ExtremeSwitching

CLI Commands Reference for Ethernet Routing Switch 3600 Series

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Contents

Chapter 1: About this Document

This section discusses the purpose of this document, the conventions used, ways to provide feedback, additional help, and information regarding other Extreme Networks publications.

Related links

Purpose on page 17

Purpose

This document provides information on features in Ethernet Routing Switch 3600 Series.

This guide describes the Command Line Interface (CLI) commands for the configuration of various features. The chapters in this document correspond to a command mode in the CLI. Each chapter is organized alphabetically for those commands in that mode. If a command is available in all modes, like many **show** commands, it is documented in the mode that requires the lowest level of access privileges.

Related links

About this Document on page 17

Conventions

This section discusses the conventions used in this guide.

Text Conventions

The following tables list text conventions that can be used throughout this document.

Table 1: Notice Icons

Icon	Alerts you to...
Important:	A situation that can cause serious inconvenience.
Note:	Important features or instructions.
Tip:	Helpful tips and notices for using the product.
Danger:	Situations that will result in severe bodily injury; up to and including death.
Warning:	Risk of severe personal injury or critical loss of data.
Caution:	Risk of personal injury, system damage, or loss of data.

Table 2: Text Conventions

Convention	Description
Angle brackets (< >)	Angle brackets (< >) indicate that you choose the text to enter based on the description inside the brackets. Do not type the brackets when you enter the command. If the command syntax is `cfm maintenance-domain maintenance-level <0-7>` , you can enter `cfm maintenance-domain maintenance-level 4`.
Bold text	Bold text indicates the GUI object name you must act upon. Examples: • Click **OK**. • On the **Tools** menu, choose **Options**.
Braces ({ })	Braces ({ }) indicate required elements in syntax descriptions. Do not type the braces when you enter the command. For example, if the command syntax is `ip address {A.B.C.D}`, you must enter the IP address in dotted, decimal notation.
Brackets ([ ])	Brackets ([ ]) indicate optional elements in syntax descriptions. Do not type the brackets when you enter the command. For example, if the command syntax is `show clock [detail]`, you can enter either `show clock` or `show clock detail`.

Table continues…

Convention	Description
Ellipses (…)	An ellipsis (…) indicates that you repeat the last element of the command as needed. For example, if the command syntax is `ethernet/2/1 [ <parameter> <value> ]...`, you enter `ethernet/2/1` and as many parameter-value pairs as you need.
Italic Text	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles that are not active links.
`Plain Courier Text`	Plain Courier text indicates command names, options, and text that you must enter. Plain Courier text also indicates command syntax and system output, for example, prompts and system messages. Examples: • `show ip route` • `Error: Invalid command syntax [Failed][2013-03-22 13:37:03.303 -04:00]`
Separator (>)	A greater than sign (>) shows separation in menu paths. For example, in the Navigation tree, expand the **Configuration** > **Edit** folders.
Vertical Line (|)	A vertical line (|) separates choices for command keywords and arguments. Enter only one choice. Do not type the vertical line when you enter the command. For example, if the command syntax is `access-policy by-mac action { allow | deny }`, you enter either `access-policy by-mac action allow` or `access-policy by-mac action deny`, but not both.

Documentation and Training

Find Extreme Networks product information at the following locations:

Current Product Documentation
Release Notes
Hardware/software compatibility matrices for Campus and Edge products
Supported transceivers and cables for Data Center products

Other resources, like white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit www.extremenetworks.com/education/.

Getting Help

If you require assistance, contact Extreme Networks using one of the following methods:

Extreme Portal	Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.
The Hub	A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
Call GTAC	For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

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- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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2. Complete the form (all fields are required).
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4. Select **Submit**.

Providing Feedback

The Information Development team at Extreme Networks has made every effort to ensure the accuracy and completeness of this document. We are always striving to improve our documentation and help you work better, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information in the document.
- Broken links or usability issues.

If you would like to provide feedback, you can do so in three ways:

- In a web browser, select the feedback icon and complete the online feedback form.
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- Email us at documentation@extremenetworks.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Chapter 2: New in this Document

The following sections detail what is new in this document.

New Commands

The following commands are newly added to this document:

Zero Touch Provisioning Plus (ZTP+)

- show auto-provision on page 297
- auto-provision on page 79

Chapter 3: Application Configuration

This chapter provides information related to the Application configuration commands.

default slamon oper-mode

Disables the SLA Monitor agent. If you disable the agent, it does not respond to discover packets from a server. If you disable the agent because of resource concerns, consider changing the server configuration instead, to alter the test frequency or duration, or the number of targets.

Syntax

- **default slamon oper-mode**

Default

Disabled

Command Mode

Application Configuration

slamon agent ip address

Configures the agent IP address.

Syntax

- **default slamon agent ip address**
- **slamon agent ip address {A.B.C.D}**

Command Parameters

{A.B.C.D} Specifies the agent IP address. If no IP address is specified, the default value is 0.0.0.0, which causes the agent to use the switch/stack IP address.

Default

0.0.0.0

Command Mode

Application Configuration

slamon agent port

Configures the UDP port for agent-server communication. The agent receives discovery packets on this port.

Syntax

- **default slamon agent port**
- **slamon agent port <0–65535>**

Command Parameters

<0-65535>	Configures the UDP port for agent-server communication. The default is port 50011. The server must use the same port.

Default

50011

Command Mode

Application Configuration

slamon agent-comm-port

Configures the port used for RTP and NTR testing in agent-to-agent communication.

Syntax

- **default slamon agent-comm-port**
- **slamon agent-comm-port <0-65535>**

Command Parameters

<0-65535>	Configures the port used for RTP and NTR testing in agent-to-agent communication. The default port is 50012. If you configure this value to zero (0), the default port is used.

Default

50012

Command Mode

Application Configuration

slamon cli enable

Enables the SLA Monitor agent CLI support. This command affects the SLA Monitor CLI commands only, not the standard platform CLI commands.

Syntax

- **default slamon cli**
- **no slamon cli [enable]**
- **slamon cli enable**

Default

Disabled

Command Mode

Application Configuration

slamon cli-timeout

Configures the CLI timeout value in seconds. This command affects the SLA Monitor CLI commands only, not the standard platform CLI commands.

Syntax

- **slamon cli-timeout <60–600>**

Command Parameters

<60-600>	Configures the CLI timeout value in seconds. The default is 60 seconds.

Default

60

Command Mode

Application Configuration

slamon cli-timeout-mode enable

Enables the agent automatic CLI session timeout.

Syntax

- **defaultslamon cli-timeout-mode**
- **no slamon cli-timeout-mode**

- **slamon cli-timeout-mode [enable]**

Default

Disabled

Command Mode

Application Configuration

slamon ntr

Initiates an SLA Monitor NTR test.

Syntax

- **slamon ntr {A.B.C.D} <0–63> [attempts] [period]**

Command Parameters

{A.B.C.D}	Specifies the destination IP address. If no IP address is specified, the test execution fails.
<0-63>	Specifies the Differential Services Code Point (DSCP) value for use in packets that are generated by the NTR test.
attempts	Specifies the number of attempts generated by the NTR test. The range of values is 1-10. The default value is 2.
period	Specifies the interval between packets in microseconds, generated by the NTR test. The range of values is 1000-200000. The default interval is 20000 microseconds.

Default

None

Command Mode

Application Configuration

slamon oper-mode enable

Enables the SLA Monitor agent.

Syntax

- **no slamon oper-mode [enable]**
- **slamon oper-mode enable**

Default

Disabled

Command Mode

Application Configuration

slamon refuse-server-tests

Enables the agent refuse server test mode so that the agent can accept NTR and RTP test requests from the server.

Syntax

- **default slamon refuse-server-tests**
- **no slamon refuse-server-tests [enable]**
- **slamon refuse-server-tests [enable]**

Command Parameters

enable Agent rejects NTR and RTP test requests from the server. If you disable this mode, the agent accepts test requests from the server with which it is registered. Test requests originating from platform, SLM CLI interfaces, and SNMP are not affected.

Default

Disabled

Command Mode

Application Configuration

slamon rtp

Initiates an SLA Monitor RTP test.

Syntax

- **slamon rtp {A.B.C.D} <0–63> [npack] [nsync] [period]**

Command Parameters

{A.B.C.D} Specifies the destination IP address. If no IP address is specified, the test execution fails.

<0-63> Specifies the Differential Services Code Point (DSCP) value for use in packets that are generated by the NTR test.

npack Specifies the RTP npack value. The range of values is 10-100. The default value is 50.

nsync Specifies the RTP nsync value. The range of values is 10-100. The default value is 10.

period Specifies the interval between packets in microseconds, generated by the NTR test. The range of values is 1000-200000. The default interval is 20000 microseconds.

Default

None

Command Mode

Application Configuration

slamon server ip address

Configures the agent server IP address.

Syntax

- **default slamon server ip address**
- **slamon server ip address {A.B.C.D} [{A.B.C.D}]**

Command Parameters

{A.B.C.D} Restricts the agent to use of this server IP address only. The default is 0.0.0.0, which means the agent can register with any server. You can specify a secondary server as well.

Default

0.0.0.0

Command Mode

Application Configuration

slamon server port

Configures the server TCP registration port.

Syntax

- **default slamon server port**
- **slamon server port <0-65535>**

Command Parameters

<0-65535> Restricts the agent to use of this registration port only. The default is 0, which means the agent disregards the source port information in server traffic. The server must use the same port.

Default

0

Command Mode

Application Configuration

slamon server-bypass

Disables the SLA Monitor agent server bypass mode.

Syntax

- **slamon server-bypass [enable]**
- **slamon server-bypass [enable]**
- **slamon server-bypass [enable]**

Command Parameters

enable Enables the agent server bypass mode, which allows an enabled agent to always accept agent-to-agent traffic. When enabled a small number of network ports remain open to process network traffic. You must take this into account if security concerns are high.

Default

Disabled

Command Mode

Application Configuration

Chapter 4: DHCP Guard Configuration

This chapter provides information related to the DHCP Guard configuration commands.

device-role

Set device role as client or server

Syntax

- `device-role { client | server }`

Default

None

Command Mode

DHCP Guard Configuration

match reply prefix-list

Prefix list reply subcommands in dhcp-guard mode

Syntax

- `match reply prefix-list <ipv6prefix-list-name>`
- `no match reply prefix-list <ipv6prefix-list-name>`

Command Parameters

<ipv6prefix-list-name>	Specifies the list name.

Default

None

Command Mode

DHCP Guard Configuration

match server access-list

Acces list server subcommands in dhcp-guard mode

Syntax

- **match server access-list <ipv6access-list-name>**
- **no match server access-list <ipv6access-list-name>**
- **default match server access-list <ipv6access-list-name>**

Command Parameters

<ipv6access-list-name>	Specifies the list name.

Default

None

Command Mode

DHCP Guard Configuration

preference max limit

Set maximum preference limit in dhcp-guard mode

Syntax

- **preference max limit <0255>**
- **default preference max limit**

Command Parameters

<0255>	Specifies the preference limit.

Default

None

Command Mode

DHCP Guard Configuration

preference min limit

Set minimum preference limit in dhcp-guard mode

Syntax

- **preference min limit <0255>**
- **default preference min limit**

Command Parameters

<0255>	Specifies the preference limit.

Default

None

Command Mode

DHCP Guard Configuration

Chapter 5: Ethernet Configuration

This chapter provides information related to the Ethernet configuration commands.

adac

Modifies ADAC port settings.

Syntax

- **adac [port <LINE>] {[enable] [tagged-frames-pvid (<1-4094>| no-change)] [tagged-frames-tagging (tag-all|tag-pvid-only|untag-pvid-only|no-change)]}**
- **default adac [enable] [port <LINE> tagged-frames-pvid enable] [port <LINE> tagged-frames-tagging enable]**
- **no adac [enable] [port <LINE> enable]**

Command Parameters

enable	Enable auto-detection on ports.
port <LINE>	Ports to which to apply the ADAC configuration.
tagged-frames-pvid {<1-4094>| [no-change]}	Sets Tagged-Frames PVID on the port or ports listed. Use no-change to keep the current setting.
tagged-frames-tagging {no-change|tag-all|tag-pvid-only| untag-pvid-only}	Set the tagging to be configured for telephony ports in Tagged Frames operating mode.

Default

None

Command Mode

Ethernet Configuration

adac detection

Enables detection mechanisms on ports.

Syntax

- **adac detection [port <LINE>] {[mac][lldp]}**
- **default adac detection [port <LINE>] {[mac][lldp]}**
- **no adac detection [port <LINE>] {[mac][lldp]}**

Command Parameters

lldp	Enable 802.1ab-based detection on ports.
mac	Enable MAC-based detection on ports.
port <LINE>	Port number(s) for which to change settings.

Default

None

Command Mode

Ethernet Configuration

auto-negotiation-advertisements

Configure auto-negotiation advertisement settings.

Syntax

- **auto-negotiation-advertisements [[10-full] [10-half] [100-full] [100-half] [1000-full] [asymm-pause-frame] [pause-frame]]**
- **default auto-negotiation-advertisements [port <LINE>]**
- **no auto-negotiation-advertisements [port <LINE>]**

Command Parameters

1000-full	Advertise 1000Mbps full-duplex.
100-full	Advertise 100Mbps half-duplex.
100-half	Advertise 100Mbps full-duplex.
10-full	Advertise 10Mbps half-duplex.
10-half	Advertise 10Mbps full-duplex.

asymm-pause-frame	Advertise use of asymmetric pause frames half-duplex.
none	Do not advertise anything during auto-negotiation.
port <LINE>	Select port for operation.

Default

None

Command Mode

Ethernet Configuration

clear ip-blocking

Clears the Layer 3 IP blocking state.

Syntax

- **clear ip-blocking**

Default

None

Command Mode

Ethernet Configuration

clear stack port-statistics

Clears the stack port counters.

Syntax

- **clear stack port-statistics [unit <1-8>]**

Command Parameters

unit <1-8>	Specifies the unit in the stack.

Default

None

Command Mode

Ethernet Configuration

clear-stats

Clears the port counter.

Syntax

- **clear-stats port <LINE>**

Command Parameters

port <port-list>	Selects a port to clear the port counter.

Default

None

Command Mode

Ethernet Configuration

clear system last-exception

Clears last software exception information.

Syntax

- **clear system last-exception [unit]{ <1-8>| all]**

Command Parameters

<1-8>	Clear last software exception for a specified unit.
all	All units.

Default

None

Command Mode

Ethernet Configuration

duplex

Configure duplex mode of a port

Syntax

- **duplex[auto|full|half|port <port-list>]**

Command Parameters

auto	Automatically detect duplex mode
full	Configures Half-duplex mode
half	Configures Full-duplex mode
port	Select port for operation

Default

None

Command Mode

Ethernet Configuration

eapol (Ethernet Configuration)

Modifies EAPOL-based security parameters.

