | <as_number>:<number> | number <community> | no-advertise | no-export | no-export-subconfed]] | next-hop <ip address> | med <number> | local-preference <number> | weight <number> | origin [igp | egp | incomplete] | tag <number> | accounting index <number> value <number> | cost <number> | cost-type [ase-type-1 | ase-type-2]]	Deletes a route map `set` entry.
config ssh2 key {pregenerated}	Generates the Secure Shell 2 (SSH2) host key.
config tacacs [primary | secondary] server [<ipaddress> | <hostname>] {<tcp_port>} client-ip <ipaddress>	Configures the server information for a TACACS+ authentication server.
config tacacs [primary | secondary] shared-secret {encrypted} <string>	Configures the shared secret string used to communicate with the TACACS+ authentication server.
config tacacs timeout <seconds>	Configures the timeout interval for TACAS+ authentication requests.
config tacacs-accounting [primary | secondary] server [<ipaddress> | <hostname>] {<udp_port>} client-ip <ipaddress>	Configures the TACACS+ accounting server.
config tacacs-accounting [primary | secondary] shared-secret {encrypted} <string>	Configures the shared secret string used to communicate with the TACACS+ accounting server.
config tacacs-accounting timeout <seconds>	Configures the timeout interval for TACACS+ accounting authentication requests.
config vlan <vlan name> access-profile [<access_profile> | none]	Configures a BlackDiamond 6800 running ExtremeWare 4.1 to control the routing of traffic between VLANs.
config vlan <name> dhcp-address-range <ipaddress1> - <ipaddress2>	Configures a set of DHCP addresses for a VLAN.
config vlan <name> dhcp-lease-timer <lease-timer>	Configures the timer value in seconds returned as part of the DHCP response.
config vlan <name> dhcp-options [default-gateway | dns-server | wins-server] <ipaddress>	Configures the DHCP options returned as part of the DHCP response by a switch configured as a DHCP server.

Command	Description
config vlan <vlan_name> netlogin-lease-timer <lease-timer>	Configures the timer value returned as part of the DHCP response for clients attached to Network-Login enabled ports.
create access-list <name> icmp destination [<dest_ipaddress>/<mask> | any] source [<src_ipaddress>/<source_mask> | any] type <icmp_type> code <icmp_code> [permit | deny] {<portlist>} {precedence <number>}	Creates a named IP access list that applies to ICMP traffic.
create access-list <name> ip destination [<dest_ipaddress>/<mask> | any] source [<src_ipaddress>/<src_mask> | any] [permit {<qosprofile>} | deny] ports [<portlist> | any] {precedence <prec_number>}	Creates a named IP access list that applies to all IP traffic.
create access-list <name> tcp destination [<dest_ipaddress>/<mask> | any] ip-port [<dst_port> | range <dst_port_min> <dst_port_max> | any] source [<src_ipaddress>/<src_mask> | any] ip-port [<src_port> | range <src_port_min> <src_port_max> | any] [permit <qosprofile> | permit-established | deny] ports [<portlist> | any] {precedence <precedence_num>}	Creates a named IP access list that applies to TCP traffic.
create access-list <name> udp destination [<dest_ipaddress>/<mask> | any] ip-port [<dst_port> | range <dst_port_min> <dst_port_max> | any] source [<src_ipaddress>/<src_mask> | any] ip-port [<src_port> | range <src_port_min> <src_port_max> | any] [permit <qosprofile> | deny] ports [<portlist> | any] {precedence <prec_number>}	Creates a named IP access list that applies to UDP traffic.
create access-profile <access_profile> type [ipaddress | ipx-node | ipx-net | ipx-sap | as-path | bgp-community | vlan]	Creates an access profile.
create route-map <route_map>	Creates a route map statement.
delete access-list [<name> | all]	Deletes an access list.
delete access-profile <access_profile>	Deletes an access profile.
delete route-map <route_map>	Deletes a route map statement from the route map.
disable access-list <name> [counter | log]	Disables message logging or the collection of access-list statistics.
disable cpu-dos-protect	Disables denial of service protection.
disable dhcp ports <portlist> vlan <name>	Disables DHCP on a specified port in a VLAN.
disable netlogin logout-privilege	Disables network login logout privilege.
disable netlogin	Disables network login.

Command	Description
disable netlogin ports <portlist> vlan <vlan_name>	Disables network login on a specified port in a VLAN.
disable netlogin session-refresh	Disables Network Login session refresh.
disable radius	Disables the RADIUS client.
disable radius-accounting	Disables RADIUS accounting.
disable ssh2	Enables incoming SSH2 Telnet sessions.
disable tacacs	Disables TACACS+ for authentication and authorization.
disable tacacs-accounting	Disables TACACS+ accounting.
disable tacacs-authorization	Disables CLI command authorization.
enable access-list <name> [counter | log]	Enables message logging or the collection of access-list statistics.
enable cpu-dos-protect	Enables denial of service protection.
enable cpu-dos-protect simulated	Enables simulated denial of service protection.
enable netlogin	Enables network login.
enable netlogin logout-privilege	Enables network login logout privilege.
enable netlogin ports <portlist> vlan <vlan_name>	Enables network login on a specified port in a VLAN.
enable netlogin session-refresh <minutes>	Disables Network Login session refresh.
enable radius	Enables the RADIUS client on the switch.
enable radius-accounting	Enables RADIUS accounting.
enable ssh2 {access-profile [<access_profile> | none]} {port <tcp_port_number>}	Enables incoming SSH2 Telnet sessions.
enable tacacs	Enables TACACS+.
enable tacacs-accounting	Enables TACACS+ accounting.
enable tacacs-authorization	Enables CLI command authorization.
scp2 {cipher [3des | blowfish]} {port <portnum>} {debug <debug_level>} <user>@ [<hostname> | <ipaddress>] :<remote_file> [configuration {incremental} | image [primary | secondary] | bootrom]	Copies a file from a remote system to the switch using SCP2.
scp2 {cipher [3des | blowfish]} {port <portnum>} {debug <debug_level>} configuration <user>@ [<hostname> | <ipaddress>]:<remote_file>	Copies the configuration file from the switch to a remote system using SCP2.
show access-list {<name> | port <portlist>}	Displays access list information and real-time statistics.
show access-list-fdb	Displays the hardware access control list mapping.

Command	Description
show access-list-monitor	Initiates the access-list information display, and refreshes it until discontinued.
show access-profile {<access_profile>}	Displays access-profile related information for the switch.
show cpu-dos-protect	Displays the status of denial of service protection.
show netlogin	Shows all network login parameters.
show netlogin ports <portlist> vlan <vlan_name>	Shows network login information on a specified port in a VLAN.
show radius	Displays the current RADIUS client configuration and statistics.
show radius-accounting	Displays the current RADIUS accounting client configuration and statistics.
show route-map <route map>	Displays route map information.
show tacacs	Displays the current TACACS+ configuration and statistics.
show tacacs-accounting	Displays the current TACACS+ accounting client configuration and statistics.
ssh2 {cipher [3des | blowfish]} {port <portnum>} {compression [on | off]} {user <username>} {debug <debug_level>} {<username>@} [<host> | <ipaddress>] {<remote command>}	Transmits a command to a remote system using an SSH2 connection.
unconfig cpu-dos-protect	Resets denial of service protection configuration to default values.
unconfig radius {server [primary | secondary]}	Unconfigures the RADIUS client configuration.
unconfig radius-accounting {server [primary | secondary]}	Unconfigures the RADIUS accounting client configuration.
unconfig tacacs {server [primary | secondary]}	Unconfigures the TACACS+ client configuration.
unconfig tacacs-accounting {server [primary | secondary]}	Unconfigures the TACACS+ accounting client configuration.

EAPS Commands

Command	Description
config eaps <name> add control vlan <vlan_name>	Adds the specified control VLAN to the specified EAPS domain.
config eaps <name> add protect vlan <vlan_name>	Adds the specified protected VLAN to the specified EAPS domain.
config eaps <name> delete control vlan <vlan_name>	Deletes the specified control VLAN from the specified EAPS domain.
config eaps <name> delete protect vlan <vlan_name>	Deletes the specified protected VLAN from the specified EAPS domain.
config eaps <name> failtime <seconds>	Configures the value of the fail timer the master node used for the EAPS health-check packet.
config eaps <name> hellotime <seconds>	Configures the value of the hello timer the master node used for the EAPS health-check packet.
config eaps <name> mode [master | transit]	Configures the switch as either the EAPS master node or as an EAPS transit node for the specified domain.
config eaps <name> [primary | secondary] port <port number>	Configures a node port as the primary or secondary port for the specified EAPS domain.
config eaps <old_name> name <new_name>	Renames an existing EAPS domain.
create eaps <name>	Creates an EAPS domain with the specified name.
delete eaps <name>	Deletes the EAPS domain with the specified name.
disable eaps {<name>}	Disables the EAPS function for a named domain or for an entire switch.
enable eaps {<name>}	Enables the EAPS function for a named domain or for an entire switch.
show eaps {<name>} {detail}	Displays EAPS status information.
show eaps summary	Displays summary information on one or more EAPS domains.
unconfig eaps <name> [primary | secondary] port	Sets the specified port's internal configuration state to INVALID.

STP Commands

Command	Description
config stpd <spanning tree name> add vlan <vlan name> {ports <portlist> [dot1d | emistp | pvst-plus]	Adds one or more VLANs, or a list of ports within a VLAN, to a specified STPD.

Command	Description
config stpd <spanning tree name> delete vlan <vlan name> {ports <portlist>	Deletes one or more ports in the specified VLAN from an STPD.
config stpd <spanning tree name> forwarddelay <seconds>	Specifies the time (in seconds) that the ports in this STPD spend in the listening and learning states when the switch is the Root Bridge.
config stpd <spanning tree name> hellotime <seconds>	Specifies the time delay (in seconds) between the transmission of Bridge Protocol Data Units (BPDUs) from this STPD when it is the Root Bridge.
config stpd <spanning tree name> maxage <seconds>	Specifies the maximum age of a BPDU in the specified STPD.
config stpd <spanning tree name> ports cost <cost> [<portlist>]	Specifies the path cost of the port in the specified STPD.
config stpd <spanning tree name> ports mode {dot1d | emistp | pvst-plus} [<portlist>]	Configures the STP mode of operation for the specified port list.
config stpd <spanning tree name> ports priority <priority> [<portlist>]	Specifies the port priority of the port in the specified STPD.
config stpd <spanning tree name> priority <priority>	Specifies the bridge priority of the STPD.
config stpd <spanning tree name> tag <vlan tag>	Assigns an StpdID to an STPD.
config vlan <vlan name> add ports <portlist> stpd <spanning tree name> [dot1d | emistp | pvst-plus]	Adds a list of ports within a VLAN to a specified STPD.
create stpd <name>	Creates a user-defined STPD.
delete stpd <spanning tree name>	Removes a user-defined STPD from the switch.
disable ignore-bpdu vlan <vlan name>	Allows the switch to recognize STP BDUs.
disable ignore-stp vlan <vlan name>	Allows a VLAN to use STP port information.
disable stpd {<spanning tree name>}	Disables the STP mechanism on a particular STPD or for all STPDs.
disable stpd <spanning tree name> ports [<portlist>]	Disables STP on one or more ports.
disable stpd <spanning tree name> rapid-root-failover	Disables rapid root failover for STP recovery times.
enable ignore-bpdu vlan <vlan name>	Configures the switch to ignore the STP BPDUs, which prevents ports in the VLAN from becoming part of an STPD.
enable ignore-stp vlan <vlan name>	Configures the switch to ignore the STP protocol and not block traffic for the VLAN(s).
enable stpd {<spanning tree name>}	Enables the STP protocol for one or all STPDs.
enable stpd <spanning tree name> rapid-root-failover	Enables rapid root failover for faster STP recovery times.
enable stpd <spanning tree name> ports <portlist>	Enables the STP protocol on one or more ports.

Command	Description
show stpd {detail | <spanning tree name>}	Displays STPD settings on the switch.
show stpd <spanning tree name> ports [<portlist> | all] {detail}	Displays the STP state of a port.
unconfig stpd {<spanning tree name> | all}	Restores default STP values to a particular STPD or all STPDs.