Syntax

- eapol [port <portlist>] [init] [status {authorized|unauthorized| auto}] [traffic-control {in-out|in}] [re-authentication {enable| disable}] [re-authentication-period <1-604800>] [re-authenticate] [quiet-interval <0-65535>] [supplicant-timeout <1-65535>] [server-timeout <1-65535>] [max-request <1-10>]

Command Parameters

max-request <1- 10>	Enter the number of times to retry sending packets to supplicant.
quiet-interval <0-65535>	Enter the desired number of seconds between an authentication failure and the start of a new authentication attempt..
re-authenticate	Specifies an immediate reauthentication. NonEAP clients are not reauthenticated even if reauthentication is enabled on the port.
reauthentication enable| disable	Enables or disables reauthentication for EAPOL clients.
reauthenticationperiod <1-604800>	Enter the desired number of seconds between reauthentication attempts.
server-timeout <1-65535>	Specifies a waiting period for response from the server. Enter the number of seconds to wait; range is 1 to 65535.

status {authorized | unauthorized |auto}	Specifies the EAP status of the port (authorized — port is always authorized; unauthorized — port is always unauthorized; auto — port authorization status depends on the result of the EAP authentication).
supplicanttimeout <1-65535>	Specifies a waiting period for response from supplicant for all EAP packets except EAP Request/Identity packets. Enter the number of seconds to wait.
traffic-control {in-out | in}	Sets the level of traffic control (in-out — if EAP authentication fails, both ingressing and egressing traffic are blocked; in — if EAP authentication fails, only ingressing traffic is blocked).
init	Reinitiates EAP authentication.
port <LINE>	Specifies the ports to configure for EAPOL.
radius-dynamicserver enable	Enable EAP processing requests from RADIUS Dynamic Authorization Server.

Default

None

Command Mode

Ethernet Configuration

eapol guest-vlan (Ethernet Configuration)

Sets guest-vlan.

Syntax

- default eapol guest-vlan [port <LINE>] [enable] [vid]
- eapol guest-vlan [port <LINE>] {enable|vid {<1-4094>|global}}
- no eapol [port<LINE>] enable

Command Parameters

enable	Enable guest-vlan.
port <LINE>	Port number on which to enable EAPOL..
vid { <1-4094> | global }	Guest-vlan ID.

Default

None

Command Mode

Ethernet Configuration

eapol multihost (Ethernet Configuration)

Sets EAPOL multihost settings.

Syntax

- default eapol multihost [port <LINE>] [mac-max] [eap-mac-max] [non-eap-mac- max] [allow-non-eap-enable] [radius-non-eap-enable] [auto-non-eap-mhsa-enable] [non-eap-phone-enable] [use-radius assigned-vlan] [eap-packet-mode] [non-eap-use-radius-assigned-vlan][mhsa-no-limit]
- eapol multihost [port <LINE>] [adac-non-eap-enable] [allow-non-eap-enable] [auto-non-eap-mhsa-enable] [eap-mac-max <1-32>] [eap-packet-mode {multicast | unicast}] [eap-protocol-enable] [mac-max <1–64>][non-eap-mac-max <1-32>] [non-eap-phone-enable] [non-eap-use-radius-assigned-vlan][radius-non-eap-enable] [use-radius-assigned-vlan][mhsa-no-limit]
- no eapol multihost [port <LINE>][allow-non-eap-enable] [radius-non-eap-enable] [auto-non-eap-mhsa-enable] [non-eap-phone-enable] [use-radius-assigned-vlan] [non-eap-use-radius-assigned-vlan][mhsa-no-limit][adac-non-eap-enable] [eap-protocol-enable]

Command Parameters

radius-non-eap-enable	Enable RADIUS authentication of non-eap clients.
adac-non-eap-enable	Allow authentication of Non-EAP Phones using ADAC.
allow-non-eap-enable	Control of non-EAP clients (MAC addresses).
auto-non-eap-mhsa-enable	Allow auto-auth of non-EAP clients.
eap-mac-max <1-32>	Maximum number of EAP-authentication MAC addresses allowed.
eap-packet-mode {multicast | unicast}	Send initial EAP requests multicast or unicast.
eap-protocol-enable	Enable EAP protocol on port.
enable	Enables multihost support for EAPOL.
mac-max <1-64>	Maximum clients per port.
non-eap-mac-max <1-32>	Maximum number of non-EAP-authentication MAC addresses allowed.
non-eap-phone-enable	Allow non-eap phone clients.

non-eap-use-radius-assignedvlan	Allow the use of VLAN IDs assigned by RADIUS for non-EAP clients.
port <LINE>	Port number on which to apply EAPOL settings.
mhsa-no-limit	Allows an unlimited number of auto-authenticated non-EAP clients on the port.
use-radius-assigned-vlan	Allow the use of VLAN IDs assigned by RADIUS.

Default

None

Command Mode

Ethernet Configuration

eapol multihost non-eap-mac

Sets the maximum number of non-EAP-authentication MAC addresses allowed.

Syntax

- **default eapol multihost non-eap-mac [port <portlist>] <H.H.H>**
- **eapol multihost non-eap-mac [port <portlist>] <H.H.H>**
- **no eapol multihost non-eap-mac [port <portlist>] <H.H.H>**

Command Parameters

<H.H.H>	The MAC address of the allowed non EAPOL host.
port <portlist> <H.H.H>	The list of ports on which you want to allow the specified non EAPOL hosts.

Default

None

Command Mode

Ethernet Configuration

energy-saver (Ethernet Configuration)

Configures per-port energy saver settings.

Syntax

- default energy-saver [enable] [port <portlist> enable]
- energy-saver [enable] [port <portlist> enable]
- no energy-saver [enable] [port <portlist> enable]

Command Parameters

enable	Enable energy saving.
port <LINE>	Specify list of ports.

Default

None

Command Mode

Ethernet Configuration

flowcontrol

Configure flow control mode of a port

Syntax

- **default flowcontrol [port <portlist>]**
- **flowcontrol [port <LINE>] {asymmetric | symmetric | auto |disable}**
- **no flowcontrol [port <portlist>]**

Command Parameters

asymmetric	Asymmetric mode
auto	Automatically detect flowcontrol mode
disable	Disable flow control
port	Select port for operation
symmetric	Symmetric mode

Default

None

Command Mode

Ethernet Configuration

ip arp-inspection (Ethernet Configuration)

Specify whether a particular port or range of ports is trusted (ARP traffic is not subject to dynamic ARP inspection) or untrusted (ARP traffic is subject to dynamic ARP inspection).

Syntax

- default ip arp-inspection port <LINE>
- ip arp-inspection [port <LINE>] {trusted|untrusted}

Command Parameters

<portList>	Specify the port or range of ports.
trusted	ARP traffic is not subject to dynamic ARP inspection.
untrusted	ARP traffic is subject to dynamic ARP inspection.

Default

untrusted

Command Mode

Ethernet Configuration

ip dhcp-relay (Ethernet Configuration)

Assign an Option 82 for DHCP Relay subscriber Id to a port.

Syntax

- default ip dhcp-relay option82-subscriber-id
- ip dhcp-relay [port <LINE>] option82-subscriber-id <WORD>
- no ip dhcp-relay option82-subscriber-id

Command Parameters

option82- subscriber-id <WORD>	Specifies the DHCP Option 82 subscriber Id for the port. Value is a character string between 0 and 64 characters.
port <LINE>	Specify list of ports.

Default

None

Command Mode

Ethernet Configuration

ip verify source

Enable IP Source guard

Syntax

- `ip verify source`
- `ip verify source interface <port>`
- `ip verify source interface ethernet <port>`

Default

None

Command Mode

Ethernet Configuration

lacp aggregation

Enables the port aggregation mode.

Syntax

- `default lacp aggregation`
- `lacp aggregation [port <portList>] enable`
- `no lacp aggregation [port <portList>] enable`

Command Parameters

enable	Enable port aggregation mode.
port <portList>	Specify port list.

Default

None

Command Mode

Ethernet Configuration

lacp clear-stats

Clear LACP statistics.

Syntax

- **lacp clear-stats [port <WORD>]**

Command Parameters

port <WORD>	Specify port list .

Default

none

Command Mode

Ethernet Configuration

lacp key (Ethernet Configuration)

Configure the administrative LACP key for a set of ports.

Syntax

- default lacp key [port <portList>]
- lacp key [port <portList>] <1-4095>

Command Parameters

<1-4095>	The LACP key to use.
<portList>	The ports to configure the LACP key for.

Default

None

Command Mode

Ethernet Configuration

lacp mode

Configure the LACP mode of operations for a set of ports.

Syntax

- **default lacp mode [port <portList>]**
- **lacp mode [port <portList>] {active | passive | off}**

Command Parameters

<portList>	The ports for which the LACP mode is to be set.
active	The port will participate as an active Link Aggregation port. Ports in active mode send LACPDUs periodically to the other end to negotiate for link aggregation.
off	The port does not participate in Link Aggregation
passive	The port will participate as a passive Link Aggregation port. Ports in passive mode send LACPDUs only when the configuration is changed or when its link partner communicates first.

Default

None

Command Mode

Ethernet Configuration

lacp priority

Configure the per-port LACP priority for a set of ports.

Syntax

- **`default lacp priority [port <portList>]`**
- **`lacp priority [port <portList>] <0-65535>`**

Command Parameters

<0-65535>	The priority value to assign.
port <portList>	The ports for which to configure LACP priority.

Default

None

Command Mode

Ethernet Configuration

lacp timeout-time

Configure the LACP periodic transmission timeout interval for a set of ports.

Syntax

- **default lacp timeout-time [port <portList>]**
- **lacp timeout-time [port <portList>] {long | short}**

Command Parameters

{long | short}	Specify the long or short timeout interval.
port <portList>	The ports for which to configure the timeout interval.

Default

None

Command Mode

Ethernet Configuration

lldp (Ethernet Configuration)

Sets the LLDP port parameters

Syntax

- default lldp port <portlist> [status] [config-notification]
- lldp port <portlist> [status {rxOnly | txAndRx | txOnly}] [config-notification]
- no lldp port <portlist> [status] [config-notification]

Command Parameters

config notification	Enable notification when new neighbor information is stored or when existing information is removed. The default value is enabled.
port <portlist>	Specify the ports affected by the command.
status {rxOnly | txAndRx | txOnly}	Set the LLDPU transmit and receive status on the ports. rxonly: enables LLDPU receive only. txAndRx: enables LLDPU transmit and receive. For LLDP support for PoE+, transmission and reception must be enabled. txOnly: enables LLDPU transmit only.

Default

None

Command Mode

Ethernet Configuration

lldp location-identification (Ethernet Configuration)

Location Configuration Information (LCI)

Syntax

- lldp location-identification civic-address country-code WORD { [additionalcode WORD] [additional-information WORD] [apartment WORD] [block WORD] [building WORD][city WORD] [city-district WORD] [county WORD] [floor WORD] [house-number WORD] [house-number-suffix WORD][landmark WORD] [leading-street-direction WORD] [name WORD] [p.o.box WORD] [place-type WORD] [postal-community-name WORD] [postal/zip-code WORD] [room-number WORD] [state WORD] [street WORD] [street-suffix WORD] [trailingstreet- suffix WORD]}
- lldp location-identification coordinate-base {[latitude <LINE> {NORTH | SOUTH }] [longitude <LINE> {EAST|WEST}] [altitude <LINE> {[floors][meters]}]}
- lldp location-identification ecs-elin <LINE ELIN>

Command Parameters

additional-code <WORD>	Additional code.
additional-information <WORD>	Additional location information
altitude <LINE>	Altitude
apartment <WORD>	Unit (apartment, suite)
block <WORD>	Neighborhood, block
building <WORD>	Building (structure)
city <WORD>	City, township, shi (JP)
city-district <WORD>	City division, city district, ward
country-code <WORD>	Country code
county <WORD>	County, parish, gun (JP), district(IN)
datum	Reference datum
floor <WORD>	Floor
house-number <WORD>	House number
house-number-suffix <WORD>	House number suffix
landmark <WORD>	Landmark or vanity address
latitude <LINE>	Latitude

leading-street-direction <WORD>	Leading street direction
longitude <LINE>	Longitude
name <WORD>	Residence and office occupant
p.o.box <WORD>	Post office box
place-type <WORD>	Office
postal/zip-code <WORD>	Postal/Zip code
postal-community-name <WORD>	Postal community name
room-number <WORD>	Room number
state <WORD>	National subdivisions: (state, canton, region)
street <WORD>	Street
street-suffix <WORD>	Street suffix
trailing-street-suffix <WORD>	Trailing street suffix

Default

None

Command Mode

Ethernet Configuration

lldp med-network-policies

Configures LLDP Media Endpoint Devices (MED) policies for switch ports

Syntax

- **default lldp med-network-policies {voice|voice-signaling} [port <portList>]**
- **lldp med-network-policies [port <portList>] {voice|voice-signaling} [dscp <0-63>] [priority <0-7>] [tagging {tagged|untagged}] [vlan-id <0-4094>]**
- **no lldp med-network-policies [port <portList>] {voice|voice signaling}**

Command Parameters

dscp <0-63>	Specifies the value of the Differentiated Service Code Point (DSCP) as defined in IETF RFC 2474 and RFC 2475 that is associated with the selected switch port or ports. Values range from 0–63. The default value is 46.
port <portlist>	Specifies the port or ports on which to configure LLDP MED policies.
priority <0-7>	Specifies the value of the 802.1p priority that applies to the selected switch port or ports. Values range from 0–7. The default value is 6
tagging {tagged | untagged}	Specifies the type of VLAN tagging to apply on the selected switch port or ports. tagged—uses a tagged VLAN. untagged—uses an untagged VLAN or does not support port-based VLANs. If you select untagged, the system ignores the VLAN ID and priority values, and recognizes only the DSCP value.
vlan-id <0-4094>	Specifies the VLAN identifier for the selected port or ports. Values range from 0–4094 (0 is for priority tagged frames). If you select priority tagged frames, the system recognizes only the 802.1p priority level and uses a value of 0 for the VLAN ID of the ingress port.
voice	Specifies voice network policy. The default value is 46.
voice-signaling	Specifies voice signalling network policy

Default

None

Command Mode

Ethernet Configuration

lldp tx-tlv

Sets the optional Management TLVs to be included in the transmitted LLDPDUs

Syntax

- **default lldp tx-tlv port <portlist> local-mgmt-addr port-desc sys-cap sys-desc sys-name**
- **lldp tx-tlv [port <portlist>] local-mgmt-addr [port-desc] [sys-cap] [sys-desc][sys-name]**
- **lldp tx-tlv vendor-specific {[call-server] [dot1q-framing][file-server][poe-conservation]}**
- **no lldp tx-tlv port <portlist> local-mgmt-addr port-desc sys-cap sys desc sys-name**

Command Parameters

local-mgmt-addr	The local management address TLV. This TLV is enabled by default.
port <portlist>	Specifies a port or list of ports.
port-desc	The port description TLV This TLV is enabled by default. This TLV is enabled by default.
sys-cap	The system capabilities TLV
sys-desc	The system description TLV. This TLV is enabled by default.
sys-name	The system name TLV. This TLV is enabled by default.