ESRP Commands

Command	Description
config esrp port-mode [host | normal] ports <portlist> {don't-count}	Configures the ESRP port mode for ESRP host attach.
config vlan <super_esrp_vlan> add domain-member vlan <sub_esrp_vlan>	Adds a VLAN to an ESRP domain.
config vlan <vlan name> add ports [<portlist> | all] no-restart	Disables port restart for a port.
config vlan <vlan name> add ports [<portlist> | all] restart	Configures ESRP to restart ports if there is a state change and the downstream switch is from another vendor.
config vlan <vlan name> add track-bgp failover <priority>	Configures an ESRP-enabled VLAN to track any available BGP route.
config vlan <vlan name> add track-diagnostic failover <priority>	Configures backplane diagnostics failure tracking for an ESRP-enabled VLAN.
config vlan <vlan name> add track-environment failover <priority>	Configures an ESRP-enabled VLAN to track environmental failures.
config vlan <vlan name> add track-iproute <ipaddress>/<masklength>	Configures an ESRP-enabled VLAN or a VRRP VLAN to track a route entry in the kernel route table.
config vlan <vlan name> add track-ospf failover <priority>	Configures an ESRP-enabled VLAN to track any available OSPF route.
config vlan <vlan name> add track-ping <ipaddress> frequency <seconds> miss <number>	Configures an ESRP-enabled VLAN or VRRP VLAN to track an external gateway using ping.
config vlan <vlan name> add track-rip failover <priority>	Configures an ESRP-enabled VLAN to track any available RIP route.
config vlan <vlan name> add track-vlan <vlan_tracked>	Configures an ESRP-enabled VLAN or a VRRP VLAN to track port connectivity to a specified VLAN.
config vlan <super_esrp_vlan> delete domain-member vlan <sub_esrp_vlan>	Deletes a VLAN from an ESRP domain.
config vlan <vlan name> delete track-bgp	Disables BGP route tracking for an ESRP-enabled VLAN.

Command	Description
config vlan <vlan name> delete track-diagnostic	Disables diagnostics failure tracking for an ESRP-enabled VLAN.
config vlan <vlan name> delete track-environment	Disables environmental failure tracking.
config vlan <vlan name> delete track-iproute <ipaddress>/<masklength>	Disables route table entry tracking for an ESRP-enabled VLAN or a VRRP VLAN.
config vlan <vlan name> delete track-ospf	Disables OSPF route tracking for an ESRP-enabled VLAN.
config vlan <vlan name> delete track-ping <ipaddress>	Disables the tracking of an external gateway using ping.
config vlan <vlan name> delete track-rip	Disables RIP route tracking for an ESRP-enabled VLAN.
config vlan <vlan name> delete track-vlan <vlan_tracked>	Disables the tracking of port connectivity to a specified VLAN.
config vlan <vlan name> esrp esrp-election [ports-track-priority | ports-track-priority-mac | track-ports-priority | track-ports-priority-mac | priority-ports-track-mac | priority-track-ports-mac | priority-mac-only]	Configures the election algorithm on the switch.
config vlan <vlan name> esrp esrp-neutral-timeout <neutral-timer (0-512, 0 restores dflt)>	Configures the ESRP neutral timeout.
config vlan <vlan name> esrp priority <value>	Configures the ESRP priority.
config vlan <vlan name> esrp timer <timervalue> {esrp-nbr-timeout <timeoutvalue>}	Configures the ESRP timer values.
config vlan <vlan name> esrp group <group_number>	Configures the group number to be used for the ESRP VLAN.
disable esrp vlan <vlan name>	Disables ESRP on a VLAN.
enable esrp vlan <vlan name>	Enables ESRP on a VLAN.
show esrp {detail}	Displays ESRP configuration information.
show esrp-aware vlan <vlan name>	Displays ESRP-aware information for a specific VLAN.
show esrp vlan <vlan name> {counters}	Displays ESRP configuration information for a specific VLAN.

VRRP Commands

Command	Description
config vrrp add vlan <vlan name>	Enables VRRP on a particular VLAN.

Command	Description
config vrrp delete [vlan <vlan name> | all]	Disables VRRP on one or all VLANs.
config vrrp vlan <vlan name> add [master | backup] vrid <number> <ip address>	Configures the VRID instance on the VRRP VLAN as master or backup.
config vrrp vlan <vlan name> authentication [none | simple-password <simple password>]	Configures VRRP authentication.
config vrrp vlan <vlan name> delete vrid [<number> | all]	Deletes one or all VRIDs.
config vrrp vlan <vlan name> vrid <number> [priority <priority_number> | advertisement-interval <ad_interval_number> | dont_preempt | preempt]	Configures VRRP parameters.
disable vrrp	Disables VRRP on the switch.
enable vrrp	Enables VRRP on the switch.
show vrrp [vlan <vlan name> | all] {detail}	Displays VRRP configuration information for one or all VLANs.
show vrrp vlan <vlan name> stats	Displays VRRP statistics for a particular VLAN.

IP Unicast Commands

Command	Description
clear iparp {<ip address> | vlan <vlan name>}	Removes dynamic entries in the IP ARP table.
clear ipfdb {<ip address> <netmask>| vlan <vlan name>}	Removes the dynamic entries in the IP forwarding database.
config bootprelay add <ip address>	Configures the addresses to which BOOTP requests should be directed.
config bootprelay delete [<ip address> | all]	Removes one or all IP destination addresses for forwarding BOOTP packets.
config iparp add <ip address> <mac_address>	Adds a permanent entry to the ARP table. Specify the IP address and MAC address of the entry.
config iparp add proxy <ip address> {<mask>} {<mac_address>} {always}	Configures the switch to respond to ARP Requests on behalf of devices that are incapable of doing so. Up to 64 proxy ARP entries can be configured.
config iparp delete <ip address>	Deletes an entry from the ARP table. Specify the IP address of the entry.
config iparp delete proxy [<ip address> {<mask>} | all]	Deletes one or all proxy ARP entries.
config iparp max-entries <number>	Configures the maximum allowed IP ARP entries.

Command	Description
config iparp max-pending-entries <number>	Configures the maximum allowed incomplete IP ARP entries.
config iparp timeout <minutes>	Configures the IP ARP timeout period.
config ip-down-vlan-action [consume | drop | forward]	Configures the forwarding functionality destined to nonworking IP interfaces.
config iproute add <ip address> <mask> <gateway> <metric>	Adds a static address to the routing table.
config iproute add blackhole <ip address> <mask>	Adds a blackhole address to the routing table. All traffic destined for a configured blackhole IP address is silently dropped, and no Internet Control Message Protocol (ICMP) message is generated.
config iproute add blackhole default	Adds a default blackhole route to the routing table. All traffic destined for an unknown IP destination is silently dropped, and no Internet Control Message Protocol (ICMP) message is generated.
config iproute add default <gateway> {<metric>}	Adds a default gateway to the routing table.
config iproute delete <ip address> <mask> <gateway>	Deletes a static address from the routing table.
config iproute delete blackhole <ip address> <mask>	Deletes a blackhole address from the routing table.
config iproute delete blackhole default	Deletes a default blackhole route from the routing table.
config iproute delete default <gateway>	Deletes a default gateway from the routing table.
config iproute priority [rip | bootp | icmp | static | ospf-intra | ospf-inter | ospf-as-external | ospf-extern1 | ospf-extern2] <priority>	Changes the priority for all routes from a particular route origin.
config iproute route-map [bgp | direct | e-bgp | i-bgp | ospf | ospf-extern1 | ospf-extern2 | ospf-inter | ospf-intra | rip | static] [<route map> | none]	Configures the contents of the IP routing table.
config irdp [multicast | broadcast]	Configures the destination address of the router advertisement messages.
config irdp <mininterval> <maxinterval> <lifetime> <preference>	Configures the router advertisement message timers, using seconds.
config tcp-sync-rate <number_sync_per_sec>	Configures a limit for the switch to process TCP connection requests.
config udp-profile <profile_name> add <udp_port> [vlan <vlan name> | ip address <dest_ipaddress>]	Configures a UDP-forwarding profile.
config udp-profile <profile_name> delete <udp_port> [vlan <vlan name> | ip address <dest_ipaddress>]	Deletes a forwarding entry from the specified UDP-profile.

Command	Description
config vlan <vlan name> subvlan-address-range <ip address1> - <ip address2>	Configures sub-VLAN address ranges on each sub-VLAN to prohibit the entry of IP addresses from hosts outside of the configured range.
config vlan <vlan name> udp-profile <profile_name>	Assigns a UDP-forwarding profile to the source VLAN.
config vlan <super-vlan name> [add | delete] secondary-ip <ip address> {<mask>}	Adds or deletes a secondary IP address to the super-VLAN for responding to ICMP ping requests.
config vlan <super-vlan name> [add | delete] subvlan <sub-vlan name>	Adds or deletes a sub-VLAN to a super-VLAN.
create udp-profile <profile_name>	Creates a UDP-forwarding destination profile that describes the types of UDP packets (by port number) that are used, and where they are to be forwarded.
delete udp-profile <profile_name>	Deletes a UDP-forwarding profile.
disable bootp vlan [<vlan name> | all]	Disables the generation and processing of BOOTP packets on a VLAN to obtain an IP address for the VLAN from a BOOTP server.
disable bootprelay	Disables the BOOTP relay function.
disable icmp address-mask {vlan <vlan name>}	Disables the generation of an ICMP address-mask reply on one or all VLANs.
disable icmp parameter-problem {vlan <vlan name>}	Disables the generation of an ICMP parameter-problem message on one or all VLANs.
disable icmp port-unreachables {vlan <vlan name>}	Disables the generation of ICMP port unreachable messages on one or all VLANs.
disable icmp redirects {vlan <vlan name>}	Disables generation of ICMP redirect messages on one or all VLANs.
disable icmp time-exceeded {vlan <vlan name>}	Disables the generation of ICMP time exceeded messages on one or all VLANs.
disable icmp timestamp {vlan <vlan name>}	Disables the generation of an ICMP timestamp response on one or all VLANs.
disable icmp unreachables {vlan <vlan name>}	Disables the generation of ICMP unreachable messages on one or all VLANs.
disable icmp useredirects	Disables the modification of route table information when an ICMP redirect message is received.
disable iparp checking	Disable checking if the ARP Request source IP address is within the range of the local interface or VLAN domain.
disable iparp refresh	Disables IP ARP to refresh its IP ARP entries before timing out.

Command	Description
disable ipforwarding {[broadcast | fast-direct-broadcast | ignore-broadcast]} {vlan <vlan name>}	Disables routing (or routing of broadcasts) for one or all VLANs. If no argument is provided, disables routing for all VLANs.
disable ipforwarding lpm-routing {vlan <vlan name>}	Disables Longest Prefix Match (LPM) routing for the specified VLAN. If no argument is provided, disables LPM routing for all VLANs except the management VLAN.
disable ip-option loose-source-route	Disables the loose source route IP option.
disable ip-option record-route	Disables the record route IP option.
disable ip-option record-timestamp	Disables the record timestamp IP option.
disable ip-option strict-source-route	Disables the strict source route IP option.
disable ip-option use-router-alert	Disables the generation of the router alert IP option.
disable iproute sharing	Disables load sharing if multiple routes to the same destination are available. When multiple routes to the same destination are available, load sharing can be enabled to distribute the traffic to multiple destination gateways. Only paths with the same lowest cost is will be shared.
disable irdp {vlan <vlan name>}	Disables the generation of ICMP router advertisement messages on one or all VLANs.
disable loopback-mode vlan [<vlan name> | all]	Disallows a VLAN to be placed in the UP state without an external active port. This allows (disallows) the VLANs routing interface to become active.
disable multinetting	Disables IP multinetting on the system.
disable subvlan-proxy-arp vlan [<super-vlan name> | all]	Disables the automatic entry of sub-VLAN information in the proxy ARP table.
disable udp-echo-server	Disables UDP echo server support.
enable bootp vlan [<vlan name> | all]	Enables the generation and processing of BOOTP packets on a VLAN to obtain an IP address for the VLAN from a BOOTP server.
enable bootprelay	Enables the BOOTP relay function.
enable icmp address-mask {vlan <vlan name>}	Enables the generation of an ICMP address-mask reply on one or all VLANs.
enable icmp parameter-problem {vlan <vlan name>}	Enables the generation of an ICMP parameter-problem message on one or all VLANs.
enable icmp port-unreachables {vlan <vlan name>}	Enables the generation of ICMP port unreachable messages on one or all VLANs.

Command	Description
enable icmp redirects {vlan <vlan name>}	Enables generation of ICMP redirect messages on one or all VLANs.
enable icmp time-exceeded {vlan <vlan name>}	Enables the generation of ICMP time exceeded messages on one or all VLANs.
enable icmp timestamp {vlan <vlan name>}	Enables the generation of an ICMP timestamp response on one or all VLANs.
enable icmp unreachables {vlan <vlan name>}	Enables the generation of ICMP unreachable messages on one or all VLANs.
enable icmp useredirects	Enables the modification of route table information when an ICMP redirect message is received.
enable iparp checking	Enables checking if the ARP Request source IP address is within the range of the local interface or VLAN domain.
enable iparp refreshenable iparp refresh	Enables IP ARP to refresh its IP ARP entries before timing out.
enable ipforwarding {[broadcast | fast-direct-broadcast | ignore-broadcast]} {vlan <vlan name>}	Enables IP routing or IP broadcast forwarding for one or all VLANs. If no argument is provided, enables IP routing for all VLANs that have been configured with an IP address.
enable ipforwarding lpm-routing {vlan <vlan name>}	Enables Longest Prefix Match (LPM) routing for the specified VLAN. If no argument is provided, enables LPM routing for all VLANs except the management VLAN.
enable ip-option loose-source-route	Enables the loose source route IP option.
enable ip-option record-route	Enables the record route IP option.
enable ip-option record-timestamp	Enables the record timestamp IP option.
enable ip-option strict-source-route	Enables the strict source route IP option.
enable ip-option use-router-alert	Enables the generation of the router alert IP option.
enable iproute sharing	Enables load sharing if multiple routes to the same destination are available. When multiple routes to the same destination are available, load sharing can be enabled to distribute the traffic to multiple destination gateways. Only paths with the same lowest cost is will be shared.
enable irdp {vlan <vlan name>}	Enables the generation of ICMP router advertisement messages on one or all VLANs.
enable loopback-mode vlan [<vlan name> | all]	Allows a VLAN to be placed in the UP state without an external active port. This allows (disallows) the VLANs routing interface to become active.

Command	Description
enable multinetting	Enables IP multinetting on the system.
enable subvlan-proxy-arp vlan [<super-vlan name> | all]	Enables the automatic entry of sub-VLAN information in the proxy ARP table.
enable udp-echo-server	Enables UDP echo server support.
rtlookup [<ip address> | <hostname>]	Performs a look-up in the route table to determine the best route to reach an IP address or host.
run ipfdb-check [index <bucket> <entry> | <ip-address> {<ip-address>}] {extended} {detail}	Checks IP FDB entries for consistency.
show iparp {<ip address> | <mac_address> | vlan <vlan name> | permanent}	Displays the IP Address Resolution Protocol (ARP) table. You can filter the display by IP address, MAC address, VLAN, or permanent entries.
show iparp proxy {<ip address> {<mask>}}	Displays the proxy ARP table.
show ipconfig {vlan <vlan name>} {detail}	Displays configuration information for one or more VLANs.
show ipfdb {<ip address> <netmask> | vlan <vlan name>}	Displays the contents of the IP forwarding database (FDB) table. Used for technical support purposes. If no option is specified, all IP FDB entries are displayed.
show iproute {priority | vlan <vlan name> | permanent | <ip address> <netmask> | route-map |origin [direct | static | blackhole | rip | bootp | icmp | ospf-intra | ospf-inter | ospf-as-external | ospf-extern1 | ospf-extern2]} {mpls} {sorted}	Displays the contents of the IP routing table or the route origin priority.
show ipstats {vlan <vlan name>}	Displays IP statistics for the CPU for the switch or for a particular VLAN.
show udp-profile {<profile_name>}	Displays the UDP profile information.
unconfig icmp	Resets all ICMP settings to the default values.
unconfig iparp	Resets IP ARP timeout, IP ARP max-entries, and IP ARP max-pending-entries to their default values.
unconfig irdp	Resets all router advertisement settings to the default values.
unconfig udp-profile vlan [<vlan name> | all]	Removes the UDP-forwarding profile configuration for one or all VLANs.

IGP Commands

Command	Description
clear isis adjacency {level-1 | level-2 | level-1-2 | point-to-point} {vlan <vlan name>}	Clear the IS-IS adjacencies currently present.
clear isis lsdb {level-2 | area <isis area identifier>} {system-identifier <system identifier> | sysName <alphanumeric string>} {type [non-pseudonode | pseudonode {circuit-identifier <number(1-255)>}]} {lsp-number <number(0-255)>}	Clears the IS-IS LSDB of the level 2 subdomain or a level 1 area.
config isis [level-2 | area <isis area identifier>] add <area address>	Adds an IS-IS area address for a level 2 subdomain or a level 1 area.
config isis add vlan [<vlan name> | all] [[level-1 | level-1-2] area <isis area identifier> | level-2-only]	Enables IS-IS routing on a routing interface.
config isis area <isis area identifier> add domain-summary <ip address> /<netmask> [advertise {cost <cost(0-4261412864)>} | noadvert]	Adds a summary address to be applied on the IP reachability information from this level 1 area, which will be included in the level 2 LSP.
config isis area <isis area identifier> delete domain-summary <ip address> /<netmask>	Deletes a summary address to be applied on the IP reachability information from this level 1 area, which will be included in the level 2 LSP.
config isis area <isis area identifier> domain-filter [<access profile> | none]	Configures an access profile to filter the IP reachability information from this level 1 area that will be included in the level 2 LSP:
config isis [level-2 | area <isis area identifier>] authentication [simple-password <isis simple password> {no-check} | hmac-md5 <hmac-md5> {no-check} | none]	Configures authentication for a level 2 subdomain or a level 1 area.
config isis [level-2 | area <isis area identifier>] delete <area address>	Deletes an IS-IS area address for a level 2 subdomain or a level 1 area.
config isis delete vlan [<vlan name> | all]	Disables IS-IS routing on a routing interface.
config isis [level-2 | area <isis area identifier>] external-filter [<access profile> | none]	Configures an access profile to filter routes being redistributed in to the level 1 area or level 2 subdomain.
config isis lsp-holddown-interval <seconds>	Configures the LSP hold down interval.
config isis lsp-lifetime <seconds>	Configures the LSP lifetime.
config isis lsp-refresh-interval <seconds>	Configures the LSP refresh interval.
config isis [level-2 | area <isis area identifier>] metric-size [regular | wide | both]	Configures the size of the metric originated in the LSP for the level 2 subdomain or level 1 area.
config isis spf-hold-time <seconds>	Configures the shortest-path-first hold time.

Command	Description
config isis system-identifier <system identifier>	Configures a 6 hex octet system identifier for IS-IS routing.
config isis [vlan <vlan name> | all] [level-1| level-2 | level-1-2] [passive | non-passive]	Configures the different IS-IS levels on a routing interface as passive or non-passive.
config isis vlan <vlan name> [level-1 | level-2 | level-1-2] authentication [simple-password <isis simple password> {no-check} | hmac-md5 <hmac-md5> {no-check} | none]	Configures authentication on a VLAN for the IS-IS levels on a routing interface:
config isis [vlan <vlan name> | all] [level-1| level-2 | level-1-2] cost <cost>	Configures the IS-IS metric for the different IS-IS levels of a routing interface.
config isis [vlan <vlan name> | all] [level-1| level-2 | level-1-2] hello-multiplier <number(3-1000)>	Configures the number of IS-IS Hello packets an IS-IS neighbor at a particular level on this routing interface must miss before the it declares that the adjacency with this system is down.
config isis [vlan <vlan name> | all] [level-1| level-2 | level-1-2] priority <priority>	Configures the IS-IS priority for the IS-IS levels of a routing interface.
config isis [vlan <vlan name> | all] [level-1| level-2 | level-1-2] timer [csnp <seconds>| hellotime <seconds>]	Configures the IS-IS timer interval for the different levels of a routing interface.
config ospf [area <area identifier> | vlan [<vlan name> | all]] cost [automatic | <number>]	Configures the cost metric of one or all interface(s).
config ospf [area <area identifier> | vlan [<vlan name> | all]] priority <priority>	Configures the priority used in the designated router-election algorithm for one or all OSPF interface(s) for all the interfaces within the area.
config ospf [vlan <vlan name> | area <area identifier> | virtual-link <routerid> <area identifier>] authentication [simple-password <password> | md5 <md5_key_id> <md5_key>| none | encrypted [simple-password <password> | md5 <md5_key_id> <md5_key>]	Specifies the authentication password (up to eight characters) or Message Digest 5 (MD5) key for one or all interfaces in an area.
config ospf [vlan <vlan name> | area <area identifier> | virtual-link <routerid> <area identifier>] timer <retransmit interval> <transit delay> <hello interval> <dead interval> {<wait timer interval>}	Configures the timers for one interface or all interfaces in the same OSPF area.
config ospf add virtual-link <routerid> <area identifier>	Adds a virtual link connected to another ABR.
config ospf add vlan [<vlan name> | all] area <area identifier> {passive}	Enables OSPF on one or all VLANs (router interfaces).
config ospf add vlan [<vlan name> | all] area <area identifier> link-type [auto | broadcast | point-to-point] {passive}	Configures the OSPF link type.

Command	Description
config ospf area <area_id> external-filter [<access_profile> |none]	Configures an external filter policy.
config ospf area <area_id> interarea-filter [<access_profile> | none]	Configures a global inter-area filter policy.
config ospf area <area identifier> add range <ipaddress> <mask> [advertise | noadvertise] {type-3 | type-7}	Configures a range of IP addresses in an OSPF area to be aggregated.
config ospf area <area identifier> delete range <ipaddress> <mask>	Deletes a range of aggregated IP addresses in an OSPF area.
config ospf area <area identifier> normal	Configures an OSFP area as a normal area.
config ospf area <area identifier> nssa [summary | nosummary] stub-default-cost <cost> {translate}	Configures an OSPF area as an NSSA.
config ospf area <area identifier> stub [summary | nosummary] stub-default-cost <cost>	Configures an OSPF area as a stub area.
config ospf asbr-filter [<access profile> | none]	Configures a route filter for all ASBR routers.
config ospf ase-limit <number> {timeout <seconds>}	Configures the AS-external LSA limit and overflow duration associated with OSPF database overflow handling.
config ospf ase-summary add <ip address> <mask> cost <cost> {<tag_number>}	Aggregates AS-external routes in a specified address range.
config ospf ase-summary delete <ipaddress> <mask>	Deletes an aggregated OSPF external route.
config ospf delete virtual-link <routerid> <area identifier>	Removes a virtual link.
config ospf delete vlan [<vlan name> | all]	Disables OSPF on one or all VLANs (router interfaces).
config ospf direct-filter [<access_profile> | none]	Configures a route filter for direct routes.
config ospf lsa-batching-timer <timer_value>	Configures the OSPF LSA batching interval.
config ospf metric-table 10M <cost> 100M <cost> 1G <cost> {10G <cost>}	Configures the automatic interface costs for 10 Mbps, 100 Mbps, 1 Gbps, and 10 Gbps interfaces.
config ospf routerid [automatic | <routerid>]	Configures the OSPF router ID. If automatic is specified, the switch uses the largest IP interface address as the OSPF router ID.
config ospf spf-hold-time <seconds>	Configures the minimum number of seconds between Shortest Path First (SPF) recalculations.
config ospf [all | vlan <vlan name>] area <area identifier>	Associates a VLAN (router interface) with an OSPF area. By default, all router interfaces are associated with area 0.0.0.0.