Default

None

Command Mode

Ethernet Configuration

lldp tx-tlv dot3

Sets the optional IEEE 802.3 organizationally-specifc TLVs to be included in the transmitted LLDPDUs

Syntax

- **default lldp tx-tlv port <portlist> dot3 link-aggregation mac-phy config-status maximum-frame-size mdi-power-support**
- **lldp tx-tlv [port <portlist>] dot3 [link-aggregation] [mac-phy-config-status] [maximum-frame-size][mdi-power-support]**
- **no lldp tx-tlv port <portlist> dot3 link-aggregation mac-phy-config status maximum-frame-size mdi-power-support**

Command Parameters

link-aggregation	The link aggregation TLV
mac-phy-config-status	The MAC/Phy configuration or status TLV
maximum-frame-size	Maximum Frame Size TLV
mdi-power-support	Power via MDI TLV is sent only on ports where transmission is enabled. The power via MDI TLV, transmission of this TLV is enabled by default on all POE ports. The transmission can be enabled only on PoE ports

port <portlist>	The ports affected by the command

Default

None

Command Mode

Ethernet Configuration

lldp tx-tlv med

Sets the optional organizationally specific TLVs for use by MED devices to be included in the transmitted LLDPDUs

Syntax

- **default lldp tx-tlv port <portlist> med extendedPSE inventory location med-capabilities network-policy**
- **lldp tx-tlv [port <portlist>] med [extendedPSE] [inventory] [location] [med-capabilities] [network-policy]**
- **no lldp tx-tlv port <portlist> med extendedPSE inventory location med-capabilities network-policy**

Command Parameters

extendedPSE	Extended PSE TLV, the transmission of this TLV is enabled by default only on POE port switches.
inventory	Inventory TLVs This TLV is enabled by default.
location	Location Identification TLV This TLV is enabled by default
med-capabilities	MED Capabilities TLV (MED TLVs are transmitted only if MED Capabilities TLVs are transmitted). This TLV is enabled by default.
network-policy	Network Policy TLV This TLV is enabled by default.
port <portlist>	specifies the ports affected by the command

Default

None

Command Mode

Ethernet Configuration

lldp tx-tlv vendor-specific (Ethernet Configuration)

Vendor-specific TLVs

Syntax

- lldp tx-tlv [port <portList>] vendor-specific {[call-server] [dot1q-framing] [file-server] [poe-conservation]}
- default lldp tx-tlv [port <portList>] vendor-specific {[call-server] [dot1q-framing] [fileserver] [poe-conservation]}
- no lldp tx-tlv [port <portList>] vendor-specific {[call-server] [dot1q-framing] [fileserver] [poe-conservation]}
- default lldp port <portList> vendor-specific poe-conservation-request-level
- lldp [port <portList>] vendor-specific dot1q-framing {auto | non-tagged | tagged}
- lldp [port <portList>] vendor-specific poe-conservation-request-level <0-255>

Command Parameters

<portList>	Specifies a port or list of ports.
call-server	Enables the call server TLV transmit flag.
dot1q-framing	Enables the Layer 2 priority tagging TLV transmit flag.
file-server	Enables the file server TLV transmit flag.
poe-conservation	Enables the PoE conservation request TLV transmit flag.
dot1q-framing {auto | nontagged | tagged }	Enables the Layer 2 priority tagging TLV transmit flag.
poe-conservationrequest- level <0-255>	Specifies the power conservation level to request for a vendor specific PD. Values range from 0 to 255. With the default value of 0, the switch does not request a power conservation level for an IP phone connected to the port.

Default

None

Command Mode

Ethernet Configuration

lldp vendor-specific (Ethernet Configuration)

Configure 802.1ab vendor-specific settings.

Syntax

- default lldp vendor-specific {dot1q-framing | poe-conservation-request-level}
- lldp vendor-specific {dot1q-framing {auto | tagged | untagged} | {poe-conservation-request-level <0-255>}]

Command Parameters

dot1q-framing {auto | untagged | tagged}	Enables the Layer 2 priority tagging TLV transmit flag.
poe-conservation-request-level <0-255>	Specifies the power conservation level to request for a vendor specific PD. Values range from 0 to 255. With the default value of 0, the switch does not request a power conservation level for an IP phone connected to the port.

Default

None

Command Mode

Ethernet Configuration

mac-security (Ethernet Configuration)

Enables or disables MAC-based security for individual port.

Syntax

- default mac-security auto-learning [port <portlist>][enable][max-addrs]
- default mac-security [port <portlist>] lock-out
- mac-security [port <portlist>] {disable|enable}
- mac-security auto-learning [port <portlist>] {disable | enable | max-addrs <1-25>}
- no mac-security [port <portlist>] [learning|lock-out]
- no mac-security auto-learning [port <portlist>]

Command Parameters

[port <portlist>]	Specifies a port or list of ports.
auto-learning	Configure MAC Auto-Learning.
disable	Disable MAC security for port(s).
enable	Enable MAC security for port(s).
learning	Enable MAC security address learning for port(s).

lock-out	Lock out ports from mac security.
max-addrs	Number of auto-learned entries.

Default

None

Command Mode

Ethernet Configuration

mdix

Configure the MDI/X settings for ports

Syntax

- `mdix [port <portlist>] { auto | forceAuto | normal | xover }`

Command Parameters

port <portlist>	Specifies the port(s) to be configured.
auto	Sets the port(s) to auto-MDIX when autonegotiation is enabled.
forceAuto	Specifies auto-MDIX always, even when autonegotiation is disabled.
normal	Specifies the standard behavior when autonegotiation is disabled. A port from a switch links up with another switch only using crossover cables, while end devices connect with a straight cable.
xover	Specifies that two switches link up with straight cables, while end devices connect with crossover cables.

Default

Auto

Command Mode

Ethernet Configuration

poe poe-limit (for PoE units)

Sets the power limit for channels.

Syntax

- **poe poe-limit [port <portlist>] <3-16>**

Command Parameters

port <portlist>	Select port for operation.

Default

None

Command Mode

Ethernet Configuration

poe poe-limit (for PoE+ units)

Sets the power limit for channels.

Syntax

- **poe poe-limit [port <portlist>] <3-32>**

Command Parameters

<3 - 32>	Power limit in watt.
port <portlist>	Select port for operation.

Default

None

Command Mode

Ethernet Configuration

poe poe-power-up-mode

Sets the power up mode.

Syntax

- **default poe poe-power-up-mode**
- **poe poe-power-up-mode {802.3af | 802.3at | high-inrush | port | pre-802.3at}**

Command Parameters

802.3af	Sets power up mode to normal.
802.3at	Sets power up mode to 802.3at.
high-inrush	Sets power up mode to high inrush. Enabling high inrush current may damage components of the switch. Use with caution.
port	Select port operation
pre-802.3at	Set power up mode to pre-802.3at

Default

None

Command Mode

Ethernet Configuration

poe poe-priority

Sets the port power priority.

Syntax

- **poe poe-priority [port <portlist>] {critical | high | low}**

Command Parameters

{low | high | critical}	The PoE priority for the port.
port <portlist>	The ports to set priority for.

Default

None

Command Mode

Ethernet Configuration

poe poe-shutdown

Disables PoE to a port.

Syntax

- **no poe-shutdown [port <portlist>]**

- **poe poe-shutdown [port <portlist>]**

Command Parameters

port <portlist>	List of ports.

Default

None

Command Mode

Ethernet Configuration

qos if-assign (Ethernet Configuration)

Adds ports to an interface group.

Syntax

- [no] qos if-assign [port <portlist>] name [<WORD>]

Command Parameters

name <WORD>	Specify name of interface group.
port <portlist>	Enter the ports to add to interface group.

Default

None

Command Mode

Ethernet Configuration

qos if-queue-shaper

Creates an egress queue shaper for one or more interfaces.

Syntax

- **no qos if-queue-shaper [port <portlist>] [queue <1-8>]**
- **qos if-queue-shaper [port <portlist>] [queue <1-8>] [name <WORD>] shape-rate <0-10230000> shape-min-rate <0-10230000>**

Command Parameters

name <WORD>	Specifies an alphanumeric label used to identify the QoS interface queue shaper. Value is a character string ranging from 1–16 characters in length.

port <portlist>	Specifies the port or list of ports for which to apply egress queue shaping.
queue <1-8>	Specifies the queue for the selected interface port or ports, on which traffic is shaped. The range of available values is determined by the OoS agent default queue configuration.
shape-min-rate <0-10230000>	Specifies the minimum QoS interface queue shaping rate, in kilobits per second (Kbps). Values range from 0 to10230000 Kbps.
shape-rate <0-10230000>	Specifies the QoS interface queue shaping rate, in kilobits per second (Kbps). Values range from 0 to 10230000 Kbps

Default

None

Command Mode

Ethernet Configuration

qos if-shaper

Configures the interface shaping parameters for a set of ports.

Syntax

- **[no] qos if-shaper [name <WORD>] [port <portlist>] [shape-rate <64-10230000>] [burst-size <burst-size>] [max-burst-rate <64-4294967295>] [max-burst-duration <1-4294967295>]**

Command Parameters

burst-size <burst-size>	Committeed burst size in Kilobytes. The value range is: 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384.
max-burst-duration <1-4294967295>	Maximum burst duration in milliseconds; range is 1–4294967295 ms.
max-burst-rate <64-4294967295>	Maximum burst rate in kilobits/sec; range is 64-4294967295Kbits/sec.
name <WORD>	Specify name for if-shaper; maximum is 16 alphanumeric characters
port <portlist>	Specify the port or list of ports for which to apply egress shaping.
shape-rate <64-10230000>	Shaping rate in kilobits/sec; range is 64-10230000 kilobits/sec.

Default

None

Command Mode

Ethernet Configuration

show slpp-guard

Specifies a list of ports for which to display the SLPP Guard configuration status.

Syntax

- **show slpp-guard port <portlist>**

Command Parameters

port <portlist>	Specifies a list of ports for which to display the SLPP Guard configuration status.

Default

None

Command Mode

Ethernet Configuration

shutdown (Ethernet Configuration)

Shutdown the selected interface

Syntax

- shutdown [port <portlist>]

Command Parameters

port <port-list>	Shutdown the selected interface

Default

None

Command Mode

Ethernet Configuration

slamon agent

Sets the SLAMon agent configuration

Syntax

- **slamon agent [ip address <A.B.C.D> | port <0-65535>]**

Command Parameters

ip address<ip address>	Set the SLAMon agent IP address
port <0-65535>	Set the SLAMon agent UDP port

Default

None

Command Mode

Ethernet Configuration

slamon cli

Enables the SLAMon agent CLI interface

Syntax

- **slamon cli enable**

Command Parameters

enable	Enable the SLAMon agent CLI interface

Default

None

Command Mode

Ethernet Configuration

slamon cli-timeout-mode

Sets the SLAMon agent CLI session timeout mode

Syntax

- **slamon cli-timeout-mode enable**

Command Parameters

enable	Enable the SLAMon agent CLI session timeout mode

Default

None

Command Mode

Ethernet Configuration

slamon oper-mode

Enable the SLAMon agent

Syntax

- **slamon oper-mode enable**

Command Parameters

enable	Enable the SLAMon agent

Default

None

Command Mode

Ethernet Configuration

slpp-guard

Configures the SLPP Guard to disable a port when a SLPP packet is received on that port.

Syntax

- **default slpp-guard**
- **no slpp-guard**
- **slpp-guard [port <portlist>][enable][timeout {0|<10-65535>}]**

Command Parameters

enable	Enables SLPP Guard parameters for a port or list of ports.
port <portlist>	Specifies the port or list of ports on which the specified SLPP Guard parameter or parameters are configured.
timeout {0|<10-65535>}	Specifies the time period, in seconds, for which SLPP Guard disables the port. After the timeout period expires, the switch re-enables the port.

Default

None

Command Mode

Ethernet Configuration

spanning-tree bpdu-filtering (Ethernet Configuration)

Configures STP BPDU filtering.

Syntax

- default spanning-tree bpdu-filtering [enable] [port <portlist>enable]
- no spanning-tree bpdu-filtering [enable] [port <portlist>enable]
- spanning-tree bpdu-filtering [port <portlist>] [enable] [timeout <10-65535 | 0>]

Command Parameters

enable	Enables STP BPDU Filtering on the specified ports. The default value is disabled.
port <portlist>	Specifies the ports affected by the command.
timeout <10-65535 | 0 >	When BPDU filtering is enabled, this indicates the time (in seconds) during which the port remains disabled after it receives a BPDU. The port timer is disabled if this value is set to 0. The default value is 120 seconds.

Default

None

Command Mode

Ethernet Configuration

speed

Sets the port speed.

Syntax

- **default speed [port <portlist>]**
- **speed [port <portlist>] {10 | 100 | 1000 | 10000 | auto}**

Command Parameters

10|100|1000|10000| auto	Set the speed to: 10: 10 Mb/s; 100: 100 Mb/s; 1000: 1000 Mb/s or 1 GB/s; 10000: 10000 Mb/s; auto: autonegotiation.
port <portlist>	List of ports.

Default

None

Command Mode

Ethernet Configuration

vlacp (Ethernet Configuration)

Configures VLACP parameters per port.

Syntax

- default vlacp [port <LINE>] [enable][ethertype][fast-periodic-time][funcmac-addr][port LINE] [slow-periodic-time][timeout][timeout-scale]
- no vlacp enable
- vlacp port <slot/port> [enable] [timeout <long/short>] [fast-periodic-time <integer>] [slowperiodic- time <integer>] [timeout-scale <integer>] [funcmac-addr <mac>] [ethertype {<0x8101- 0x81ff>|<33025-33279>}]

Command Parameters

<portList>	Specifies the port.
enable	Enables VLACP.
ethertype {<0x8101-0x81ff>|<33025-33279>}	Sets the VLACP protocol identification for this port. Defines the ethertype value of the VLACP frame. The range is 8101-81FF. Default is 8103.
fast-periodic-time <integer	Specifies the number of milliseconds between periodic VLACPDU transmissions using short timeouts. The range is 400-20000 milliseconds. Default is 500.
funcmac-addr <mac>	Specifies the address of the far-end switch/stack configured to be the partner of this switch/stack. If none is configured, any VLACP-enabled switch communicating with the local switch through VLACP PDUs is considered to be the partner switch.

slow-periodic-time <integer>	Specifies the number of milliseconds between periodic VLACPDU transmissions using long timeouts. The range is 10000-30000 milliseconds. Default is 30000.
timeout {long | short}	Specifies whether the timeout control value for the port is a long or short timeout. long — sets the port timeout value to: (timeoutscale value) × (slow-periodic-time value). short— sets the port's timeout value to: (timeout-scale value) × (fast-periodic-time value). For example, if the timeout is set to short while the timeout-scale value is 5 and the fast-periodic-time value is 500 ms, the timer expires after 2500 ms. Default is long.
timeout-scale <integer>	Sets a timeout scale for the port, where timeout = (periodic time) × (timeout-scale). The range is 1-10. Default is 3. Note: When you use fast-timers, you do not use a timeout-scale of 1, because this breaks the link continuity from service due to the time taken to transmit VLACPDU and for the partner to provide a corresponding response. Extreme Networks recommends that you set the minimum timeout-scale to 3. Extreme Networks also recommends that you use the minimum setting of 5 for the timeoutscale when using the fast-periodic-timer of 500 ms.

Default

None

Command Mode

Ethernet Configuration

Chapter 6: Ethernet Interface Configuration

This chapter provides information related to the Ethernet Interface configuration commands.

clear arp-cache (for a port)

Clear the Layer 3 ARP cache.

Syntax

- `clear arp-cache`

Default

None

Command Mode

Ethernet Interface Configuration

clear eapol non-eap (for a port)

Clear NEAP authenticated clients.

Syntax

- `clear eapol non-eap [<LINE>] address <H.H.H>`

Command Parameters

<LINE>	Specifies an individual port or list of ports from which to clear authenticated NEAP clients.
address <H.H.H>	Specifies the MAC address of an authenticated NEAP client to clear from the port. If you enter a MAC address value of 00:00:00:00:00:00, all authenticated NEAP clients are cleared from the specified port.

Default

None

Command Mode

Ethernet Interface Configuration

clear ip dhcp-snooping binding (for a port)

Clear DHCP snooping bindings.

Syntax

- **clear ip dhcp-snooping binding {dynamic|static}**

Command Parameters

dynamic	Clear DHCP snooping dynamic bindings.
static	Clear DHCP snooping static bindings.

Default

None

Command Mode

Ethernet Interface Configuration

clear ip forward-protocol udp counters (for a port)

Clear UDP broadcast counters.

Syntax

- **clear ip forward-protocol udp counters <LINE>**

Command Parameters

<LINE>	Clear counters for specific VLAN.

Default

None

Command Mode

Ethernet Interface Configuration

clear ip igmp profile stats (for a port)

Clear IGMP profile statistics.

Syntax

- **clear ip igmp profile stats <1-65535>**

Command Parameters

<1-65535> Specifies the profile ID. If you do not include this variable in the command, statistics for all profiles are cleared.

Default

None

Command Mode

Ethernet Interface Configuration

clear ip-blocking (for a port)

Clear the Layer 3 IP blocking state.

Syntax

- **clear ip-blocking**

Default

None

Command Mode

Ethernet Interface Configuration

clear ipv6 destination cache (for a port)

Clear the IPv6 destination cache.

Syntax

- **clear ipv6 destinationcache**

Default

None

Command Mode

Ethernet Interface Configuration

clear ipv6 statistics (for a port)

Clear IPv6 statistics.

Syntax

- **clear ipv6 statistics [all] [interface] [tcp] [udp] [ripng vlan <1-4094>]**

Command Parameters

all	Clear all IPv6 statistics.
interface	Clear IPv6 interface statistics.
tcp	Clear IPv6 TCP statistics.
ripng vlan <1-4094>	Clear RIPng statistics for specific vlan interface.
udp	Clear IPv6 UDP statistics.

Default

None

Command Mode

Ethernet Interface Configuration

clear ipv6 neighbor-cache (for a port)

Clear the IPv6 neighbor-cache.

Syntax

- **clear ipv6 neighbor-cache**

Default

None

Command Mode

Ethernet Interface Configuration

clear logging (for a port)

Clear log messages (with no parameters, from DRAM only).

Syntax

- **clear logging {non-volatile <critical> <serious>|nv|volatile <critical> <informational> <serious>}**

Command Parameters

critical	Clear critical log messages.
informational	Clear informational log messages.
non-volatile	Clear log messages from NVRAM.
nv	Clear log messages from NVRAM and DRAM.
serious	Clear serious log messages.
volatile	Clear log messages from DRAM.

Default

None

Command Mode

Ethernet Interface Configuration

clear mac-address-table (for a port)

Flush the MAC address table for a specific VLAN.

Syntax

- **clear mac-address-table [address <H.H.H>|dynamic|static] [interface {Ethernet |mlt <1-32>| vlan <1-4094>}]**
- **clear mac-address-table address <H.H.H>**
- **clear mac-address-table interface mlt <1-32>**

Command Parameters

<1-4094>	Vlan to be flushed out.
address <H.H.H>	Flush a single MAC Address.
dynamic	Flush only dynamically learned addresses.
interface {Ethernet | mlt <1-32> | vlan 1-4094>}	Flush MAC Addresses of a specific interface.
mlt <1-32>	Trunk to be flushed out.

static	Flush only statically inserted addresses.

Default

None

Command Mode

Ethernet Interface Configuration

clear ssh banner (for a port)

Clear the SSH banner.

Syntax

- `clear ssh banner`

Default

None

Command Mode

Ethernet Interface Configuration

clear system last-exception (for a port)

Clear last software exception information.

Syntax

- `clear system last-exception unit {<1-8>| all}`

Command Parameters

<1-8>	Clear last software exception for a specified unit.
all	Clear last software exception for all units.

Default

None

Command Mode

Ethernet Interface Configuration

eapol multihost fail-open-vlan (for a port)

Configures Fail Open VLAN on a port or a port assigned to a port VLAN Id (PVID).

Syntax

- **eapol multihost fail-open-vlan port <LINE> enable**
- **eapol multihost fail-open-vlan port <LINE> enable vid <1-4094>**
- **eapol multihost fail-open-vlan port <LINE> enable vid global**
- **eapol multihost fail-open-vlan port <LINE> enable vid port-pvid**
- **default eapol multihost fail-open-vlan port <LINE> enable**
- **no eapol multihost fail-open-vlan port <LINE> enable**

Command Parameters

port <LINE>	Select port or list of ports
port-pvid	port VLAN ID (PVID)
<1-4094>	Fail Open VLAN Id
global	Global Fail Open VLAN Id
enable	Enable Fail Open VLAN

Default

Disabled

Command Mode

Ethernet Interface Configuration

ipv6 dhcp guard attach-policy

Attaches dhcp guard policy on interface

Syntax

- **ipv6 dhcp guard attach-policy <WORD>**
- **no ipv6 dhcp guard attach-policy <WORD>**

Command Parameters

<WORD>	Specifies the policy name.

Default

None

Command Mode

Ethernet Interface Configuration

ipv6 nd inspection dynamic-learning enable

Enable dynamic learning of a neighbor source address.

Syntax

- **default ipv6 nd inspection dynamic-learning enable**
- **ipv6 nd inspection dynamic-learning enable**
- **no ipv6 nd inspection dynamic-learning enable**

Default

None

Command Mode

Ethernet Interface Configuration

ipv6 nd raguard attach-policy

Apply the router advertisement (RA) guard on a particular interface.

Syntax

- **default ipv6 nd raguard attach-policy <WORD>**
- **ipv6 nd raguard attach-policy <WORD>**
- **no ipv6 nd raguard attach-policy <WORD>**

Command Parameters

<WORD>	Specifies the policy.

Default

The default is disabled.

Command Mode

Ethernet Interface Configuration

Chapter 7: Global Configuration

This chapter provides information related to the Global configuration commands.

adac call-server-port

Configures call server port(s) range.

Syntax

- **adac call-server-port <LINE>**
- **default adac call-server-port**
- **no adac call-server-port**

Command Parameters

<LINE>	Specifies the call server port(s) range.

Default

None

Command Mode

Global Configuration

adac enable

Enable adac on the port or ports listed.

Syntax

- **adac enable [op-mode] [voice-vlan <1-4094>] [uplink-port <LINE>] [call-server-port <LINE>]**
- **default adac enable [voice-vlan] [uplink-port] [call-server-port]**
- **no adac enable [voice-vlan] [uplink-port] [call-server-port]**

Command Parameters

call-server-port <LINE>	Specifies the call server port(s) range.
op-mode	Specifies the ADAC operation mode.
uplink-port <LINE>	Specifies the uplink port(s) range.
voice-vlan <1-4094>	Specifies the Voice-VLAN.

Default

None

Command Mode

Global Configuration

adac mac-range-table

Add a new supported MAC address range.

Syntax

- **adac mac-range-table low-end <H.H.H> high-end <H.H.H>**
- **default adac mac-range-table**
- **no adac mac-range-table low-end <H.H.H> high-end <H.H.H>**

Command Parameters

<H.H.H>	Specifies the MAC Address to add (for example. H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx).
high-end	Specifies the high end of the MAC address range to add.
low-end	Specifies the low end of the MAC address range to add.

Default

None

Command Mode

Global Configuration

adac op-mode

Configure the ADAC operation mode.

Syntax

- **adac op-mode {tagged-frames | untagged-frames-advanced | untagged-frames-basic} [voice-vlan <1-4094>] [uplink-port <LINE>] [call-server-port <LINE>]**
- **default adac op-mode [voice-vlan] [uplink-port] [call-server-port]**

Command Parameters

call-server-port <LINE>	Specifies the call server port(s) range.
tagged-frames	Specifies the IP phones send tagged frames.
untagged-frames-advanced	IP phones send untagged frames and Voice-VLAN is created.
untagged-frames-basic	IP phones send untagged frames and Voice-VLAN is not created.
uplink-port <LINE>	Specifies the uplink port(s) range.
voice-vlan <1-4094>	Specifies the Voice-VLAN.

Default

None

Command Mode

Global Configuration

adac uplink-port

Configure the uplink port(s) range.

Syntax

- **adac uplink-port <LINE> [call-server-port <LINE>]**
- **default adac uplink-port [call-server-port]**
- **no adac uplink-port [call-server-port]**

Command Parameters

<LINE>	Specifies the uplink port(s) range.
call-server-port <LINE>	Specifies the call server port(s) range.

Default

None

Command Mode

Global Configuration

adac voice-vlan

Configure the Voice-VLAN ID.

Syntax

- **adac voice-vlan <1-4094> [uplink-port <LINE>] [call-server-port <LINE>]**
- **default adac voice-vlan [uplink-port] [call-server-port]**
- **no adac voice-vlan [uplink-port] [call-server-port]**

Command Parameters

<1-4094>	Specifies the Voice-VLAN ID.
call-server-port <LINE>	Specifies the call server port(s) range.
uplink-port <LINE>	Specifies the uplink port(s) range.

Default

None

Command Mode

Global Configuration

app-telemetry collector

Configures Application Telemetry Collector address.

Syntax

- **app-telemetry collector address {A.B.C.D}**

Command Parameters

address {A.B.C.D}	Specifies the IP address of the collector. **Note:** Application Telemetry sends data only over IPv4 GRE tunnels.

Default

None

Command Mode

Global Configuration

app-telemetry enable

Enables Application Telemetry.

Syntax

- **app-telemetry enable [ports <LINE>]**

Command Parameters

enable	Enables Application Telemetry protocol.
ports	Enables Application Telemetry only on particular ports.
LINE	Port list.

Note:

If the **ports** parameter is not used after **enable**, then Application Telemetry protocol is enabled on all ports.

Default

The default value is disable.

Command Mode

Global Configuration

arp

Configure a static ARP entry.

Syntax

- **arp {<A.B.C.D> <H.H.H> <WORD> id <1-4094> | timeout <5-360>}**
- **default arp timeout**
- **no arp {A.B.C.D}**

Command Parameters

<A.B.C.D>	Specifies the IP address of an ARP entry.
<H.H.H>	Specifies the MAC addr of ARP entry (for example, H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx).
<WORD>	Specifies the unit or port.
id <1-4094>	Specifies the VLAN ID to apply ARP entry.

timeout <5-360> Specifies the time for the entry to exist.

Default

None

Command Mode

Global Configuration

asset-id

Configure the Asset-ID.

Syntax

- `asset-id {stack <WORD> | unit <1-8> <WORD>| <WORD>}`
- `default asset-id {stack | unit <1-8>}`
- `no asset-id {stack | unit <1-8>}`

Command Parameters

<WORD>	Asset-ID of this unit.
stack <WORD>	Asset-ID for the Stack.
unit <1-8>	Asset-ID for specific unit in the Stack.

Default

None

Command Mode

Global Configuration

auto-pvid

Enable Auto-PVID (for all ports).

Syntax

- `auto-pvid`
- `no auto-pvid`

Default

None

Command Mode

Global Configuration

auto-provision

Enables ZTP+ auto-provisioning on the switch.

Syntax

- **auto-provision enable**
- **no auto-provision enable**

Default

Enabled

Command Mode

Global Configuration

autosave

Change autosave settings.

Syntax

- **autosave enable**
- **default autosave enable**
- **no autosave enable**

Command Parameters

enable	Enables autosave.

Default

None

Command Mode

Global Configuration

autotopology

Enable the autotopology protocol.

Syntax

- `autotopology`
- `default autotopology`
- `no autotopology`

Default

None

Command Mode

Global Configuration

banner

Configure custom banner information.

Syntax

- `banner {<1-19> <LINE> | custom | disabled | static}`
- `no banner`

Command Parameters

<1-19> <LINE>	Custom banner line number.
custom	Use custom banner.
disabled	Skip banner display.
static	Use static banner.

Default

None

Command Mode

Global Configuration

clear stack port-statistics

Clear the stack port counters.

Syntax

- `clear stack port-statistics [ unit <1-8> ]`

Command Parameters

unit <1-8>	Specifies the unit number.

Default

None

Command Mode

Global Configuration

cli

Modify session settings.

Syntax

- **cli { [timestamp enable] | [password [{read-only | read-write} <WORD>] | [{serial | telnet} {local | none | radius | tacacs }]] }**
- **default cli timestamp enable**
- **no cli timestamp enable**

Command Parameters

<WORD>	Specifies the password.
local	Use local password.
none	Disable the password.
password	Modify CLI passwords.
radius	Use RADIUS password authentication.
read-only	Modify read-only password.
read-write	Modify read-write password.
serial	Enable/disable serial port password.
tacacs	Use TACACS+ AAA services.
telnet	Enable/disable telnet, ssh and web password.
timestamp	Enable show timestamp.

Default

None

Command Mode

Global Configuration

clock summer-time

Configure the system to automatically switch to summer time (daylight saving time).

Syntax

- **clock summer-time {[recurring <1-5 | Last > <Day> <Month> <hh:mm> <1-5 | Last > <Day> <Month> <hh:mm> <1-1440>] | [<WPRD> date <1-31> <Month> <1999-2099> hh:mm <1-31> <Month> <1999-2099> hh:mm <-840 - 840>]}**
- **default clock summer-time recurring**
- **no clock summer-time recurring**

Command Parameters

<1-1440>	Number of minutes to add/substract during summer-time recurring.
<1-31>	Day of the month, when summer time starts/ends.
<1-5>	Week of the month when the summer-time recurring starts/ends.
<1990-2099>	Year when summer time starts/ends.
<-840 - 840>	Number of minutes to add/substract during summer time.
<WORD>	Set time zone acronym containing at most 4 chars (for example 'PDT' for Pacific Daylight Time) to be displayed when summer time is in effect.
date	Indicates that summer time should start on the first specific date listed in the command and end the second specific date in the command.
day	Day of the week when summer-time recurring starts/ends (for example, Monday, Tuesday).
hh:mm	Time in hours and minutes when summer-time recurring starts.
last	Select the last day which will be specified of the month for summer-time starts/ ends.
month	Month when summer-time recurring starts/ends (for example, January, February).
recurring	Specify the summer-time dates which recur every year.

Default

None

Command Mode

Global Configuration

clock time-zone

Configure the local time zone.

Syntax

- **clock time-zone <WORD> <-12 - 13> <0-59>**
- **no clock time-zone**

Command Parameters

<0-59>	Specifies the minutes difference from UTC (0, 15, 30 or 45).
<-12 - 13>	Specifies the hours difference from UTC.
<WORD>	Set time zone acronym containing at most 4 characters.

Default

None

Command Mode

Global Configuration

default http-port

Restore to default the TCP port on which web server will listen

Syntax

- **default http-port**

Default

None

Command Mode

Global Configuration

eapol

Enable/Disable EAPOL protocol

Syntax

- **default eapol**
- **eapol disable | enable**
- **no eapol**

Command Parameters

disable|enable	Disable/enable EAPOL protocol

Default

None

Command Mode

Global Configuration

eapol copy-eap-settings

Copy EAP settings

Syntax

- **eapol copy-eap-settings src-port <WORD> dst-port <LINE>**

Command Parameters

src-port <WORD>	Specifies the source port.
dst-port <LINE>	Specifies the destination port.