Command	Description
config ospf vlan <vlan name> neighbor add <ipaddress>	Configures the IP address of a point-to-point neighbor.
config ospf vlan <vlan name> neighbor delete <ipaddress>	Deletes the IP address of a point-to-point neighbor.
config ospf vlan <vlan name> timer <retransmit tinterval> <transmit delay> <hello interval [1-655191]> <dead interval> {<wait timer interval>}	Configures the OSPF wait interval.
config rip add vlan [<vlan name> | all]	Configures RIP on an IP interface.
config rip delete vlan [<vlan name> | all]	Disables RIP on an IP interface.
config rip garbagetime {<seconds>}	Configures the RIP garbage time.
config rip routetimeout {<seconds>}	Configures the route timeout period.
config rip rxmode [none | v1only | v2only | any] {vlan <vlan name>}	Changes the RIP receive mode for one or more VLANs.
config rip txmode [none | v1only | v1comp | v2only] {vlan <vlan name>}	Changes the RIP transmission mode for one or more VLANs.
config rip updatetime {<seconds>}	Specifies the time interval in seconds within which RIP sends update packets.
config rip vlan [<vlan name> | all] cost <cost>	Configures the cost (metric) of the interface.
config rip vlan [<vlan name> | all] export-filter [<access_profile> | none]	Configures RIP to suppress certain routes when performing route advertisements.
config rip vlan [<vlan name> | all] import-filter [<access_profile> | none]	Configures RIP to ignore certain routes received from its neighbor.
config rip vlan [<vlan name> | all] trusted-gateway [<access_profile> | none]	Configures a trusted neighbor policy, which uses an access profile to determine trusted RIP router neighbors for the VLAN on the switch running RIP.
create isis area <name>	Creates an IS-IS level 1 area.
create ospf area <area identifier>	Creates an OSPF area.
delete isis area [<isis area identifier> | all]	Deletes an IS-IS level 1 area.
delete ospf area [<area identifier> | all]	Deletes an OSPF area.
disable isis	Disables IS-IS routing.
disable isis [level-2 | area <isis area identifier>] export [bgp | i-bgp | e-bgp | direct | rip | static | vip | ospf | ospf-intra | ospf-inter | ospf-extern1 | ospf-extern2]	Disables the redistribution of non-IS-IS routes from the kernel routing table into a IS-IS level 2 subdomain or level 1 area:
disable isis ignore-attached-bit	Disables ignoring the attached bit.
disable isis [level-2 | area <isis area identifier>] originate-default	Disables the origination of an IS-IS default route from a system into the level 1 area or level 2 subdomain.

Command	Description
disable isis [level-2 | area <isis area identifier>] overload {at-startup}	Disables the setting of the overload bit in the LSP originated by the system in the level 2 subdomain or level 1 area.
disable ospf	Disables the OSPF process for the router.
disable ospf capability opaque-lsa	Disables opaque LSAs across the entire system.
disable ospf export [bgp | direct | e-bgp | i-bgp | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external | rip | static | vip]	Disables redistribution of routes to OSPF.
disable ospf originate-router-id	Disables distribution of a route for the OSPF router ID in the router LSA.
disable rip	Disables RIP for the whole router.
disable rip aggregation	Disables the RIP aggregation of subnet information on a RIP version 2 (RIPv2) interface.
disable rip export [direct | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external | ospf | ospf-extern1 | ospf-extern2 | ospf-inter | ospf-intra | static | vip]	Disables RIP from redistributing routes from other routing protocols.
disable rip exportstatic	Enables the redistribution of static routes.
disable rip originate-default	Unconfigures a default route to be advertised by RIP if no other default route is advertised. If always is specified, RIP always advertises the default route to its neighbors. If always is not specified, RIP adds a default route if a reachable default route is not in the route table.
disable rip poisonreverse	Disables poison reverse algorithm for RIP.
disable rip splithorizon	Disables the split horizon algorithm for RIP.
disable rip triggerupdate	Disables the trigger update mechanism. Triggered updates are a mechanism for immediately notifying a router's neighbors when the router adds or deletes routes or changes their metric.
enable isis	Enables IS-IS routing.
enable isis [level-2 | area <isis area identifier>] export [bgp | i-bgp | e-bgp | direct | rip | static | vip | ospf | ospf-intra | ospf-inter | ospf-extern1 | ospf-extern2] [cost <cost(0-4261412864)> type [internal | external] | <route map>]	Enables the redistribution of non-IS-IS routes from the kernel routing table into a IS-IS level 2 subdomain or level 1 area:
enable isis ignore-attached-bit	Enables ignoring the attached bit.
enable isis [level-2 | area <isis area identifier>] originate-default {always} cost <cost(0-4261412864)> type [internal | external]	Enables the origination of a default route from a system into the level 1 area or level 2 subdomain.

Command	Description
enable isis [level-2 | area <isis area identifier>] overload {at-startup} {<seconds(1-86400)>}	Enables the setting of the overload bit in the LSP originated by the system in the level 2 subdomain or level 1 area.
enable ospf	Enables the OSPF process for the router.
enable ospf capability opaque-lsa	Enables opaque LSAs across the entire system.
enable ospf export [bgp | e-bgp | i-bgp | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external] [cost <number> [ase-type-1 | ase-type-2] {tag <number>} | <route_map>]	Enables redistribution of routes to OSPF.
enable ospf export direct [cost <metric> [ase-type-1 | ase-type-2] {tag <number>} | <route_map>]	Enables the redistribution of local interface (direct) routes into the OSPF domain. This will not export the loopback address of 127.0.0.1.
enable ospf export rip [cost <metric> [ase-type-1 | ase-type-2] {tag <number>} | <route map>]	Enables the redistribution of RIP to OSPF.
enable ospf export static [cost <metric> [ase-type-1 | ase-type-2] {tag <number>} | <route_map>]	Enables the redistribution of static routes to OSPF.
enable ospf export vip [cost <metric> [ase-type-1 | ase-type-2] {tag <number>} | <route_map>]	Enables the redistribution of virtual IP addresses into the OSPF domain.
enable ospf originate-default {always} cost <metric> [ase-type-1 | ase-type-2] {tag <number>}	Enables a default external LSA to be generated by OSPF, if no other default route is originated by OSPF by way of RIP and static route re-distribution.
enable ospf originate-router-id	Enables distribution of a route for the OSPF router ID in the router LSA.
enable rip	Enables RIP for the whole router.
enable rip aggregation	Enables the RIP aggregation of subnet information on a RIP version 2 (RIPv2) interface.
enable rip export [direct | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external | ospf | ospf-extern1 | ospf-extern2 | ospf-inter | ospf-intra | static | vip] cost <number> {tag <number>}	Enables RIP to redistribute routes from other routing functions.
enable rip exportstatic	Enables the redistribution of static routes.
enable rip originate-default {always} cost <number> {tag<number>}	Configures a default route to be advertised by RIP if no other default route is advertised. If always is specified, RIP always advertises the default route to its neighbors. If always is not specified, RIP adds a default route if a reachable default route is not in the route table.
enable rip poisonreverse	Enables poison reverse algorithm for RIP.
enable rip splithorizon	Enables the split horizon algorithm for RIP.

Command	Description
enable rip triggerupdate	Enables the trigger update mechanism. Triggered updates are a mechanism for immediately notifying a router's neighbors when the router adds or deletes routes or changes their metric.
show isis	Displays the system parameters that are configured for the system and other system runtime information.
show isis adjacency {level-2 | area <isis area identifier> | vlan <vlan name>} {detail}	Displays the runtime information for all the adjacencies currently present on a VLAN.
show isis interface {vlan <vlan name> | area <isis area identifier>} {detail}	Displays the interface parameters that are configured and other interface related runtime information.
show isis lsdb {level-2 | area <isis area identifier>} {system-identifier <system identifier> | sysName <alphanumeric string>} {type [non-pseudonode | pseudonode {circuit-identifier <number(1-255)>}]} {lsp-number <number(0-255)>}	Displays the contents of the LSDB of the level 2 subdomain or a level 1 area.
show ospf	Displays global OSPF information.
show ospf area <area identifier>	Displays information about a particular OSPF area.
show ospf area detail	Displays information about all OSPF areas.
show ospf ase-summary	Displays the OSPF external route aggregation configuration.
show ospf interfaces detail	Displays detailed information about all OSPF interfaces.
show ospf interfaces {vlan <vlan name> | area <area identifier>}	Displays information about one or all OSPF interfaces.
show ospf lsdb area [all | <area identifier>[/<len>] | detail | interface | lsid <id>[/<len>] | lstype [all | as-external | external-type7 | network | opaque-area | opaque-global | opaque-local | router | summary-asb |summary-net| routerid <id>[/<len>] | stats | summary | vlan <vlan name>]	Displays a table of the current LSDB.
show ospf virtual-link {<area identifier> <routerid>}	Displays virtual link information about a particular router or all routers.
show rip {detail}	Displays RIP specific configuration and statistics for all VLANs.
show rip stat {detail}	Displays RIP-specific statistics for all VLANs.
show rip stat vlan <vlan name>	Displays RIP specific statistics for a VLAN.
show rip vlan <vlan name>	Displays RIP configuration and statistics for a VLAN.
unconfig ospf {vlan <vlan name> | area <area identifier>}	Resets one or all OSPF interfaces to the default settings.

Command	Description
unconfig rip {vlan <vlan name>}	Resets all RIP parameters to the default VLAN.

BGP Commands

Command	Description
clear bgp neighbor [<ip address> | all] counters	Resets the BGP counters for one or all BGP neighbor sessions to zero.
clear bgp neighbor <ip address> flap-statistics [community [access-profile <access_profile> | no-advertise | no-export | no-export-subconfed | number <community_number> | <as_id>:<bgp-community>] | as-path [<as-path-expression> | access-profile <access_profile>] | route-map <route map> | network <ip address>/<mask> {exact} | all]	Clears flap statistics for routes to specified neighbors.
config bgp add aggregate-address <ip address>/<masklength> {as-set | as-match} {summary-only} {advertise-route-map <route-map>} {attribute-route-map <route-map>}	Configures a BGP aggregate route.
config bgp add confederation-peer sub-AS-number <sub_as_number>	Adds a sub-AS to a confederation.
config bgp add network <ip address>/<mask_length> {<route_map>}	Adds a network to be originated from this router.
config bgp AS-number <number>	Changes the local AS number used by BGP.
config bgp cluster-id <bgp cluster id (0 - 4294967295)> >	Configures the local cluster ID..
config bgp confederation-id <confederation_id>	Specifies a BGP routing confederation ID.
config bgp delete aggregate-address [<ip address/masklength> | all]	Deletes one or all BGP aggregated route.
config bgp delete confederation-peer sub-AS-number <sub_as_number>	Specifies a sub-AS that should be deleted from a confederation.
config bgp delete network [all | <ip address>/<masklength>]	Deletes a network to be originated from this router.
config bgp local-preference <number>	Changes the default local preference attribute.
config bgp med [none | <bgp med (0-2147483647)>]	Configures the metric to be included in the Multi-Exit-Discriminator (MED) path attribute. The MED path attribute is included in route updates sent to external peers if a value is configured.

Command	Description
config bgp neighbor [<ip address> | all] as-path-filter [in | out] [none | <access_profile>]	Configures the AS path filter for a neighbor.
config bgp neighbor [<ip address> | all] dampening {{<half-life> {<reuse> <suppress> <max-suppress> }} | {route-map <route map>}}	Configures route flap dampening over BGP peer sessions.
config bgp neighbor [<ip address> | all] maximum-prefix <number> {{threshold <percent>} {teardown {holddown-interval <seconds>}} {send-traps}	Configures the maximum number of IP prefixes accepted from a BGP neighbor.
config bgp neighbor [<ip address> | all] [next-hop-self | no-next-hop-self]	Configures the next hop address used in the outgoing updates to be the address of the BGP connection originating the update.
config bgp neighbor [<ip address> | all] nlri-filter [in | out] [none | <access_profile>]	Configures an NLRI filter for a neighbor.
config bgp neighbor [<ip address> | all] no-dampening	Configures no route flap dampening over BGP peer sessions (disables route flap dampening).
config bgp neighbor [all | <ip address>] password [none | {encrypted} <password>]	Configures a password for a neighbor.
config bgp neighbor [all | <ip address>] peer-group [<peer group> | none] {acquire-all}	Configures an existing neighbor as the member of a peer group.
config bgp neighbor [<ip address> | all] route-map-filter [in | out] [none | <route_map>]	Configures a route map filter for a neighbor.
config bgp neighbor [<ip address> | all] [route-reflector-client | no-route-reflector-client]	Configures a BGP neighbor to be a route reflector client.
config bgp neighbor [<ip address> | all] [send-community | dont-send-community]	Configures whether the community path attribute associated with a BGP NLRI should be included in the route updates sent to the BGP neighbor.
config bgp neighbor [<ip address> | all] soft-reset {input | output}	Applies the current input or output routing policy to the routing information already exchanged with the neighbor.
config bgp neighbor [<ip address> | all] source-interface [any | vlan <vlan name>]	Changes the BGP source interface for TCP connections.
config bgp neighbor [<ip address> | all] timer keep-alive <keepalive> hold-time <holdtime>	Configures the BGP neighbor timers.
config bgp neighbor [<ip address> | all] weight <weight>	Assigns a locally-used weight to a neighbor connection for the route selection algorithm.
config bgp peer group <name> dampening {{<half-life> {<reuse> <suppress> <max-suppress> }} | {route-map <route map>}}	Configures route flap dampening for a BGP peer group.

Command	Description
config bgp peer-group <name> maximum-prefix <number> {{threshold <percent>} {teardown {holddown-interval <seconds>}} {send-traps}	Configures the maximum number of IP prefixes accepted for all neighbors in the peer group.
config bgp peer-group <peer group> [next-hop-self | no-next-hop-self]	Configures the next hop address used in the updates to be the address of the BGP connection originating the update.
config bgp peer-group <name> no-dampening	Configures no route flap dampening for a BGP peer group (disables route flap dampening).
config bgp peer-group <peer group> [route-reflector-client | no-route-reflector-client]	Configures all the peers in a peer group to be a route reflector client.
config bgp peer-group <peer group> [send-community | dont-send-community]	Configures whether communities should be sent to neighbors as part of route updates.
config bgp peer-group <peer group> as-path-filter [in | out] [none | <access profile>]	Configures the AS-path filters for a peer group and all neighbors of the peer group.
config bgp peer-group <peer group> nlri-filter [in | out] [none | <access profile>]	Configures the NLRI filter for a peer group and all the neighbors of the peer group.
config bgp peer-group <peer group> password {encrypted} [none | <password>]	Configures the password for a peer group and all neighbors of the peer group.
config bgp peer-group <peer group> remote-AS-number <number>	Configures the remote AS number for a peer group and all the neighbors of the peer group.
config bgp peer-group <peer group> route-map-filter [in | out] [none | <routemap>	Configures the route maps for a peer group and all the neighbors of the peer group.
config bgp peer-group <peer group> soft-reset {[in | out]}	Applies the current input/output routing policy to the neighbors in the peer group.
config bgp peer-group <peer group> source-interface [any | vlan <vlan name>]	Configures the source interface for a peer group and all the neighbors of the peer group.
config bgp peer-group <peer group> timer keep-alive <seconds> hold-time <seconds>	Configures the keepalive timer and hold timer values for a peer group and all the neighbors of the peer group.
config bgp peer-group <peer group> weight <number>	Configures the weight for the peer group and all the neighbors of the peer group.
config bgp routerid <router identifier>	Changes the router identifier.
config bgp soft-reconfiguration	Immediately applies the route map associated with the network command, aggregation, and redistribution.
config ipfdb route-add [clear-all | clear-subnet]	Specifies which BGP routes are deleted and reinstalled with a new gateway.
create bgp neighbor <ip address> peer-group <peer group> {multi-hop}	Creates a new neighbor and makes it part of the peer group.

Command	Description
create bgp neighbor <ip address> remote-AS-number <number> {multi-hop}	Creates a new BGP peer.
create bgp peer-group <name>	Creates a new peer group.
delete bgp neighbor [<ip address> | all]	Deletes one or all BGP neighbors.
delete bgp peer-group <peer group>	Deletes a peer group.
disable bgp	Disables BGP.
disable bgp aggregation	Disables BGP route aggregation.
disable bgp always-compare-med	Disables Multi Exit Discriminator (MED) from being used in the route selection algorithm.
disable bgp community format <AS-number:number>	Disables the AS-number:number format of display for communities in the output of show and upload commands.
disable bgp export [direct | ospf | ospf-extern1 | ospf-extern2 | ospf-inter | ospf-intra | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external | rip | static | vip]	Disables BGP from exporting routes from other protocols to BGP peers.
disable bgp neighbor [<ip address> | all]	Disables the BGP session.
disable bgp neighbor [<ip address> | all] remove-private-AS-numbers	Disables the removal of private AS numbers from the AS path in route updates sent to EBGP peers.
disable bgp neighbor [all | <ip address>] soft-in-reset	Disables the soft input reset feature.
disable bgp peer-group <peer group> {soft-in-reset} {remove-private-AS-numbers}	Disables a BGP peer group and all the neighbors of the peer group.
disable bgp synchronization	Disables the synchronization between BGP and IGP.
enable bgp	Enables BGP.
enable bgp aggregation	Enables BGP route aggregation.
enable bgp always-compare-med	Enables BGP to use the Multi Exit Discriminator (MED) from neighbors in different autonomous systems (ASs) in the route selection algorithm.
enable bgp community format <AS-number:number>	Enables the as-number:number format of display for the communities in the output of `show` and `upload` commands.
enable bgp export [[direct | ospf | ospf-extern1 | ospf-extern2 | ospf-inter | ospf-intra | isis | isis-level-1 | isis-level-1-external | isis-level-2 | isis-level-2-external | rip | static | vip] {<route map>}	Enables BGP to export routes from other protocols to BGP peers.
enable bgp neighbor [<ip address> | all]	Enables the BGP session. The neighbor must be created before the BGP neighbor session can be enabled.

Command	Description
enable bgp neighbor [<ip address> | all] remove-private-AS-numbers	Enables the removal of private AS numbers from the AS path in route updates sent to EBGP peers.
enable bgp neighbor [all | <ip address>] soft-in-reset	Enables the soft input reset feature.
enable bgp peer-group <peer group> {soft-in-reset} {remove-private-AS-numbers}	Enables a peer group and all the neighbors of a peer group.
enable bgp synchronization	Enables synchronization between BGP and IGP.
show bgp	Displays BGP configuration information.
show bgp neighbor <ip address> {[accepted-routes | flap-statistics | received-routes | rejected-routes | suppressed-routes | transmitted-routes] {detail} [community [access-profile <access_profile> | no-advertise | no-export | no-export-subconfed | number <community_number> | <as_id>:<community>] | as-path [<as-path-expression> | access-profile <access_profile>] | route-map <route map> | network <ip address>/<mask> {exact} | all]}	Displays information about a specified neighbor.
show bgp peer-group {detail | <peer group> {detail}}	Displays the peer groups configured in the system.
show bgp routes [all | as-path <as-path-expression> | community <number> | detail | network <ip address>/<mask> {exact} | route-map <route map>]	Displays the BGP route information base (RIB).

IP Multicast Commands

Command	Description
clear igmp group {vlan <vlan name>}	Removes one or all IGMP groups.
clear igmp snooping {vlan <vlan name>}	Removes one or all IGMP snooping entries.
clear ipmc cache {<IP multicast group> {<source IP address>/<netmask>}}	Resets the IP multicast cache table.
clear ipmc fdb {group <ipaddress> {sender <ipaddress/netmask>}}	Resets the IP multicast forwarding database entry.
config dvmrp add vlan [<vlan name> | all]	Enables DVMRP on one or all IP interfaces.
config dvmrp delete vlan [<vlan name> | all]	Disables DVMRP on one or all IP interfaces.
config dvmrp timer <route-report-interval> <route-replacement-time>	Configures the global DVMRP timers.
config dvmrp vlan [<vlan name> | all] cost <cost>	Configures the cost (metric) of the interface.
config dvmrp vlan [<vlan name> | all] export-filter [<access profile> | none]	Configures DVMRP to filter out certain routes when performing the route advertisement.

Command	Description
config dvmrp vlan [<vlan name> | all] import-filter [<access profile> | none]	Configures DVMRP to filter certain routes received from its neighbor, and uses an access profile to determine which DVMRP routes are accepted as valid routes.
config dvmrp vlan [<vlan name> | all] trusted-gateway [<access profile> | none]	Configures DVMRP to use the access policy to determine which DVMRP neighbor is trusted and to receive routes from.
config dvmrp vlan <vlan name> timer <probe interval> <neighbor timeout>	Configures DVMRP interface timers.
config igmp <query interval> <query response interval> <last member query interval>	Configures the Internet Group Management Protocol (IGMP) timers.
config igmp snooping flood-list [<access profile> | none]	Configures certain multicast addresses to be slow path flooded within the VLAN.
config igmp snooping leave-timeout <leave_time ms>	Configures the IGMP snooping leave timeout.
config igmp snooping timer <router timeout> <host timeout>	Configures the IGMP snooping timers.
config pim add vlan [<vlan name> | all] {dense | sparse}	Enables PIM on an IP interface.
config pim cbsr [vlan <vlan name> {<priority [0-254]> | none]	Configures a candidate bootstrap router for PIM sparse-mode operation.
config pim crp static <rp address> [none | <access profile>] {<priority [0-254]>}	Configures a rendezvous point address and its associated groups statically, for PIM sparse mode operation.
config pim crp timer <crp advertisement interval>	Configures the candidate rendezvous point advertising interval for PIM sparse mode operation.
config pim crp vlan <vlan name> [none | <access profile>] {<priority>}	Configures the dynamic candidate rendezvous point for PIM sparse-mode operation.
config pim delete vlan [<vlan name> | all]	Disables PIM on an interface.
config pim register-rate-limit-interval <time>	Configures the initial PIM-SM periodic register rate.
config pim register-suppress-interval <time> register-probe-interval <time>	Configures an interval for periodically sending null-registers.
config pim register-checksum-to [include-data | exclude-data]	Configures the checksum computation to either include data (for compatibility with Cisco Systems products) or to exclude data (for RFC-compliant operation), in the register message.
config pim spt-threshold <last hop router threshold> {<rp threshold>}	Configures the threshold, in kbps, for switching to SPT. On leaf routers, this setting is based on data packets. On the RP, this setting is based on register packets.

Command	Description
config pim timer <hello interval> <join prune interval> vlan [<vlan name>]	Configures the global PIM timers.
config pim vlan [<vlan name> | all] trusted-gateway [<access profile> | none]	Configures a trusted neighbor policy.
disable dvmrp	Disables DVMRP on the system.
disable dvmrp rxmode vlan [<vlan name> | all]	Disables the receive capability of DVMRP packets on one or all VLANs.
disable dvmrp txmode vlan [vlan <vlan name> | all]	Disables the transmit capability of DVMRP packets on one or all VLANs.
disable igmp {vlan <vlan name>}	Disables IGMP on a router interface. If no VLAN is specified, IGMP is disabled on all router interfaces.
disable igmp snooping {forward-mcrouter-only | vlan <vlan name>}	Disables IGMP snooping.
disable igmp snooping with-proxy	Disables the IGMP snooping proxy. The default setting is enabled.
disable ipmcforwarding {vlan <vlan name>}	Disables IP multicast forwarding on an IP interface.
disable pim	Disables PIM on the system.
enable dvmrp	Enables DVMRP on the system.
enable dvmrp rxmode vlan [<vlan name> | all]	Enables the receive capability of DVMRP packets on one or all VLANs.
enable dvmrp txmode vlan [vlan <vlan name> | all]	Enables the transmit capability of DVMRP packets on one or all VLANs.
enable igmp {vlan <vlan name>}	Enables IGMP on a router interface. If no VLAN is specified, IGMP is enabled on all router interfaces.
enable igmp snooping {forward-mcrouter-only | vlan <vlan name>}	Enables IGMP snooping on the switch.
enable igmp snooping with-proxy	Enables the IGMP snooping proxy. The default setting is enabled.
enable ipmcforwarding {vlan <vlan name>}	Enables IP multicast forwarding on an IP interface.
enable pim	Enables PIM on the system.
run ipmcfdb-check [index <bucket> <entry> | <IP multicast group> <source IP address> vlan <vlan name>] {extended} {detail}	Checks IP multicast FDB entries for consistency.
show dvmrp {vlan <vlan name> | route {detail}}	Displays the DVMRP configuration and statistics, or the unicast route table.
show igmp group {<ip address> {sender <ip address>}} {vlan <vlan name>}	Lists the IGMP group membership for the specified VLAN.