Default

None

Command Mode

Global Configuration

eapol guest-vlan

Set guest-vlan

Syntax

- **default eapol guest-vlan [enable] vid <1-4094>**
- **eapol guest-vlan [enable] vid <1-4094>**
- **no eapol guest-vlan enable**

Command Parameters

enable	Enable guest-vlan
vid <1-4094>	guest-vlan ID

Default

None

Command Mode

Global Configuration

eapol multihost

Set EAPOL multihost settings of port

Syntax

- **default eapol multihost [allow-non-eap-enable] [radius-non-eap-enable] [auto-non-eap-mhsaenable] [non-eap-phone-enable] [use-radius-assigned-vlan][non-eap-use-radius-assigned-vlan] [eap-packet-mode] [eap-protocol-enable] [non-eapreauthentication-enable] [adac-non-eap-enable]**
- **eapol multihost [allow-non-eap-enable] [radius-non-eap-enable] [auto-non-eap-mhsa-enable] [non-eap-phone-enable] [use-radius-assigned-vlan] [non-eapuse- radius-assigned-vlan] [eap-packet-mode { multicast | unicast }] [eap-protocol-enable] [non-eap-reauthentication-enable] [adac-non-eapenable]**
- **no eapol multihost [allow-non-eap-enable] [radius-non-eap-enable] [auto-non-eap-mhsa-enable] [non-eap-phone-enable] [use-radius-assigned-vlan] [non-eapuse-radius-assigned-vlan] [eap-protocol-enable] [non-eap-reauthentication-enable] [adac-non-eap-enable]**

Command Parameters

adac-non-eap-enable	Allow authentication of Non-EAP Phones using ADAC
allow-non-eap-enable	Control of non-EAP clients (MAC addresses)
auto-non-eap-mhsa-enable	Allow auto-auth of non-EAP clients

eap-packet-mode	Select type of packet used for initial eap request for ids
eap-protocol-enable	Enable EAP protocol on port
non-eap-phone-enable	Allow non-eap phone clients
non-eap-reauthentication-enable	Enable re-authentication for non-EAP clients
non-eap-use-radius-assigned-vlan	Allow the use of VLAN IDs assigned by RADIUS for non-EAP clients
radius-non-eap-enable	Enable RADIUS authentication of non-eap clients
use-radius-assigned-vlan	Allow the use of VLAN IDs assigned by RADIUS

Default

None

Command Mode

Global Configuration

eapol multihost fail-open-vlan

Set fail-open-vlan

Syntax

- **default eapol multihost fail-open-vlan [enable] [vid <1-4094>]**
- **eapol multihost fail-open-vlan [enable] [vid <1-4094>]**
- **no eapol multihost fail-open-vlan [enable]**

Command Parameters

enable	Enable fail-open-vlan
vid <1-4094>	fail-open-vlan ID

Default

None

Command Mode

Global Configuration

eapol multihost non-eap-pwd-fmt

Set bits in RADIUS non-EAPOL password format

Syntax

- **default eapol multihost non-eap-pwd-fmt**
- **eapol multihost non-eap-pwd-fmt {[ip-addr] [mac-addr] [port-number] [key] [key-string <key-string>] [padding] [no-padding]}**
- **no eapol multihost non-eap-pwd-fmt**

Command Parameters

<LINE>	Non-EAP Password key
ip-addr	Set IP Address bit
mac-addr	Set MAC Address bit
port-number	Set Port Number bit
key	Specifies the key for Non-EAP Password
key-string	Specifies the Non-EAP Password Key
no-padding	RADIUS password uses dots to separate fields in the password
padding	RADIUS password uses dots only to separate fields. This is the default setting.

Default

None

Command Mode

Global Configuration

eapol multihost voip-vlan

Set voip-vlan

Syntax

- **default eapol multihost voip-vlan <1-5> [enable] vid**
- **eapol multihost voip-vlan <1-5> [enable] vid <1-4094>**
- **no eapol multihost voip-vlan <1-5> enable**

Command Parameters

<1-5>	Number of voip vlan
enable	Enable voip-vlan
vid <1-4094>	voip-vlan ID

Default

None

Command Mode

Global Configuration

eapol multivlan auto-config

Set EAPOL MHMV on ports

Syntax

- **eapol multivlan auto-config port <LINE>**

Command Parameters

<LINE>	Specifies the port number.

Default

None

Command Mode

Global Configuration

enable

Turn on privileged commands

Syntax

- **enable**

Default

None

Command Mode

Global Configuration

end

Exit from configure mode

Syntax

- **end**

Default

None

Command Mode

Global Configuration

energy-saver (global)

Configure global energy saver settings.

Syntax

- energy-saver [enable] [poe-power-saving] [efficiency-mode]

Command Parameters

efficiency-mode	Enable Efficiency mode.
enable	Enable energy saver.
poe-power-saving	Enable POE power saving.

Default

None

Command Mode

Global Configuration

energy-saver schedule

Configure energy saver activation/deactivation schedule

Syntax

- **default energy-saver schedule { { sunday | monday | tuesday | wednesday | thursday | friday | saturday | weekday | weekend } <hh:mm>**

- **energy-saver schedule { { sunday | monday | tuesday | wednesday | thursday | friday | saturday | weekday | weekend } <hh:mm> {activate | deactivate} }**
- **no energy-saver schedule { { sunday | monday | tuesday | wednesday | thursday | friday | saturday | weekday | weekend } <hh:mm>**

Command Parameters

activate	Activate event
deactivate	Deactivate event
friday	Configure schedule entry for Friday
hh:mm Set	the hour and minutes
monday	Configure schedule entry for Monday
saturday	Configure schedule entry for Saturday
sunday	Configure schedule entry for Sunday
thursday	Configure schedule entry for Thursday
tuesday	Configure schedule entry for Tuesday
wednesday	Configure schedule entry for Wednesday
weekday	Configure schedule entries for weekdays
weekend	Configure schedule entries for weekends

Default

None

Command Mode

Global Configuration

fa

Configures Fabric Attach.

Syntax

- **default fa {authentication-key | message-authentication |port-enable | proxy | vlan| zero-touch |zero-touch-options}**

Default

Enabled

Command Mode

Global Configuration

fa authentication-key

Configure Fabric Attach authentication key.

Syntax

- **fa authentication-key**

Default

None

Command Mode

Global Configuration

fa extended-logging

Enables Fabric Attach extended logging

Syntax

- **fa extended-logging**

Default

None

Command Mode

Global Configuration

fa message-authentication

Enable Fabric Attach message authentication.

Syntax

- **fa message-authentication [<PortList>] [key-mode <strict | standard>]**

Command Parameters

key-mode <strict | standard>	Specifies the Authentication key usage setting.

Default

Enabled

Command Mode

Global Configuration

fa port-enable

Enables the Fabric Attach operation for each port.

Syntax

- **fa port-enable <LINE>**

Command Parameters

<LINE>	Enables the Fabric Attach operation for each port.

Default

Enabled

Command Mode

Global Configuration

fa proxy

Enable Fabric Attach client proxy.

Syntax

- **fa proxy**

Default

None

Command Mode

Global Configuration

fa uplink

Configures Fabric Attach uplink data

Syntax

- **fa uplink {port <port> | trunk <trunkId>}**

Command Parameters

port <port>	Specifies the uplink port.
trunk <trunkId>	Specifies the uplink trunk.

Default

None

Command Mode

Global Configuration

fa vlan

Configure Fabric Attach VLANs.

Syntax

- **fa vlan**

Command Parameters

<LINE>	Enable Fabric Attach client proxy.

Default

None

Command Mode

Global Configuration

fa zero-touch

Enable Fabric Attach Zero Touch.

Syntax

- **fa zero-touch**

Default

None

Command Mode

Global Configuration

fa zero-touch disable-mgmt-vlan-distribution

Disable management VLAN distribution

Syntax

- `fa zero-touch disable-mgmt-vlan-distribution`

Default

None

Command Mode

Global Configuration

fa zero-touch-client standard

Configure Fabric Attach Zero Touch client attach data

Syntax

- `fa zero-touch-client standard {[ {camera | ona-sdn | ona-spb-over-ip | phone | router | security-dev | srvr-endpt | switch | video | virtual-switch | wap-type1 | wap-type2 } ] } vlan <1-4094> { i-sid <0-16777214> | priority <0-7> | keep-static }`

Command Parameters

camera	Specifies the cliet type as IP Camera
ona-sdn	Specifies the cliet type as ONA (SDN)
ona-spb-over-ip	Specifies the cliet type as ONA (SpbOlp)
phone	Specifies the cliet type as IP Phone
router	Specifies the cliet type as Router
security-dev	Specifies the cliet type as Security Device
srvr-endpt	Specifies the cliet type as Server Endpoint

switch	Specifies the cliet type as Switch
video	Specifies the cliet type as IP Video
virtual-switch	Specifies the cliet type as Virtual Switch
wap-type1	Specifies the cliet type as Wireless AP (Type 1)
wap-type2	Specifies the cliet type as Wireless AP (Type 2)

Default

None

Command Mode

Global Configuration

fa zero-touch-options

Configure Fabric Attach Zero Touch option settings.

Syntax

- **fa zero-touch-options {auto-client-attach | auto-mgmt-vlan-fa-client | auto-port-mode-fa-client | auto-pvid-mode-fa-client | auto-trusted-mode-fa-client {client-type <6-17>}} | [ip-addr-dhcp]**
- **no fa zero-touch-options {auto-client-attach | auto-mgmt-vlan-fa-client | auto-port-mode-fa-client | auto-pvidmode-fa-client | auto-trusted-mode-fa-client | auto-client-attach | ip-addr-dhcp}**
- **default fa zero-touch-options**

Command Parameters

auto-port-mode-fa-client	Automates the configuration of EAP port modes for clients.
ip-addr-dhcp	Automates IP address source mode to DHCP.
auto-pvid-mode-fa-client	Automates client PVID/Mgmt VLAN updates.
client-type	Specifies the FA Client type for which to automate operations.
auto-trusted-mode-fa-client	Enables automatic trusted FA Client connection.
auto-mgmt-vlan-fa-client	Enable automatic Mgmt VLAN update.

Default

None

Command Mode

Global Configuration

http-port

Set the TCP port on which web server will listen

Syntax

- `http-port <1024-65535>`

Command Parameters

<1024-65535>	Specifies the http port number

Default

None

Command Mode

Global Configuration

interface Ethernet

Interface configuration mode IEEE 802.3

Syntax

- `interface Ethernet <LINE>`

Command Parameters

<LINE>	Specifies a port number for interface configuration

Default

None

Command Mode

Global Configuration

interface loopback

Loopback interface

Syntax

- **interface loopback <1-16>**

Command Parameters

<1-16>	Interface ID value

Default

None

Command Mode

Global Configuration

interface vlan

Layer 3 IP VLAN

Syntax

- **interface vlan <1-4094>**

Default

None

Command Mode

Global Configuration

ip address

Set switch/stack IP address

Syntax

- **default ip address <source>**
- **ip address { [[stack | switch] {A.B.C.D} [netmask {A.B.C.D}] [default-gateway {A.B.C.D}]] | [source {bootp-always | bootp-last-address | bootp-when-needed | configured-address | dhcp-always | dhcp-last-address | dhcp-when-needed] | [unit <1-8> {A.B.C.D}] }**
- **no ip address { stack | switch | unit <1-8> }**

Command Parameters

<source>	Restore default BootP/DHCP settings
A.B.C.D	IP address

bootp-always	Always use the bootp server
bootp-last-address	Use the last time bootp server
bootp-when-needed	Use bootp server when needed
configured-address	User-configured IP address
default-gateway {A.B.C.D}	set default-gateway address
dhcp-always	Always use the DHCP server
dhcp-last-address	Use the last time DHCP server
dhcp-when-needed	Use DHCP client when needed
netmask {A.B.C.D}	The subnet mask
source	BootP/DHCP mode
stack	The address of the stack
switch	To set the IP address of local unit
unit <1-8> {A.B.C.D}	To set the IP address of another unit in a stack

Default

None

Command Mode

Global Configuration

ip arp-inspection

Enable ARP inspection

Syntax

- **ip arp-inspection vlan <1-4094>**
- **ip arp-inspection vlan <1-4094>**
- **no ip arp-inspection vlan <1-4094>**

Command Parameters

vlan <1-4094>	Configure ARP inspection VLANs

Default

None

Command Mode

Global Configuration

ip blocking mode

Configure the Layer 3 IP blocking mode

Syntax

- **ip blocking mode [full|none]**

Command Parameters

full Specify to never allow a duplicate IP address in a stack.

none Specify to allow duplicate IP addresses unconditionally.

Default

None

Command Mode

Global Configuration

ip bootp server

Config BOOTP services.

Syntax

- **ip bootp server [always|default-ip|disable|last]**

Command Parameters

default-ip Specify to use BootP or the default IP.

last Specify to use BootP or the last known add.

disable Specify to never use BootP.

always Specify to always use BootP.

Default

default-ip

Command Mode

Global Configuration

ip default-gateway

Specify default gateway (if not routing IP).

Syntax

- **ip default-gateway <A.B.C.D>**

  default ip default-gateway <A.B.C.D>

  no ip default-gateway <A.B.C.D>

Command Parameters

<A.B.C.D>	Specifies the IP address of the default IP gateway in the format XXX.XXX.XXX.XXX.
no	Clears the IP address of the default IP gateway. Sets the IP default gateway address to zeros (0).
default	Sets the IP default gateway address to all zeros (0.0.0.0).

Default

0.0.0.0

Command Mode

Global Configuration

ip dhcp client lease

Configure DHCP lease time

Syntax

- **ip dhcp client lease <10-4294967295>|days <1-49710> | hours <1-1193046> | minutes <1-71582788> | weeks <1-7101>]**

Command Parameters

<10-4294967295>	Specifies the lease time in seconds.

days	Specifies the lease time in days.
hours	Specifies the lease time in hours.
minutes	Specifies the lease time in minutes.
weeks	Specifies the lease time in weeks

Default

None

Command Mode

Global Configuration

ip dhcp-relay

Enable DHCP relay

Syntax

- **`default ip dhcp-relay {max-frame | option82}`**
- **`ip dhcp-relay {fwd-path <agent-ip> <dhcp-ip> {disable | enable | mode <bootp | bootp-dhcp | dhcp>}} | max-frame <576-1536> | option82}`**
- **`no ip dhcp-relay {fwd-path <agent-ip> <dhcp-ip> | option82}`**

Command Parameters

bootp	set DHCP server mode to BOOTP only
bootp-dhcp	set DHCP server mode to both BOOTP and DHCP
dhcp	set DHCP server mode to DHCP only
disable	disable this forwarder path
enable	enable this forwarder path
fwd-path <agent-ip> <dhcp-ip>	Configure DHCP relay forward path
max-frame <576-1536>	Set the maximum length for which option82 is added to DHCP packets for relay
mode	set DHCP mode supported by this forwarder path

option82	Enable option 82 for DHCP Relay

Default

None

Command Mode

Global Configuration

ip dhcp-server enable

Enable the DHCP server

Syntax

- **default ip dhcp-server enable lease option-3 option-6**
- **ip dhcp-server enable lease [days <0-49710>] [hours <0-23>] [minutes <0-59>] [infinite] [option-3 {A.B.C.D}] [option-6 {A.B.C.D}]**
- **no ip dhcp-server enable lease [option-3 {A.B.C.D}] [option-6 {A.B.C.D}]**

Command Parameters

days <0-49710>	Number of days the lease is active
hours <0-23>	Number of hours the lease time is active
infinite	Infinite lease time
lease	Configure global lease time
minutes <0-59>	Number of minutes the lease time is active
option-3 <A.B.C.D>	Configure global list of routers
option-6 <A.B.C.D>	Configure global list of DNS servers