Command	Description
show igmp snooping {vlan <vlan name> | detail}	Displays IGMP snooping registration information and a summary of all IGMP timers and states.
show ipmc cache {detail} | {<IP multicast group> {<source IP address> <netmask>}}	Displays the IP multicast forwarding cache.
show ipmc fdb {<ip address>}	Displays the IP multicast forwarding database.
show l2stats {vlan <vlan name>}	Displays the counters for the number of packets bridged, switched, and snooped.
show pim {detail | rp-set {<IP multicast group>}| vlan <vlan name>}	Displays the PIM configuration and statistics.
unconfig dvmrp {vlan <vlan name>}	Resets the DVMRP timers to their default settings.
unconfig igmp	Resets all IGMP settings to their default values and clears the IGMP group table.
unconfig pim {vlan <vlan name>}	Resets all PIM settings on one or all VLANs to their default values.

IPX Commands

Command	Description
config ipxmaxhops <number>	Configures the IPX maximum hop count when forwarding IPX packets.
config ipxrip add vlan [<vlan name> | all]	Configures one or all IPX VLANs to run IPX/RIP.
config ipxrip delete vlan [<vlan name> | all]	Disables IPX/RIP on one or all interfaces.
config ipxrip vlan [<vlan name> | all] delay <msec>	Configures the time between each IPX/RIP packet within an update interval.
config ipxrip vlan [<vlan name> | all] export-filter [none | <access_profile>]	Assigns an export route filter to an ingress VLAN.
config ipxrip vlan [<vlan name> | all] import-filter [none | <access_profile>]	Assigns an import route filter to an ingress VLAN.
config ipxrip vlan [<vlan name> | all] max-packet-size <size>	Configures the maximum transmission unit (MTU) size of the IPX/RIP packet.
config ipxrip vlan [<vlan name> | all] trusted-gateway [none | <access_profile>]	Assigns an export route filter to the egress VLAN.
config ipxrip vlan [<vlan name> | all] update-interval <time> {hold-multiplier <number>}	Configures the update interval and hold multiplier for IPX/RIP updates.
config ipxroute add [<dest_netid> | default] <next_hop_id> <next_hop_node_addr> <hops> <tics>	Adds a static IPX route entry in the IPX route table.

Command	Description
config ipxroute delete [<dest_netid> | default] <next_hop_netid> <next_hop_node_addr>	Removes a static IPX route entry from the route table.
config ipxsap add vlan [<vlan name> | all]	Configures an IPX VLAN to run IPX/SAP routing.
config ipxsap delete vlan [<vlan name> | all]	Disables IPX/SAP on an interface.
config ipxsap vlan [<vlan name> | all] delay <msec>	Configures the time between each SAP packet within an update interval.
config ipxsap vlan [<vlan name> | all] export-filter [none | access_profile]	Assigns an export route filter to an ingress VLAN.
config ipxsap vlan [<vlan name> | all] import-filter [none | access_profile]	Assigns an import route filter to an ingress VLAN.
config ipxsap vlan [<vlan name> | all] max-packet-size <number>	Configures the MTU size of the IPX/SAP packets.
config ipxsap vlan [<vlan name> | all] trusted-gateway [none | <access_profile>]	Assigns an export SAP service filter to the egress VLAN.
config ipxsap vlan [<vlan name> | all] update-interval <time> {hold-multiplier <number>}	Configures the update interval and hold multiplier for IPX/SAP updates.
config ipxsap vlan <vlan name> gns-delay <msec>	Configures the amount of time the switch waits before answering a GNS request.
config ipxservice add <service_type> <service_name> <netid> <mac_address> <socket> <hops>	Adds a static entry to the IPX service table.
config ipxservice delete <service_type> <service_name> <netid> <mac_address> <socket>	Deletes an IPX service from the service table.
config vlan <vlan name> xnetid <netid> [enet_ii | enet_8023 | enet_8022 | enet_snap]	Configures a VLAN to use a particular encapsulation type.
disable ipxrip	Disables IPX/RIP on the router.
disable ipxsap	Disables IPX/SAP on the router.
disable ipxsap gns-reply {vlan <vlan name>}	Disables Get Nearest Server (GNS) reply on one or all IPX interfaces.
disable type20 forwarding {vlan <vlan name>}	Disables the forwarding of IPX type 20 packets.
enable ipxrip	Enables IPX/RIP on the router.
enable ipxsap	Enables IPX/SAP on the router.
enable ipxsap gns-reply {vlan <vlan name>}	Enables GNS reply on one or all IPX interfaces.
enable type20 forwarding {vlan <vlan name>}	Enables the forwarding of IPX type 20 packets.
show ipxconfig {vlan <vlan name>}	Displays IPX configuration information for one or all VLANs.
show ipxfdb {vlan <vlan name> | xnetid <netid>}	Displays the hardware IPX FDB information.

Command	Description
show ipxrip {vlan <vlan name>}	Displays IPX/RIP configuration and statistics for one or all VLANs.
show ipxroute {vlan <vlan name> | xnetid <netid> | origin [static | rip | local]}	Displays the IPX routes in the route table.
show ipxsap {vlan <vlan name>}	Displays the enable status of IPX/SAP for the VLAN, and its operational and administrative status (including the GNS reply service). It also lists any identified IPX/SAP neighbors, SAP packet statistics, and several other timer settings.
show ipxservice {vlan <vlan name> | xnetid <netid> _ origin [static | sap | local]}	Displays IPX services learned by way of SAP.
show ipxstats {vlan <vlan name>}	Displays IPX packet statistics for the IPX router, and one or all VLANs.
unconfig ipxrip {vlan <vlan name>}	Resets the IPX/RIP settings on one or all VLANs to the default.
unconfig ipxsap {vlan <vlan name>}	Resets the IPX/SAP settings on one or all VLANs to the default.
unconfig vlan <vlan name> xnetid	Removes the IPX NetID of a VLAN.
xping {continuous} {size <n>} <netid> <node_address>	Pings an IPX node specified by the network ID and the node address.

ARM Commands

Command	Description
clear accounting counters	Clears (zeroes out) all of the accounting statistics.
config route-map <route-map> <sequence_number> [add | delete] set accounting-index 1 value <bin_number>	Configures the accounting bin number to be associated with the specified route map entry.
config route-map <route-map> <sequence-number> [add | delete] set iphost-routing	Enables or disables Selective-LPM for a specified route-map when the LPM feature is enabled.
config route-map <route-map> <sequence-number> [add | delete] set lpm-routing	Enables or disables Selective-LPM for a specified route-map when the LPM feature is enabled.
disable accounting	Disables the destination-sensitive accounting function.
disable ipforwarding lpm-routing {vlan <vlan name>}	Disables Longest Prefix Match (LPM) routing for the specified VLAN.
disable lpm	Disables Selective-LPM.
enable accounting	Enables the destination-sensitive accounting function.

Command	Description
enable ipforwarding lpm-routing {vlan <vlan name>}	Enables Longest Prefix Match (LPM) routing for the specified VLAN.
enable lpm	Enables Selective-LPM routing.
show accounting {vlan <vlan name>}	Displays accounting statistics for the specified VLAN. If no VLAN is specified, statistics for all VLANs are displayed.
show lpm	Shows the status of the LPM feature.

ATM Commands

Command	Description
config atm add pvc <vpi/vci> encap [l2 | ip peer-ipaddress <ipaddress>] vlan <vlan name> ports <portlist>	This command configures PVC on an ATM port.
config atm delete pvc [<vpi / vci> | all] {vlan <vlan name>} ports <portlist>	This command is used to delete a PVC configuration on an ATM port.
config atm scrambling [on | off] ports <portlist>	This command configures an ATM port to scramble the cell payload on a specified ATM port(s).
show atm {<portlist>}	This command displays ATM port status.

PoS Commands

Command	Description
config aps <group#> [nonrevert | revert <minutes>]	Configures APS operation in either nonrevertive or revertive switching mode.
config aps <group#> add <port> [working | protection <ip address>]	Adds a SONET port to an APS group.
config aps <group#> authenticate [off | on <string>]	Configures authentication of APS control messages.
config aps <group#> delete <port>	Deletes a SONET port from an APS group.
config aps <group#> force [off | working | protection]	Requests that an APS group be forced to use a specified line as the active line.
config aps <group#> lockout [off | on]	Controls whether a switch to the protection line is locked out.
config aps <group#> manual [off | working | protection]	Manually determines whether an APS group uses its working line or its protection line as the active line.

Command	Description
config aps <group#> timers <seconds> <consecutive_misses>	Sets the values of the timers used in the APS hello protocol that is exchanged between the working and protection switches for an APS group.
config diffserv dscp-mapping <input_codepoint>/<output_codepoint> ports <portlist> {egress {no-congestion | congestion} | ingress}	Configures a mapping between an input DiffServ code point (DSCP) and an associated output DSCP for the specified PoS or ATM ports.
config dot1q tagmapping <input_vlanid/output_vlanid> ports <portlist> {egress {priority <priority>} | ingress {priority <priority>}}	Configures the VLAN tag mapping attributes for a PoS or ATM port.
config dot1q tagnesting {<vlanid> | <vlanid_range>} [off | pop | push <new_vlanid> {priority <priority>}] ports <portlist> {egress | ingress}	Configures the VLAN tag nesting attributes for a PoS or ATM port. Currently, the command is only supported for PoS and ATM ports.
config flowstats export {<group#>} add [<ip address> | <hostname>] <udp_port>	Configures the flow-collector devices to which NetFlow datagrams are exported.
config flowstats export {<group#>} delete [<ip address> | <hostname>] <udp_port>	Configures the flow-collector devices to which NetFlow datagrams are exported.
config flowstats filter <filter#> {aggregation} {export <group#>} ports <portlist> [ingress | egress] <filterspec>	Configures a flow record filter for the specified SONET ports.
config flowstats source ipaddress <ip address>	Configures the IP address that is to be used as the source IP address for NetFlow datagrams to be exported.
config ports <portlist> tunnel hdlc [off | mpls]	Enables tunneling for HDLC encapsulated frames from a SONET port through an MPLS network.
config ppp [bcp [on | off] | ipcp [on {peer-ipaddress <ip address>} | off]] ports <portlist>	Configures the network control protocol that will run on the specified PPP ports.
config ppp authentication [off | chap | pap | chap-pap] ports <portlist>	Configures authentication on the specified PPP ports.
config ppp delayed-down-time <seconds> ports <portlist>	Configures the delayed-down-time interval used by PPP for the specified ports.
config ppp echo [<seconds> <consecutive_misses> | off] ports <portlist>	Configures the link maintenance protocol on the specified ports.
config ppp pos checksum [32 | 16] ports <portlist>	Configures the size of the HDLC Frame Check Sequence (FCS) to be used on the specified SONET ports.
config ppp pos scrambling [on | off] ports <portlist>	Specifies whether the payload data should be scrambled on the specified ports. RFC 2615 recommends that the SONET payload be scrambled.

Command	Description
config ppp quality [off | <required_percent> {<seconds>}] ports <portlist>	Configures the Link Quality Monitoring (LQM) protocol on the specified ports.
config ppp user <name> {encrypted} {<password>} ports <portlist>	Configures the user `name` and `password` that the specified PPP port uses in the event the PPP peer requests authentication.
config qosprofile <qosprofile> {minbw <percent>} {maxbw <percent>} {priority <level>} {minbuf <percent>} {maxbuf <percent>} {<portlist>} {egress | ingress}	Configures a QoS profile.
config red [drop-probability | low-drop-probability | high-drop-probability] <percent> {ports <portlist>}	Configures the RED drop probability for a specified port.
config red min-threshold <percent> ports <portlist>	Configures the minimum queue length threshold for RED operation on the specified PoS ports.
config sonet clocking [line | internal] ports <portlist>	Configures the clocking source for the specified SONET ports.
config sonet framing [sonet | sdh] ports <portlist>	Configures the framing type for the specified SONET ports.
config sonet loop [internal | line | off] ports <portlist>	Configures loopback options for the specified SONET port(s).
config sonet signal label [auto | <hex_octet>] ports <portlist>	Configures the signal label value for the specified SONET ports.
config sonet threshold signal degrade <error_rate> ports <portlist>	Configures the signal degrade threshold for the specified SONET ports.
config sonet threshold signal fail <error_rate> ports <portlist>	Configures the signal failure threshold for the specified SONET ports.
config sonet trace path <id_string> ports <portlist>	Configures the path trace identifier string for the specified SONET ports.
config sonet trace section [<id_byte> | string <id_string>] ports <portlist>	Configures the section trace identifier for the specified SONET ports.
create account pppuser <username> {encrypted} {<password>}	Creates a local database entry that can be used to authenticate a PPP peer.
create aps <group#>	Creates an APS group with the specified group number.
delete account pppuser <username>	Deletes an entry in the local PPP authentication database.
delete aps <group#>	Deletes the specified APS group.
disable aps	Disables the APS function for an entire switch.
disable red ports <portlist> queue <queue#>	Disables RED on the specified ports.

Command	Description
enable aps	Enables the APS function for an entire switch.
enable red ports <portlist> queue <queue#>	Enables RED on the specified PoS ports.
show accounts pppuser	Display the PPP user accounts database.
show aps {<group#>} {detail}	Displays APS group status information.
show flowstats {<portlist> | export {<group#>} {detail}}	Displays status information for the flow statistics function.
show ppp {<portlist>} {detail}	Displays status information for PPP ports.
show sonet {<portlist>} {detail}	Displays SONET port status.
unconfig aps <group#>	Resets the APS group configuration parameters to their default values.
unconfig diffserv dscp-mapping ports <portlist>	Resets the DSCP mapping tables for the specified PoS ports to their default values.
unconfig ppp ports <portlist>	Resets the PPP configuration parameters for the specified ports to their default values.
unconfig sonet ports <portlist>	Resets the configuration parameters of the specified SONET port to their default values.

T1, E1, and T3 WAN Commands

Command	Description
config multilink <groupname> add ports <portlist> tag	Adds ports to a multilink group.
config multilink <groupname> delete ports <portlist>	Deletes ports from a multilink group.
config ports <portlist> [t1 | e1 | t3] clock source [internal | line]	Configures the clock source for WAN links.
config ports <portlist> e1 framing [crc4 | no-crc4]	Configure framing for E1 links.
config ports <portlist> e1 receivergain [-12 | -43] db	Configures E1 receiver gain to improve link performance.
config ports <portlist> e1 timeslots <timeslots>	Select the E1 timeslots to use for transmitting data.
config ports <portlist> [t1 | e1 | t3] snmp alert [enable | disable]	Enable and disable the sending of SNMP alerts for WAN links to the SMMi.
config ports <portlist> t1 cablelength [[0 | -7.5 | -15 | -22.5] db | [133 | 266 | 399 | 533 | 655] feet]	Control T1 transmitter signal level for different cable lengths.
config ports <portlist> t1 fdl [off | att | ansi]	Configures facility data link (FDL) for T1 links.
config ports <portlist> t1 framing [esf | sf]	Configure framing for T1 links.

Command	Description
config ports <portlist> t1 lbdetect [off | inband]	Configures inband loopback detection on T1 links.
config ports <portlist> t1 linecoding [b8zs | ami]	Configures the linecoding convention for T1 links.
config ports <portlist> t1 yellow [detection | generation | both | off]	Configure detection and generation of yellow alarms.
config ports <portlist> t3 cablelength [349 | 900] feet	Control T3 transmitter signal level for different cable lengths.
config ports <portlist> e1 framing [c-bit | m13]	Configure framing for a T3 link.
config ppp [bcp [on | off] | ipcp [on | off]] [ports <portlist> | multilink <groupname>]	Configures the network control protocol (encapsulation) that will run on the specified PPP/MLPPP WAN ports.
config ppp authentication [off | chap | pap | chap-pap] [ports <portlist> | multilink <groupname>]	Configures authentication on the specified PPP ports or MLPPP multilink group.
config ppp user <name> {encrypted} {<password>} [ports <portlist> | multilink <groupname>]	Configures the user `name` and `password` that the specified PPP/MLPPP link uses if the peer requests authentication.
config vlan <vlan name> add multilink <groupname>	Adds an MLPPP multilink group to a VLAN.
config vlan <vlan name> delete multilink <groupname>	Deletes an MLPPP multilink group from a VLAN.
create account pppuser <username> {encrypted} {<password>}	Creates a local database entry that can be used to authenticate a PPP peer.
create multilink <groupname>	Creates an MLPPP multilink group.
delete account pppuser <username>	Deletes an entry in the local PPP authentication database.
delete multilink <groupname>	Deletes an MLPPP multilink group.
disable multilink <groupname>	Disables an MLPPP multilink group.
disable ports <portlist> [t1 | e1 | t3] loopback	Disables the current loopback mode and returns port to normal function.
enable multilink <groupname>	Enables an MLPPP multilink group.
enable ports <portlist> [t1 | e1 | t3] loopback [local | network line]	Enables the near-end local and network line loopback modes.
enable ports <portlist> [t1 | t3] loopback remote [line | payload | loopdown]	Enables and disables remote loopback modes for T1 and T3 ports.
enable ports <portlist> t1 loopback network payload	Enables network payload loopback mode on T1 links.
enable vman termination {ports <portlist> | multilink <groupname>}	Enables VMAN termination for T1 and E1 ports.
restart multilink <groupname>	Restarts an MLPPP multilink group.
show accounts pppuser	Display the PPP user accounts database.

Command	Description
show multilink <groupname>	Displays the configuration of the multilink group.
show multilink <groupname> [t1 | e1] alarms {detail}	Displays alarms for a multilink group.
show multilink <groupname> e1 errors near-end [totals | intervals | current]	Displays the current and past port error statistics for E1 multilink groups.
show multilink <groupname> stats {detail}	Displays multilink statistics.
show multilink <groupname> t1 errors [near-end | far-end] [totals | intervals | current]	Displays the current and past error statistics for T1 multilink groups.
show ports <portlist> {t1 | e1 | t3} alarms	Displays real-time port alarms.
show ports <portlist> [t1 | e1 | t3] configuration	Displays the port configuration and status.
show ports <portlist> [t1 | t3] errors [near-end | far-end] [totals | intervals | current]	Displays the current and past port errors for T1 and T3 links.
show ports <portlist> e1 errors near-end [totals | intervals | current]	Displays the current and past port errors for E1 links.
show ports <portlist> [t1 | e1 | t3] info	Displays the port configuration and status.
show ports <portlist> {t1 | e1 | t3} stats	Displays real-time port statistics.
show ppp {<portlist>} {detail}	Displays status information for PPP ports.
unconfig ppp [ports <portlist> | multilink <groupname>]	Resets the configuration on the specified WAN ports or multilink group.

MPLS Commands

Command	Description
config mpls [ldp | targeted-ldp] [hello | keep-alive] <hold_time> <interval_time>	Configures LDP session timers.
config mpls add tls-tunnel <tunnel_name> [lsp <lsp_name> | <ipaddress> | <host_name>] <local_vlan_name> [tls-labels <ingress_label> <egress_label> | vcid <vcid> {<groupid>} {from [<local_endpoint_ipaddress> | <local_endpoint_vlan>]}]	Adds a TLS tunnel.
config mpls add vlan [<vlan name> | all] {ldp | rsvp-te}	Enables LDP or RSVP-TE for one or all VLANs.
config mpls delete tls-tunnel [<tunnel_name> | group <groupid> | all]	Deletes one or all TLS tunnels.
config mpls delete vlan [<vlan name> | all] {ldp | rsvp-te}	Disables LDP or RSVP-TE on one or all VLANs.

Command	Description
config mpls ldp advertise [direct | rip | static] [all | none | route-map <route_map>]	Configures a filter to be used by LDP when originating unsolicited label mapping advertisements to LDP neighbors.
config mpls ldp advertise [add | delete] vlan <vlan name>	Configures LDP to originate an unsolicited label for the FECs associated with the directly attached routing interface of the specified VLAN.
config mpls php [enabled | disabled]	Enables and disables penultimate hop popping (PHP) at the egress LSR. When enabled, PHP is requested on all LSPs for which the switch is the egress LSR.
config mpls propagate-ip-ttl [enabled | disabled]	Enables or disables the propagation of the IP time-to-live (TTL) field for routed IP packets. When propagation is enabled, each LSR is viewed as a router hop from an IP TTL perspective. When propagation is disabled, the LSP is viewed as a point-to-point link between the ingress LSR and the egress LSR.
config mpls qos-mapping [dot1p-to-exp | exp-to-dot1p] [all | <input_value>]/<output_value>	Configures MPLS-specific QoS mappings.
config mpls rsvp-te add lsp <lsp_name> path <path_name> {<profile_name>} {primary | secondary}	Adds an RSVP-TE LSP.
config mpls rsvp-te add path <path_name> [<ipaddress> | <host_name>] {from <local_endpoint_vlan>}	Adds a path to an RSVT-TE LSP.
config mpls rsvp-te add profile <profile_name> {bandwidth <bps>} {setup-priority <priority>} {hold-priority <priority>} {retry-timeout <seconds>} {hop-count <number>} {ping-interval <seconds>} {metric [<metric> | igp-tracking} {record [enabled | disabled]}	Adds an RSVP-TE profile.
config mpls rsvp-te delete lsp [<lsp_name> | all]	Deletes an RSVP-TE LSP.
config mpls rsvp-te delete path [<path_name> | all]	Deletes an RSVP-TE path.
config mpls rsvp-te delete profile [<profile_name> | all]	Deletes an RSVP-TE path profile.
config mpls rsvp-te lsp <lsp_name> add path <path_name> {<profile_name>} {secondary | primary}	Adds a path to an RSVP-TE LSP.
config mpls rsvp-te delete path [<path_name> | all]	Deletes an RSVP-TE path.
config mpls rsvp-te path <path_name> add ero [ipaddress <ipaddress/masklength> | <host_name>] {strict | loose} {order <number>}	Adds an RSVP-TE explicit route.

Command	Description
config mpls rsvp-te path <path_name> delete ero [all | ipaddress <ipaddress/masklength> | <host_name> | order <number>]	Deletes an RSVP-TE explicit route.
config mpls rsvp-te profile <profile_name> {bandwidth <bps>} {hop-count <number>} {setup-priority <priority>} {hold-priority <priority>} {retry-timeout <seconds>} {ping-interval <seconds>} {metric [<metric> | igp-tracking]} {record [enabled | disabled]}	Configures an existing RSVP-TE profile.
config mpls rsvp-te vlan [<vlan name> | all] {hello-interval <seconds>} {refresh-time <seconds>} {summary-refresh-time <tenth-seconds>} {bundle-time <tenth-seconds>} {keep-multiplier <number>}	Configures RSVP-TE protocol parameters
config mpls vlan [<vlan name> | all] ip-mtu <number>	Configures the IP MTU for frames transmitted onto MPLS LSPs via the specified egress VLAN. The range is 42 to 9190(using jumbo frame sizes).
config mpls vlan [<vlan name> | all] ldp propagate [all | none | route-map <route_map>]	Configures a filter to be used by LDP when propagating unsolicited label mappings to all LDP neighbors on one or all VLANs.
config vlan <vlan name> add track-lsp [<lsp_name> | ipaddress <ipaddress>/<masklength>]	Configures the LSPs tracked by ESRP in order to determine the ESRP state of the specified VLAN.
config vlan <vlan name> delete track-lsp [<lsp_name> | ipaddress <ipaddress>/<masklength> | all]	Disables LSP route tracking for an ESRP-enabled VLAN.
disable mpls	Disables MPLS on the switch.
enable mpls	Enables MPLS on the switch.
show mpls {vlan <vlan name>} {detail}	Displays MPLS configuration information for one or all VLANs. Omitting the vlan keyword displays information for all VLANs.
show mpls forwarding {summary | detail | inactive | host <ipaddress> {detail | inactive} | prefix <ipaddress/masklength> {detail | inactive} | rsvp-te <ipaddress> {detail}}	Displays information from the FEC-to-NHLFE database, used when forwarding non-MPLS packets onto an LSP. Also displays information for RSVP-TE LSPs.
show mpls interface {ldp | targeted-ldp | rsvp-te}	Displays targeted LDP and RSVP-TE interface information.
show mpls label {summary {detail} | <label_number> {detail} | host <ipaddress> {detail} | prefix <ipaddress/masklength> {detail} | rsvp-te <ipaddress> {detail}}	Displays information from the Incoming Label Map (ILM), used when forwarding packets that arrive as labeled MPLS packets.
show mpls ldp {<ipaddress>} {detail}	Displays MPLS LDP session information for one or all LSP sessions.