Default

None

Command Mode

Global Configuration

ip dhcp-server lease

Configure global lease time

Syntax

- `default ip dhcp-server lease option-3 option-6`
- `ip dhcp-server lease [days <0-49710>] [hours <0-23>] [minutes <0-59>] [infinite] [option-3 {A.B.C.D}] [option-6 {A.B.C.D}]`
- `no ip dhcp-server lease [option-3 {A.B.C.D}] [option-6 {A.B.C.D}]`

Command Parameters

days <0-49710>	Number of days the lease is active
hours <0-23>	Number of hours the lease time is active
infinite	Infinite lease time
minutes <0-59>	Number of minutes the lease time is active
option-3 <A.B.C.D>	Configure global list of routers
option-6 <A.B.C.D>	Configure global list of DNS servers

Default

None

Command Mode

Global Configuration

ip dhcp-server option-3

Configure global list of routers

Syntax

- `default ip dhcp-server option-3 option-6`
- `ip dhcp-server option-3 {A.B.C.D} [option-6 {A.B.C.D}]`
- `no ip dhcp-server option-3 {A.B.C.D} [option-6 {A.B.C.D}]`

Command Parameters

<A.B.C.D>	IP address
option-6 <A.B.C.D>	Configure global list of DNS servers

Default

None

Command Mode

Global Configuration

ip dhcp-server option-6

Configure global list of DNS servers

Syntax

- **default ip dhcp-server option-6**
- **ip dhcp-server option-6 {A.B.C.D}**
- **no ip dhcp-server option-6 {A.B.C.D}**

Command Parameters

<A.B.C.D>	IP address

Default

None

Command Mode

Global Configuration

ip dhcp-server pool

Create/modify a DHCP server pool

Syntax

- **default ip dhcp-server pool <poolName> lease option-1 {option-120 | option-150 | option-176 | option-241 | option-242 | option-3 | option-43 | option-6}**
- **ip dhcp-server pool <poolName> [host <A.B.C.D><xx:xx:xx:xx:xx:xx> | range <A.B.C.D> <A.B.C.D>] | [option-60<WORD>] | [lease { {[days <1-49710>] [hours <0-23>] [minutes <0-59>]} | infinite }] | [option-1 {<0-32> | <A.B.C.D> }] | [option-43 <WORD>] | [option-3 <ipv4AddrList>] | [option-6 <ipv4AddrList>] | [option-120 <ipv4AddrList>|<DNSName>] |[option-150 <ipv4AddrList>] | [option-176 {[mcipadd <ipv4AddrList>] [mcport <1-65535>] [tftp-servers <ipv4AddrList>][[l2qvlan <0-4096>] [vlantest <0-180>] | [l2qaud <0-7> [l2qsig <0-7>]]}] | [option-241 <parametersList>] | [option-242**

```
{[mcipadd <ipv4AddrList>] | [httpsrvr <ipv4AddrList>] | [httpport
<1-65535>]}
```

- **no ip dhcp-server pool <poolName> lease option-1 {option-120 | option-150 | option-176 | option-241 | option-242 | option-3 | option-43 | option-6}**

Command Parameters

host	Static IP allocation
httpport	HTTP Port
httpsrvr	List of HTTP Servers
l2qaud	L2 audio priority
l2qsig	L2 signaling priority
l2qvlan	802.1q vlan id
lease	Pool's lease time
mcipadd	List of gatekeeper IP addresses
mcipadd	List of gatekeeper IP addresses
mcport	UDP port for RAS registration
option-1	Configure client's subnetmask
option-120	Configure list of SIP servers
option-150	Configure list of TFTP servers
option-176	Configure IP phone option-176 parameters
option-241	Configure IP phone option-241 parameters
option-242	Configure IP phone option-242 parameters
option-3	Configure list of routers
option-6	Configure DNS servers
option-60	Vendor class identifier option
range	Dynamic IP address allocation
tftp-servers	List of TFTP servers
vlantest	Number of seconds before returning to previous voice vlan

Default

None

Command Mode

Global Configuration

ip dhcp-snooping

Configure DHCP snooping settings

Syntax

- **ip dhcp-snooping binding <1-4094>**

Default

None

Command Mode

Global Configuration

ip dhcp-snooping vlan

Configure DHCP snooping VLANs

Syntax

- **ip dhcp-snooping vlan <1-4094> option82**

Command Parameters

<1-4094>	Configure DHCP snooping VLANs
<1-4094> option82	Enable option 82 for DHCP snooping

Default

None

Command Mode

Global Configuration

ip directed-broadcast

Enabled directed broadcast forwarding

Syntax

- **ip directed-broadcast enable**

Command Parameters

enable	Enable IP directed broadcast

Default

None

Command Mode

Global Configuration

ip domain-name

Configure DNS domain name

Syntax

- **ip domain-name <LINE>**

Command Parameters

<LINE>	DNS domain name

Default

None

Command Mode

Global Configuration

ip forward-protocol

Configure broadcast forwarding

Syntax

- **ip forward-protocol udp { <1-65535> <WORD> | portfwdlist <1-128> <1-65535> <A.B.C.D> <name> }**
- **no ip forward-protocol udp { <1-65535> | portfwdlist <1-128> <1-65535> <A.B.C.D>}**

Command Parameters

<1-128>	Enter ID of list of ports to forward
<1-65535>	Enter UDP port to forward
<A.B.C.D>	Enter IP Destination for the UDP port
<WORD>	Protocol name
name	Enter name of the list
portfwdlist	Set a port forwarding list
udp	Configure UDP broadcast forwarding

Default

None

Command Mode

Global Configuration

ip igmp

Configure Global IGMP settings.

Syntax

- **ip igmp {flush | profile}**

Command Parameters

flush	Flush IGMP Mrouter, group member, or sender.
profile	Creates or modifies IGMP filter profile.

Default

None

Command Mode

Global Configuration

ip igmp flush vlan

Configure global IGMP settings

Syntax

- ip igmp flush vlan <1-4094> grp-member
- ip igmp flush vlan <1-4094> mrouter
- ip igmp flush vlan <1-4094> stream

Command Parameters

<1-4094> grp-member	Specifies the group member to flush the VLAN interfaces.
<1-4094> mrouter	Specifies the mrouter address to flush the VLAN interfaces.
<1-4094> stream	Flush IGMP streams on VLAN interfaces.

Default

None

Command Mode

Global Configuration

ip igmp profile

Creates or modifies IGMP filter profile.

Syntax

- ip igmp profile <1-65535>

Command Parameters

<1-65535>	Specifies the profile ID.

Default

None

Command Mode

Global Configuration

ip mgmt route

Configure a static route for the mgmt vlan.

Syntax

- **ip mgmt route <A.B.C.D> <A.B.C.D> <A.B.C.D>**

Command Parameters

<A.B.C.D>	Specifies the destination IP address, the destination subnet mask, and the gateway IP for the route being added.
no	Removes the specified management route.

Default

None

Command Mode

Global Configuration

ip name-server

Configure DNS server IP addresses.

Syntax

- **ip name-server <A.B.C.D>|<WORD>]**

Command Parameters

<A.B.C.D>	Spefies the IPv4 address.
<WORD>	Spefies the IPv6 address.

Default

None

Command Mode

Global Configuration

ip prefix-list

Add or modify a prefix from an IP prefix list

Syntax

- **ip prefix-list <WORD> A.B.C.D/<0-32> ge <0-32> le 32 <0-32>**

Command Parameters

<WORD>	Specifies the IP prefix list name
A.B.C.D/<0-32>	Specifies the IP prefix and mask bits

name	Rename the IP prefix list
ge <0-32>	Starting point within the mask length, greater than or equal to
le <0-32>	Ending point within the mask length, less than or equal to

Default

None

Command Mode

Global Configuration

ip route

Create a static IP route.

Syntax

- **`[no] ip route <dest-ip> <mask> <next-hop> [<cost>] [disable] [enable] [weight <cost>]`**

Command Parameters

no	Removes the specified static route.
<dest-ip>	Specifies the destination IP address for the route being added. Default 0.0.0.0 is considered the default route.
mask	Specifies the destination subnet mask for the route being added.
next-hop	Specifies the next hop IP address for the route being added
next-hop	Specifies the next hop IP address for the route being added
<1-65535>	Specifies the weight, or cost, of the route being added.
<1-65535>	Specifies the weight, or cost, of the route being added.
disable	Disables the specified static route.
enable	Enables the specified static route.

Default

None

Command Mode

Global Configuration

ip routing

Enable global routing

Syntax

- **ip routing**

Default

None

Command Mode

Global Configuration

ipmgr

Modify IP Manager settings

Syntax

- **default ipmgr {snmp|telnet|web|sorce-ip <list ID>}**
- **ipmgr {snmp|telnet|web|sorce-ip <list ID> <IPaddr> [mask <mask>]}**
- **no ipmgr {snmp|telnet|web|sorce-ip <list ID>}**

Command Parameters

snmp	Enable IP Manager control over SNMP traffic
source-ip {<1-50> | <50-100> <WORD>}	Set source IP address from which connections are allowed
telnet	Enable IP Manager control over TELNET sessions
web	Enable IP Manager control over WEB connections

Default

None

Command Mode

Global Configuration

ipv6

Set global IPv6 configuration subcommands

Syntax

- **default ipv6 [enable] [icmp] {[block-multicast-replies] [icmp] [error-interval] [icmp] [error-quota] [icmp] [unreach-msg]}**
- **ipv6 [enable] [icmp] {[block-multicast-replies] [icmp] [error-interval <0-2147483647>] [icmp] [error-quota <0-2000000>] [icmp] [unreach-msg]}**
- **no ipv6 [enable] [icmp] {[block-multicast-replies] [icmp] [unreach-msg]}**

Command Parameters

block-multicast-replies	Enable IPv6 ICMP block-multicast-replies.
enable	Enable IPv6 global admin status.
icmp	Set IPv6 ICMP parameters.
error-interval<0-2147483647>	Set IPv6 ICMP error-interval.
error-quota<0-2000000>	Set IPv6 ICMP error-quota.
unreach-msg	Enable IPv6 ICMP unreach-msg.

Default

None

Command Mode

Global Configuration

ipv6 address

Set default IPv6 address

Syntax

- **default ipv6 address [stack] [switch] [unit <1-8>]**
- **ipv6 address {[stack <WORD>] [switch <WORD>] [unit <1-8> <WORD>] [<WORD>]}**
- **no ipv6 address [stack] [switch] [unit <1-8>]**

Command Parameters

<WORD>	IPv6 address /prefix length
stack	The address of the stack
switch	Set the IP address of local unit

unit <1-8>	Set the IP address of another unit in a stack

Default

None

Command Mode

Global Configuration

ipv6 default-gateway

Configure IPv6 default gateway

Syntax

- **default ipv6 default-gateway**
- **ipv6 default-gateway <WORD>**
- **no ipv6 default-gateway**

Command Parameters

<WORD>	IPv6 address

Default

None

Command Mode

Global Configuration

ipv6 dhcp

Global dchp guard subcomands

Syntax

- **default ipv6 dhcp guard enable**
- **default ipv6 dhcp guard policy <WORD>**
- **ipv6 dhcp guard clear stats [<LINE>]**
- **ipv6 dhcp guard enable**
- **ipv6 dhcp guard policy <WORD>**
- **no ipv6 dhcp guard enable**
- **no ipv6 dhcp guard policy <WORD>**

Command Parameters

<WORD>	Specifies the Dynamic Host Configuration Protocol (DHCP) policy name.
clear	Clear statistics globally
enable	Enable dhcp guard globally
guard	Global dhcp guard subcommands
LINE	List of ports
policy	Create a policy globally
stats	Clear statistics globally

Default

None

Command Mode

Global Configuration

ipv6 fhs

Global ipv6 fhs subcommands.

Syntax

- **`default ipv6 fhs enable`**
- **`ipv6 fhs enable`**
- **`no ipv6 fhs enable`**

Command Parameters

enable	Enable First Hoop Security globally
ipv6-access-list	Ipv6 access list
mac-access-list	Create FHS mac access list
nd	ND subcommands

Default

None

Command Mode

Global Configuration

ipv6 fhs ipv6-access-list

Creates the First Hop Security (FHS) IPv6 access list or adds IP prefixes to the existing FHS IPv6 access list.

Syntax

- **default ipv6 fhs ipv6-access-list <WORD> [<WORD>]**
- **ipv6 fhs ipv6-access-list <WORD> <WORD> [ge <0-128>][le <0-128>][mode {allow|deny}]**
- **no ipv6 fhs ipv6-access-list <WORD> <WORD>**

Command Parameters

<WORD> <WORD>	The first <WORD> specifies the access list name. The second <WORD> specifies the IPV6 address prefix and mask length.
ge <0-128>	Specifies the start mask length for providing the IP range. The default is 0.
le <0-128>	Specifies the end mask length for providing the IP range. The default is 0.
mode {allow|deny}	Specifies the access mode. The default is allow.

Default

The default is disabled.

Command Mode

Global Configuration

ipv6 fhs mac-access-list

Create the First Hop Security (FHS) MAC access list or add a MAC to the existing MAC address list.

Syntax

- **default ipv6 fhs mac-access-list <WORD> <H.H.H>**
- **ipv6 fhs mac-access-list <WORD> <H.H.H> [mode {allow|deny}]**
- **no ipv6 fhs mac-access-list <WORD> <H.H.H>**

Command Parameters

<H.H.H>	Specifies the MAC address. The format can include one of the following: H.H.H., xx:xx:xx:xx:xx:xx, xx.xx.xx.xx.xx.xx, xx-xx-xx-xx-xx-xx.
<WORD>	Specifies the MAC address name.

mode {allow|deny}	Specifies the access mode.

Default

The default is disabled.

Command Mode

Global Configuration

ipv6 fhs nd inspection stats clear

Clears ND inspection global overflow statistics.

Syntax

- **ipv6 fhs nd inspection stats clear**

Default

None

Command Mode

Global Configuration

ipv6 mld (global)

Configure global MLD settings.

Syntax

- **ipv6 mld flush [port <LINE>] [grp-member][mrouter][stream]**

Command Parameters

flush	Flush the multicast listener discovery (MLD) multicast router, group member, or sender.
grp-member	Flushes the MLD group member.
mrouter	Flushes the MLD multicast router.
port <LINE>	Flushes the ports.
stream	Flushes MLD Streams.
vlan <1-4094>	Flushes the VLAN interfaces.

Default

None

Command Mode

Global Configuration

ipv6 mld flush

Flush MLD streams

Syntax

- **ipv6 mld flush [grp-member][mrouter][port <line>]**
- **ipv6 mld flush [vlan <1-4094>][grp-member][mrouter][port <line>]**
- **ipv6 mld flush [vlan <1-4094>][port <line>][grp-member][mrouter]**
- **ipv6 mld flush stream**
- **ipv6 mld flush port <portlist> stream**
- **ipv6 mld flush vlan <1-4094> stream**
- **ipv6 mld flush vlan <1-4094> port <portlist> stream**
- **ipv6 mld flush grp-member**
- **ipv6 mld flush mrouter**

Command Parameters

vlan <1-4094>	Specifies a VLAN from which to flush MLD streams
<portlist>	Specifies a port or a list of ports from which to flush MLD streams
grp-member	Flush MLD group member
mrouter	Flush MLD Mrouter
stream	Flush MLD Streams

Default

None

Command Mode

Global Configuration

ipv6 nd (global)

Global ipv6 nd subcommands.