Command	Description
show mpls qos-mappings	Displays MPLS-specified QoS mappings for dot1p-to-exp and exp-to-dot1p.
show mpls rsvp-te {<ipaddress>} {detail}	Displays RSVP-TE LSP configuration information.
show mpls rsvp-te lsp {<lsp_name>} {detail}	Displays the RSVP-TE LSP.
show mpls rsvp-te path {<path_name>} {detail}	Displays the RSVP-TE routed path.
show mpls rsvp-te profile {<profile_name>}	Displays the RSVP-TE path profile.
show mpls tls-tunnel {summary | detail | <tunnel_name> {detail} | vlan <vlan_name> {detail}}	Displays configuration and status information for TLS tunnels.
unconfig mpls	Resets MPLS configuration parameters to the default settings.
unconfig mpls [hello-hold-time | session-keep-alive-time]	Restores the default values for hello-hold-time or session-keep-alive-time.
unconfig mpls qos-mapping [dotp-to-exp | exp-to-dot1p | lsp <lsp_name>]	Restores the default values for the specified QoS mapping table.

Configuration and Image Commands

Command	Description
config download server [primary | secondary] [<ip address> | <hostname>] <filename>	Configures the TFTP server(s) used by a scheduled incremental configuration download.
download bootrom [<ip address> | <hostname>] <filename> {slot <slot>}	Downloads a BootROM image from a TFTP server after the switch has booted. The downloaded image replaces the BootROM in the onboard FLASH memory.
download configuration [<ip address> | <hostname>] <filename> {incremental}	Downloads a previously saved ASCII configuration file from a specific TFTP server host.
download configuration cancel	Cancels a scheduled incremental configuration download.
download configuration every <time>	Automatically does an incremental configuration download every day at the specified time, or immediately after switch bootup, based on the parameters specified in the `config download server` command.
download image [<ip address> | <hostname>] <filename> {primary | secondary} {slot <slot>}	Downloads a new version of the ExtremeWare software image.
save configuration {primary | secondary}	Saves the current configuration from the switch's runtime memory to non-volatile memory.

Command	Description
show configuration [detail]	Displays the currently active configuration to the terminal.
synchronize	Replicates all saved images and configurations from the master MSM to the slave MSM on the BlackDiamond.
unconfig switch {all}	Returns the switch configuration to its factory default settings.
upload configuration [<ip address> | <hostname>] <filename> {every <time>}	Uploads the current configuration to a TFTP server on your network.
upload configuration cancel	Cancels a previously scheduled configuration upload.
use configuration [primary | secondary]	Configures the switch to use a previously saved configuration on the next reboot.
use image [primary | secondary] {slot <slot>}	Configures the switch to use a saved image on the next reboot.

Troubleshooting Commands

Command	Description
clear debug-trace	Resets the debug-trace levels to the factory settings of level 0.
config debug-trace access-list <debug level>	This command is not currently supported.
config debug-trace accounting <debug level>	This command provides system-level debug tracing for the accounting subsystem.
config debug-trace aps <debug level>	This command is not currently supported.
config debug-trace bgp-events <debug level>	This command records debug information to the syslog.
config debug-trace bgp-keepalive <debug level>	This command records debug information to the syslog.
config debug-trace bgp-misc <debug level>	This command records debug information to the syslog.
config debug-trace bgp-msgs <debug level>	This command records debug information to the syslog.
config debug-trace bgp-neighbor <ip address> <debug level>	This command records debug information to the syslog.
config debug-trace bgp-update-in <debug level>	This command records debug information to the syslog.

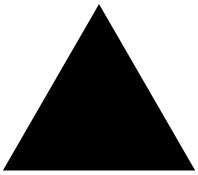
Command	Description
config debug-trace bgp-update-out <debug level>	This command records debug information to the syslog.
config debug-trace bootprelay <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace bridge-learning <debug level>	This command records address learning debug information to the syslog.
config debug-trace bridging <debug level>	This command records layer 2 CPU processing debug information to the syslog.
config debug-trace card-state-change <debug level>	This command is not currently supported.
config debug-trace dvmrp-cache <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace dvmrp-hello <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace dvmrp-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace dvmrp-neighbor <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace dvmrp-route <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace dvmrp-timer <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace eaps-system <debug level>	This command records debug information to the syslog.
config debug-trace esrp-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace esrp-state-change <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace esrp-system <debug level>	This command records debug information to the syslog.
config debug-trace fdb <debug level> vlan <vlan name>	This command is not currently supported.
config debug-trace flow-redirect <debug level>	This command records debug information to the syslog.
config debug-trace flowstats <debug level>	This command records debug information to the system log.
config debug-trace health-check [<debug level> | {filter [real | virtual] <ip address> [ftp | http | https | imap4 | ldap | nntp | pop3 | smtp | socks | telnet | tftp | web | wildcard | www | <tcp port number>]}]	This command records debug information to the syslog.

Command	Description
config debug-trace igmp-snooping <debug level>	This command records debug information to the system log.
config debug-trace iparp <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace ip-forwarding <debug level>	This command records IP forwarding debug information to the syslog.
config debug-trace ipxgns-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace ipxrip-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace ipxrip-route <debug level>	This command records debug information to the syslog.
config debug-trace ipxsap-entry <debug level>	This command is not currently supported.
config debug-trace ipxsap-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace isis-cli <level>	Controls logging of debug messages related to CLI actions.
config debug-trace isis-event <level>	Controls logging of debug messages related to miscellaneous actions.
config debug-trace isis-hello <level> vlan [<vlan name> | all]	Controls logging of debug messages related to sending and receiving, and decoding and encoding of Hello messages.
config debug-trace isis-lsp <level>	Controls logging of debug messages related to sending and receiving and decoding and encoding of LSP Messages.
config debug-trace isis-snp <level>	Controls logging of debug messages related to sending and receiving, and decoding and encoding of PSNP and CSNP Messages.
config debug-trace isis-spf <level>	Controls logging of debug messages related to SPF Calculation.
config debug-trace mpls <level>	This command records debug information to the syslog.
config debug-trace mpls-signalling <level>	This command records debug information to the syslog.
config debug-trace npcard <debug level>	This command enables system-level debug tracing for the MPLS, PoS, ARM, and ATM modules.
config debug-trace ospf-hello <debug level> vlan <vlan name>	This command records debug information to the syslog.

Command	Description
config debug-trace ospf-lsa <debug level>	This command records debug information to the syslog.
config debug-trace ospf-neighbor <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace ospf-spf <debug level>	This command records debug information to the syslog.
config debug-trace pim-cache <debug level>	This command records debug information to the syslog.
config debug-trace pim-hello <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace pim-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace pim-neighbor <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace pim-rp-mgmt <debug level>	This command records debug information to the syslog.
config debug-trace rip-message <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace rip-route-change <debug level> vlan <vlan name | all>	This command is not currently supported.
config debug-trace rip-triggered-update <debug level> vlan <vlan name | all>	This command records debug information to the syslog.
config debug-trace slb-3dns <debug level>	This command records debug information to the syslog.
config debug-trace slb-connection <debug level>	This command records debug information to the syslog.
config debug-trace slb-failover <debug level>	This command records debug information to the syslog.
config debug-trace stp-in-pdu <debug level> [mgmt | <slot number>]	This command records debug information to the syslog.
config debug-trace stp-out-pdu <debug level> [mgmt | <slot number>]	This command records debug information to the syslog.
config debug-trace udp-forwarding <debug level> vlan <vlan name>	This command is not currently supported.
config debug-trace vrrp <debug level> vlan <vlan name>	This command records debug information to the syslog.
config debug-trace vrrp-hello <debug level> vlan <vlan name>	This command records debug information to the syslog.

Command	Description
config diagnostics [extended | fastpost | normal | off]	Runs switch diagnostics at boot-up.
config reboot-loop-protection threshold <time-interval> <count>	Configures reboot loop protection.
config system-dump server <ip address>	Configures the IP address to which to transfer a dump if the `system-dump` option is specified in the configuration.
config system-dump timeout <seconds>	Configures an optional timeout for the dump transfer.
nslookup <hostname>	Displays the IP address of the requested host.
ping {udp} {continuous} {size <start_size> {-<end_size>}} [<ip_address> | <hostname>] {from <src_ipaddress> | with record-route | from <src_ipaddress> with record-route}	Enables you to send User Datagram Protocol (UDP) or Internet Control Message Protocol (ICMP) echo messages or to a remote IP device.
run diagnostics [extended | normal | packet memory] slot [<slot number> | msm-a | msm-b]	Runs normal or extended diagnostics on the switch, slot, or management module.
run diagnostics packet-memory slot <slot number>	Executes packet memory scanning for all packet memory associated with the specified I/O slot on a BlackDiamond 6808 or 6816.
show debug-trace [access-list | bgp-events | bgp-keepalive | bgp-misc | bgp-msgs | bgp-neighbor | bgp-update-in | bgp-update-out | bootprelay | card-state-change | dvmrp-cache | dvmrp-hello | dvmrp-message | dvmrp-neighbor | dvmrp-route | dvmrp-timer | esrp-message | esrp-state-change | esrp-system | fdb | flow-redirect | health-check | iparp | ipxrip-message | ipxrip-route | ipxgns-messages | ipxsap-message | ipxsap-entry | ospf-hello | ospf-lsa | ospf-neighbor | ospf-spf | pim-cache | pim-hello | pim-neighbor | pim-message | pim-rp-mgmt | rip-message | rip-route-change | rip-triggered-update | slb-connection | slb-failover | slb-3dns | stp-in-pdu | stp-out-pdu | udp-forwarding] vlan <vlan name>	Displays the configured debug-trace levels.
show diagnostics {slot [<slot number> | msm-a | msm-b]}	Displays the status of the system health checker as well as information from the last diagnostic test run on the switch.
show diagnostics backplane arm mapping {active}	Displays diagnostic information related to the ARM module internal backplane switch ports. This command also displays the external I/O port to internal ARM module backplane switch port mappings.

Command	Description
show diagnostics backplane mpls mapping {active}	Displays diagnostic information related to the MPLS module internal backplane switch ports. This command also displays the external I/O port to internal MPLS module backplane switch port mappings.
show diagnostics backplane utilization	Displays backplane link utilization information.
show diagnostics packet-memory [slot <slot number>]	Displays the results of the packet memory scan on BlackDiamond 6808 and BlackDiamond 6816 I/O modules.
show diagnostics slot <slot-number> fdb {<mac_address> | vlan <vlan name> | tls-tunnel <tunnel_name>}	Displays the MAC cache for a specific MPLS module.
show system-dump	Displays the system-dump server IP and dump-timeout.
show tech-support	Displays the output of various show commands to assist in monitoring and troubleshooting the switch.
top	Displays real-time CPU utilization information by process.
unconfig system-dump	Unconfigures the system dump.
upload system-dump [<ip address>]	This command transfers a system dump to an IP address.



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