Syntax

- **ipv6 nd inspection clear stats line**
- **ipv6 nd inspection enable**
- **ipv6 nd raguard clear stats line**
- **ipv6 nd raguard policy word**

Command Parameters

clear	Clear raguard statistics globally
enable	Enable raguard globally
inspection	ND inspection subcommands
LINE	List of ports
policy	Set raguard policy globally
raguard	Global ipv6 nd raguard subcommands
stats	Clear raguard statistics globally
WORD	Raguard policy name

Default

None

Command Mode

Global Configuration

ipv6 nd inspection clear stats

Clear the network discovery (ND)-inspection statistics and the source binding table (SBT) entry drop status. If you select a particular port-number option, the device clears the statistics for that particular port.

Syntax

- **ipv6 nd inspection clear stats [<LINE>]**

Command Parameters

<LINE>	Specifies a list of ports.

Default

None

Command Mode

Global Configuration

ipv6 nd inspection enable

Enable ND inspection globally.

Syntax

- **default ipv6 nd inspection enable**
- **ipv6 nd inspection enable**
- **no ipv6 nd inspection enable**

Default

The default is disabled.

Command Mode

Global Configuration

ipv6 nd raguard clear stats

Clear the router advertisement (RA) guard statistics.

Syntax

- **ipv6 nd raguard clear stats [<LINE>]**

Command Parameters

<LINE>	Specifies a list of ports.

Default

None

Command Mode

Global Configuration

ipv6 nd raguard enable

Enable router advertisement (RA) guard globally.

Syntax

- **default ipv6 nd raguard enable**
- **ipv6 nd raguard enable**
- **no ipv6 nd raguard enable**

Default

The default is disabled.

Command Mode

Global Configuration

ipv6 nd raguard policy

Enables the user to enter RA Guard Configuration mode to create, configure, and modify the router advertisement (RA) guard policy.

Syntax

- **default ipv6 nd raguard policy <WORD>**
- **ipv6 nd raguard policy <WORD>**
- **no ipv6 nd raguard policy <WORD>**

Command Parameters

<WORD>	Specifies the RA guard policy name.

Default

The default is disabled.

Command Mode

Global Configuration

ipv6 neighbor

Configures neighbor cache.

Syntax

- **ipv6 neighbor <WORD> port <WORD> mac <H.H.H> [vlan <1-4094>]**

- **no ipv6 neighbor <WORD>**

Command Parameters

<WORD>	IPv6 address, 45 length
mac <H.H.H>	MAC address of IPv6 neighbor entry (H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx)
port <WORD>	unit/ port

Default

None

Command Mode

Global Configuration

ipv6 neighbor binding clear

Clears all dynamically learned source binding table (SBT) entries, such as DHCP learned information. The command does not clear the SBT static entries.

Syntax

- **ipv6 neighbor binding clear**

Default

None

Command Mode

Global Configuration

ipv6 neighbor binding down-lifetime

Configures the maximum downtime for a dynamically learned source binding table (SBT) entry. If the switch receives any network discovery (ND) messages in this state that matches the information in the source binding table (SBT) entry, then no validation occurs on that packet, rather the entry moves directly to the REACHABLE state. After this timer expires, the device deletes this entry from the SBT. In the case of “infinite” option, the device never deletes the SBT entry. If you change the timer value from “infinite” to a “finite” value then the timer restarts and expires after the finite value in seconds.

Syntax

- **default ipv6 neighbor binding down-lifetime**

- **ipv6 neighbor binding down-lifetime [<30-86400>][infinite]**

Command Parameters

<30-86400>	Configures the down lifetime value in seconds.
infinite	Configures the down lifetime to infinite. In the case of “infinite” option, the device never deletes the SBT entry. If you change the timer value from “infinite” to a “finite” value then the timer restarts and expires after the finite value in seconds.

Default

The default is 86400.

Command Mode

Global Configuration

ipv6 neighbor binding max-entries

Specifies the maximum number of dynamic entries that can be inserted into the source binding table (SBT). The maximum number of static entries is 100. If the SBT has more than the maximum number of entries, the additional entires are not allowed until the SBT is cleared.

Syntax

- **default ipv6 neighbor binding max-entries**
- **ipv6 neighbor binding max-entries <1-1024>**

Command Parameters

<1-1024>	Specifies the number of entries in the neighbor binding table.

Default

The default is 512.

Command Mode

Global Configuration

ipv6 neighbor binding reachable-lifetime

Specifies the maximum reachable lifetime for a dynamically-learned source binding table (SBT) entry. After this timeout, the entry moves to a STALE state. If the interface is down before the timer expires, then the state moves to a DOWN state. In the DOWN state, if the switch receives any network discovery (ND) packets with the matching entry in the source binding table (SBT), then without validation the state moves to REACHABLE. Similarly if the switch receives any ND packets

that match the entry in the SBT, then this aging timer is refreshed. In the case of the “infinite” option, the SBT entry state never moves from a REACHABLE state to an other state. If the timer value changes from “infinite” to a “finite” value, then the timer restarts and expires after the finite value in seconds.

Syntax

- **default ipv6 neighbor binding reachable-lifetime**
- **ipv6 neighbor binding reachable-lifetime [<30-86400>][infinite]**

Command Parameters

<30-86400>	Configures the reachable lifetime value in seconds.
infinite	Configures the reachable-lifetime to infinite. In the case of the “infinite” option, the SBT entry state never moves from a REACHABLE state to an other state. If the timer value changes from “infinite” to a “finite” value, then the timer restarts and expires after the finite value in seconds.

Default

The default is 300 seconds.

Command Mode

Global Configuration

ipv6 neighbor binding stale-lifetime

Specifies the maximum stale lifetime for a dynamically learned source binding table (SBT) entry. In this state, if the switch receives any network discovery (ND) message that matches the information of the SBT entry, then no validation occurs on that packet, instead the SBT entry moves directly to a REACHABLE state. After this timer expires the entry is deleted from the SBT. In the case of “infinite” option, the SBT entry state is never deleted. If the timer value is changed from “infinite” to a “finite” value, then the timer restarts and expires after the finite value in seconds.

Syntax

- **default ipv6 neighbor binding stale-lifetime**
- **ipv6 neighbor binding stale-lifetime [<30-86400>][infinite]**

Command Parameters

infinite	Configures the stale lifetime to infinite. In the case of “infinite” option, the SBT entry state is never deleted. If the timer value is changed from “infinite” to a “finite” value, then the timer restarts and expires after the finite value in seconds.

Default

The default is 86400 seconds.

Command Mode

Global Configuration

ipv6 neighbor binding vlan

Adds a static entry to the Source Binding Table (SBT). Note: The static entry replaces the dynamic entry (matching the source IP). If a static SBT entry with a matching source IP already exists, then if you try to add a static SBT entry with a different MAC address and port, the pre-existing entries are not overwritten. The same SBT entry can be added to a different VLAN. The SBT entry is not tied to a particular VLAN, or a VLAN to port mapping. An SBT entry can be created without the VLAN existing. Ipv6-address: “0::0” is not allowed. LL-MAC: “0:0:0:0:0:0” is not allowed.

Syntax

- **ipv6 neighbor binding vlan <1-4094> <WORD> interface Ethernet <WORD> <H.H.H>**
- **no ipv6 neighbor binding vlan <1-4094> <WORD> interface Ethernet <WORD> <H.H.H>**

Command Parameters

<1-4094>	Specifies the VLAN ID.
<H.H.H>	Specifies the MAC address in the following formats: H.H.H, xx:xx:xx:xx:xx:xx, xx.xx.xx.xx.xx.xx, xx-xx-xx-xx-xx-xx. LL-MAC “0:0:0:0:0:0” is not allowed.
<WORD>	Specifies the IPv6 address. IPv6 address 0::0 is not allowed.
interface Ethernet <WORD>	Specifies the Ethernet interface. <WORD> specifies unit/port.

Default

None

Command Mode

Global Configuration

i-sid

Configures the User-Network-Interface (UNI).

Syntax

- default i-sid [<1-16777214>]{port<LINE>|vlan <1-4094>} [port <LINE>][vlan <1-4094>]

- i-sid [<1-16777214>] {port<LINE>|vlan <1-4094>} [port <LINE>][vlan <1-4094>]
- no i-sid [<1-16777214>] {port<LINE>|vlan <1-4094>} [port <LINE>][vlan <1-4094>]

Command Parameters

<1-16777214>	Specifies the I-SID.
<LINE>	Specifies the port list.
port	Configures the switched UNI by assigning port and VLAN to I-SID.
vlan <1-4094>	Configures the C-VLAN UNI by assigning VLAN to I-SID.

Default

None

Command Mode

Global Configuration

lacp key

Configure LACP key to MLT mappings

Syntax

- **default lacp key <1-4095>**
- **lacp key <1-4095> mlt-id <1-32>**

Command Parameters

<1-4095>	LACP key value
mlt-id <1-32>	Configure MLT ID for this LACP key

Default

None

Command Mode

Global Configuration

lacp system-priority

Set LACP system priority

Syntax

- **default lacp system-priority**
- **lacp system-priority <0-65535>**

Command Parameters

<0-65535>	Priority

Default

None

Command Mode

Global Configuration

lldp

Configure 802.1ab settings

Syntax

- **default lldp [tx-interval] [tx-hold-multiplier] [tx-delay] [reinit-delay] [notification-interval][med-fast-start] [vendor-specific] {[call-server] {[<1-8>] [<1-8>] [<1-8>] [<1-8>] [<1-8>] [<1-8>] [<1-8>] [<1-8>]} [file-server] {[<1-4>] [<1-4>] [<1-4>] [<1-4>]}}**
- **lldp [tx-interval <5-32768>] [tx-hold-multiplier <2-10>] [tx-delay <1-8192>] [reinit-delay <1-10>] [notification-interval <5-3600>][med-fast-start <1-10>] [vendor-specific] {[call-server] {[<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D] [<1-8> A.B.C.D]} [file-server] {[<1-4> A.B.C.D] [<1-4> A.B.C.D] [<1-4> A.B.C.D] [<1-4> A.B.C.D]}}**

Command Parameters

call-server <1-8> | {A.B.C.D}	Configure call server address number or IP address
file-server <1-4> | {A.B.C.D}	Configure file server address number or IP address
med-fast-start <1-10>	Set MED Fast Start repeat count value
notification-interval <5-3600>	Set notification interval value
reinit-delay <1-10>	Set reinitialize delay value
tx-delay <1-8192>	Set transmission delay value
tx-hold-multiplier <2-10>	Set transmission multiplier value

tx-interval <5-32768>	Set retransmission interval value
vendor-specific	Configure 802.1ab vendor specific settings

Default

None

Command Mode

Global Configuration

logging

Change system event log settings

Syntax

- **default logging [remote] {[address] [facility] [level] [secondary-address]}**
- **logging [disable] [enable] [level] {[critical] [informational] [none] [serious]} [nv-level] {[critical] [none] [serious]} [remote] {[address] {[A.B.C.D] [WORD]} [enable] [facility] {[daemon] [local0] [local1] [local2] [local3] [local4] [local5] [local6] [local7]} [level] {[critical] [informational] [none] [serious]} [secondary-address] {[A.B.C.D] [WORD]}} [volatile] {[latch] [overwrite]}**
- **no logging [remote] {[address] [enable] [facility] [level] [secondary-address]}**

Command Parameters

address {A.B.C.D} | <WORD>	Configure remote syslog address
critical	Critical event
daemon	Set daemon facility
disable	Disable the event log
enable	Enable the event log
facility	Configure remote logging facility
informational	Informational message
latch	Latch DRAM log when it is full
level	The severity level of events that will be logged in DRAM

local0	Set local0 facility
local1	Set local1 facility
local2	Set local2 facility
local3	Set local3 facility
local4	Set local4 facility
local5	Set local5 facility
local6	Set local6 facility
local7	Set local7 facility
none	No events stored in volatile storage
nv-level	The severity level of events that will be saved in NV storage
overwrite	Overwrite DRAM log when it is full
remote	Configure remote logging parameters
secondary-address {A.B.C.D} | <WORD>	Configure remote syslog address
serious	Serious event message
volatile	Configure options for logging to DRAM

Default

None

Command Mode

Global Configuration

mac-address-table

Configure MAC address table settings

Syntax

- **default mac-address-table aging-time**
- **mac-address-table aging-time <10-1000000>**

Command Parameters

aging-time <10 - 1000000>	Configure MAC address table aging time

Default

None

Command Mode

Global Configuration

mac-security

Configure MAC Address security options

Syntax

- **default mac-security [auto-learning] {[aging-time] | [sticky]} [mac-da-filter <H.H.H>]**
- **mac-security [auto-learning]{[aging-time <0-65535>] | [sticky]} [mac-address-table] {[address <H.H.H>] {[mlt-id <1-32>] | [port <LINE>] | [security-list <1-32>]} | {[sticky-address <H.H.H>] {[mlt-id <1-32>] | [port <LINE>]}}} [mac-da-filter] {[add <H.H.H>] | [delete <H.H.H>] | <H.H.H>]} [disable] [enable] [intrusion-detect] {[disable] | [enable] | [forever]} [intrusion-timer <0-65535>] [filtering] {[disable] | [enable]} [learning] {[disable] | [enable]} [learning-ports] {[add <LINE>] | [LINE] | [remove <LINE>]} [security-list] [<1-32>] {[add <LINE>] | <LINE> | [remove <LINE>]} [snmp-lock] { [disable] | [enable]}**
- **no mac-security [auto-learning] {[aging-time] | [sticky]} [mac-address-table] {[address <H.H.H>] | [mlt-id <1-32>] | [port <LINE>] | [security-list <1-32>]} [mac-da-filter <H.H.H>] [security-list <1-32>]**

Command Parameters

aging-time <0-65535>	Set aging-time value for auto-learned addresses
auto-learning	Configure MAC Auto-Learning
disable	Disable MAC Address Security.
enable	Enable MAC Address Security.
filtering	Enable/disable DA filtering for intruder addresses
intrusion-detect	Enable/disable partitioning on intrusion detection
intrusion-timer <0-65535>	Set temporary partition time for intrusion detection.

learning	Enable/disable MAC address learning
learning-ports {add <LINE> I remove <LINE> | <LINE> }	Modify ports participation in MAC address learning.
mac-address-table	Add addresses to MAC security address table
mac-da-filter	Add/delete MAC DA filtering addresses
mlt-id <1-32>	Assign specific trunk to a MAC address.
port <LINE>	Assign specific port to a MAC address.
security-list	Modify security list port membership.
security-list <1-32>	Assign a security list to a MAC address.
snmp-lock	Enable/disable SNMP lock on MAC address security parameters.
sticky	Set mac-security sticky mode
sticky-address <H.H.H>	Adds a sticky address to the mac-security mac-address table

Default

None

Command Mode

Global Configuration

mlt

Modify Multi-Link Trunking (MLT) configuration

Syntax

- **default mlt {<1-6> bpdu | shutdown-ports-on-disable enable}**
- **mlt <id> [name <mlt-name>] [enable | disable] [member <LINE>] [learning {disable | fast | normal}] [bpdu {all-ports | single-port}] [loadbalance {advance|basic}]**
- **mlt shutdown-ports-on-disable enable**
- **mlt spanning-tree <1-6> stp {<1-8> | all | learning {disable |normal | fast}}**
- **no mlt {<1-6>|shutdown-ports-on-disable enable}**

Command Parameters

<1-6>	MLT ID
bpdu {all-ports | single-port}	Set BPDU send/receive mode
disable	Disable MLT
enable	Enable MLT
learning {disable | fast | normal}	Set STP learning mode to disable, fast or normal for a trunk
loadbalance {advance|basic}	MLT Load Balance Selection (Advance/Basic)
member <LINE>	Set port membership of MLT
name <mlt-name>	MLT Name
shutdown-ports-on-disable	Set protection for disabled trunk
spanning-tree	Set MLT spanning-tree settings
stp {<1-8> | all | learning}	Spanning tree group and learning mode

Default

None

Command Mode

Global Configuration

password

Configure password security restrictions

Syntax

- **default password**
- **no password security**
- **password {aging-time day <1-2730> | security}**
- **password security**
- **default password aging-time [username WORD]**

Command Parameters

aging-time day <1-2730>	Password validity period

security	Enable password security restrictions
complexity	Sets the password complexity rules.
check-repeated	Accepts or forbids repeated consecutive characters in your password.
check-sequential	Accepts or forbids sequential characters in your password.
delay-time <0-3600>	Specifies the amount of delay time after 3 failed login attempts within one minute.
login-failure-notification <WORD>	Configures notification message to users encountering a login failure.
min-length <8-255>	Specifies the minimum password length.
notifications <1-90>	Specifies the password expiration notifications intervals.
password-change-on-first-login {[disable]|[enable]}	Specifies the ability to force password change on first login.
password-change-rate-limiter <1-10>	Restricts number of times a password can be changed in a day.
password-history <0-12>	Configures the number of passwords in history if password security is enabled.
unlock-timer <1-365>	Set number of days after which a disabled account will be enabled.

Default

None

Command Mode

Global Configuration

poe

Set global configuration of Power Over Ethernet

Syntax

- **no poe ip-phone {poe-limit | poe-priority}**
- **poe [ip-phone] {[poe-limit <3-32>] [poe-lldp port <portline>][poe-priority {critical | high | low}]} [poe-pd-detect-type] {[unit <1-8>] [802dot3af] [802dot3af_and_legacy] [802dot3at] [802dot3at_and_legacy]} [poe-power-usage-threshold] {[unit <1-8>] [<1-99>]}**

- **default poe power-mode {low-power-budget| high-power-budget}**

Command Parameters

802dot3af	Set PD detection mode in 802.3af
802dot3af_and_legacy	Set PD detection mode in 802.3af and legacy
802dot3at	Set PD detection mode in 802.3at
802dot3at_and_legacy	Set PD detection mode in 802.3at and legacy
ip-phone	Configure IP phone automatic settings for PoE
poe-limit <3-32>	Set IP phone automatic PoE limit
poe-pd-detect-type	Set PD detection type
poe-power-usage-threshold <1-99>	Set power usage threshold in percentage
poe-power-usage-threshold unit <1-8>	Set power usage threshold of an unit in stack
poe-priority {critical | high | low}	Set IP phone automatic PoE priority to critical, high, or low
unit <1-8>	Set PD detection mode of an unit in stack

Default

None

Command Mode

Global Configuration

poe power-mode

Sets PoE Power Mode.

Syntax

- **poe power-mode { high-power-budget | low-power-budget | {[unit <1-8>] high-power-budget | low-power-budget }**

Command Parameters

high-power-budget	Enable PoE High Power Mode
low-power-budget	Enable PoE Low Power Mode
unit <1-8>	Change power mode of a unit in stack

Default

None

Command Mode

Global Configuration

port-mirroring

Change port mirroring configuration

Syntax

- `no port-mirroring`
- `port-mirroring [mode] {disable | ManytoOneRx | ManytoOneRxTx | ManytoOneTx | Xrx | XrxOrXtx | XrxOrYtx | Xtx} monitor-port <LINE> mirror-port-X <LINE>`

Command Parameters

disable	Disable port mirroring
ManytoOneRx	Many to one port mirroring ingress traffic
ManytoOneRxTx	Many to one port mirroring ingress & egress traffic
ManytoOneTx	Many to one port mirroring egress traffic
Xrx	Mirror packets received on port X
XrxOrXtx	Mirror packets received or transmitted on port X
XrxOrYtx	Mirror packets received on port X or transmitted on port Y
Xtx	Mirror packets transmitted on port X

Default

None

Command Mode

Global Configuration

qos acl-assign

Create access-list assignment

Syntax

- `no qos acl-assign {<1 - 55000> enable| [<port> <LINE> acl-type [ip | l2] <name> <WORD>}`
- `qos acl-assign {<1-55000> enable | <port> <LINE> acl-type [ip | l2] <name> <WORD>}`

Command Parameters

<1-55000>	Access-list assignment ID
<name>	Specify the access-list to reference
<WORD>	1..16 character string
acl-type [ip | l2]	Specify the access-list type (ip,l2)
port	Specify the port(s) to apply access-list on

Default

None

Command Mode

Global Configuration

qos action

Create base actions entry

Syntax

- `no qos action [<10-55000>]`
- `qos action <10-55000> {[name <WORD>] [drop-action <enable | disable | deferred-pass>] [update-dscp <0-63>] [update-1p {<0-7> | use-tos-prec | use-egress}] [set-drop-prec <low-drop | high-drop>] [action-ext <1-55000> | action-ext-name <WORD>] [session-id <1-4294967295>]}`

Command Parameters

<10-55000>	Specify the Action ID
action-ext <1-55000>	Specify the action extension id
action-ext-name <WORD>	Specifiy the action extension name
drop-action <enable | disable | deferred-pass>	Specify the drop action
name <WORD>	Specify the action label

session-id <1–4294967295>	Specify the session ID
set-drop-prec {<0-7> | use-tos-prec | use-egress}	Specify the set drop precedence
update-1p {<0-7> | use-tos-prec | use-egress}	Specify the update user priority
update-dscp <0-63>	Specify the update DSCP

Default

None

Command Mode

Global Configuration

qos agent aq-mode

Modify the Auto QOS application traffic processing mode

Syntax

- `default qos agent aq-mode`
- `qos agent aq-mode {disable | mixed | pure}`

Command Parameters

disable	Auto QOS application traffic processing disabled on all ports
mixed	Auto QOS application traffic processing enabled on all ports with egress DSCP remapping
pure	Auto QOS application traffic processing enabled on all ports without egress DSCP remapping

Default

None

Command Mode

Global Configuration

qos agent nvram-delay

Modify the maximum time in seconds to write config data to non-volatile storage

Syntax

- **default qos agent nvram-delay**
- **qos agent nvram-delay <0-604800>**

Command Parameters

<0-604800>	The maximum amount of time in seconds before non-volatile QoS configuration is written to non-volatile storage

Default

None

Command Mode

Global Configuration

qos agent reset-default

Reset the QoS to its configuration default

Syntax

- **qos agent reset-default**

Default

None

Command Mode

Global Configuration

qos agent statistics-tracking

Modify the QoS default statistics tracking

Syntax

- **default qos agent statistics-tracking**
- **qos agent statistics-tracking {aggregate | disable | individual}**

Command Parameters

aggregate	Allocate a single statistics counter to track data for all classifier of the QoS policy being created
disable	No statistics tracking for QoS policy being created

individual	Allocate individual statistics counters to track data for each classifier of the QoS policy being created

Default

None

Command Mode

Global Configuration

qos classifier

Create classifier set entry

Syntax

- `no qos classifier <1-55000>`
- `qos classifier <1-55000> set-id <1-55000> [name <WORD>] element-type {ip | l2 | system} element-id <1-55000> [session id <1-4294967295>]`

Command Parameters

<1-55000>	Specify the classifier ID
element-id <1-55000>	Specify the IP classifier element ID
element-type {ip | l2 | system}	Specify the classifier element type (IP, L2, System)
name <WORD>	Specify the classifier name
session id <1-4294967295>	Specify the session ID
set-id <1-55000>	Specify the classifier set ID

Default

None

Command Mode

Global Configuration

qos classifier-block

Create classifier block entry

Syntax

- `no qos classifier-block <1-55000>`
- `qos classifier-block <1-55000> block-number <1-55000> [name <WORD>] {set-id <1-55000> | set-name <WORD>} [{in-profile-action <1-55000> | in-profile-action-name <WORD>} | {meter <1-55000> | meter-name <WORD>}] [session-id <1-4294967295>] [eval-order]`

Command Parameters

<1-55000>	Specify the classifier block ID
block-number <1-55000>	Specify the classifier block number
eval-order	Specify the block entry evaluation order
in-profile-action <1-55000>	Specify the in-profile action ID to be linked to the classifier entry of this block
in-profile-action-name <WORD>	Specify the in-profile action name to be linked to the classifier entry of this block
meter <1-55000>	Specify the meter ID to be linked to the classifier entry of this block
meter-name <WORD>	Specify the meter name to be linked to the classifier entry of this block
name <WORD>	Specify the classifier block name
session-id <1-4294967295>	Specify the session ID
set-id <1-55000>	Specify the classifier set ID to be linked to the block
set-name <WORD>	Specify the classifier set name to be linked to block

Default

None

Command Mode

Global Configuration

qos clear-stats

Clear all QoS statistic counters

Syntax

- `qos clear-stats`

Default

None

Command Mode

Global Configuration

qos egressmap

Configure the DSCP to 802.1p priority and drop precedence associations

Syntax

- **default qos egressmap [ds <0-63>]**
- **qos egressmap [name <WORD>] [ds <0-63>] [1p <0-7>] [dp <low-drop | high-drop>] [ds-new <0-63>]**

Command Parameters

1p <0-7>	Specify the 802.1p priority associated with the target DSCP
dp high-drop	Higher probability of being dropped when congestion is encountered
dp low-drop	Lower probability of being dropped when congestion is encountered
ds <0-63>	Specify the DSCP value used as lookup key for 802.1p priority and drop precedence
ds-new <0-63>	Specify the new DSCP associated with the target DSCP
name <WORD>	Specify label for the egress mapping

Default

None

Command Mode

Global Configuration

qos if-action-extension

Create interface actions extension entry

Syntax

- **no qos if-action-extension <1-55000>**

- **qos if-action-extension <1-55000> [name <WORD>] {egress-ucast <LIST> | egress-non-ucast <LINE> } [sesson-id <1-4294967295>]**

Command Parameters

<1-55000>	Specify the Interface Action ID
egress-non-ucast <LINE>	Specify redirection of broadcast, multicast, and unknown unicast (floods) to specified interface
egress-ucast <LIST>	Specify redirection of known unicast packets to specified interface
name <WORD>	Specify Interface Action label
sesson-id <1-4294967295>	Specify the session ID

Default

None

Command Mode

Global Configuration

qos if-assign

Add interfaces to interface groups

Syntax

- **no qos if-assign [port <LINE>]**
- **qos if-assign [port <LINE>] [name <WORD>]**

Commands Parameter

port <portlist>	Specifies the ports to add to the interface group.
name <WORD>	Specifies the name of the interface group in a character string from 1 to 32 characters..

Default

None

Command Mode

Global Configuration

qos if-group

Create interface group

Syntax

- `no qos if-group name <WORD>`
- `qos if-group name <WORD> class {trusted | untrusted | unrestricted | untrustedbasic | untrustedv4v6}`

Command Parameters

class	Specify class of traffic received on interfaces associated with this interface group
name <WORD>	Specify name of interface group
trusted	Traffic received on the associated interfaces are assumed to be trusted (i.e. trusted ports are usually connected to the core network; 802.1p remarked based on DSCP by default)
unrestricted	Traffic received on the associated interfaces may have unrestricted treatment applied (i.e. unrestricted ports can be either access links or connected to the core network; no default processing is applied)
untrusted	IPv4 traffic received on the associated interfaces are assumed to be untrusted (i.e. untrusted ports are typically access links that are connected to end stations; DSCP and 802.1p remarked by default)
untrustedbasic	IPv4 and IPv6 traffic received on the associated interfaces are assumed to be untrusted (i.e. untrusted ports are typically access links that are connected to end stations; DSCP and 802.1p remarked by default). Tagged and untagged traffic are treated the same for minimum resource consumption.
untrustedv4v6	IPv4 and IPv6 traffic received on the associated interfaces are assumed to be untrusted (i.e. untrusted ports are typically access links that are connected to end stations; DSCP and 802.1p remarked by default)

Default

None

Command Mode

Global Configuration

qos ingressmap

Configure the 802.1p to DSCP associations

Syntax

- `default qos ingressmap`
- `qos ingressmap {[name <WORD>][1p <0-7> ds <0-63>]}`

Command Parameters

1p <0-7>	Specify the 802.1p user priority used as lookup key for DSCP assignment at ingress
ds <0-63>	Specify the DSCP value associated with the target 802.1p priority
name <WORD>	Specify label for the ingress mapping

Default

None

Command Mode

Global Configuration

qos ip-acl

Create IP access-list element

Syntax

- `no qos ip-acl {<1-55000> | all}`
- `qos ip-acl name <WORD> {[addr-type <ipv4 | ipv6>] [src-ip {A.B.C.D}/<0-32>] [dst-ip {A.B.C.D}/<0-32>] [ds-field <0-63>] [protocol <0-255>] [next_header <0-255>] [flow-id <0x0-0xfffff>] [src-port-min <0-65535> src-port-max <0-65535>] [dst-port-min <0-65535> dst-port-max <0-65535>] [drop-action {enable | disable}] [update-dscp <0 - 63>] [update-1p <0 - 7>] [set-drop-prec {high drop | low drop}] [block <WORD>]`

Command Parameters

addr-type <ipv4 | ipv6>	Specify the address type (IPv4, IPv6) classifier criteria
block <WORD>	Specify the label to identify access-list elements that are of the same block
drop-action {enable | disable}	Specify the drop action
ds-field <0-63>	Specify the DSCP classifier criteria
dst-ip {A.B.C.D}/<0-32>	Specify the destination IP classifier criteria

dst-port-max <0-65535>	Specify the L4 destination port maximum value filter criteria
dst-port-min <0-65535>	Specify the L4 destination port minimum value classifier criteria
flow-id 0x0-0xfffff	Specify the IPv6 flow identifier classifier criteria
name <WORD>	Specify the label used to reference the access-list element
next_header <0-255>	Specify the IPv6 next header classifier criteria
protocol <0-255>	Specify the IPv4 protocol classifier criteria
set-drop-prec {high drop | low drop}	Specify the set drop precedence
src-ip {A.B.C.D}/<0-32>	Specify the source IP classifier criteria
src-port-max <0-65535>	Specify the L4 source port maximum value filter criteria
src-port-min <0-65535>	Specify the L4 source port minimum value classifier criteria
update-1p <0 - 7>	Specify the update user priority
update-dscp <0 - 63>	Specify the update DSCP

Default

None

Command Mode

Global Configuration

qos ip-element

Create IP classifier element entry

Syntax

- **no qos ip-element <1-55000>**
- **qos ip-element <1-55000> [addr-type <ipv4 | ipv6>] [ds-field <0-63>] [dst-ip {A.B.C.D}/<0-32>] [dstport-min <0-65535> dst-port-max <0-65535>] [flow-id <0x00-0xfffff>] [ip-flag <LINE>] [ipv4-option <no-opt|with-opt>] [name <WORD>] [next-header <0-255>] [protocol <0-255>] [src-ip {A.B.C.D}/<0-32>] [src-port-min <0-65535> src-port-max <0-65535>] [tcp-control <a|f|p|r|s|u>] [session-id <1-4294967295>]**

Command Parameters

addr-type <ipv4 | ipv6>	Specify the address type (IPv4, IPv6) classifier criteria
ds-field <0-63>	Specify the DSCP classifier criteria
dst-ip {A.B.C.D}/<0-32>	Specify the destination IP classifier criteria
dst-port-max <0-65535>	Specify the L4 destination port maximum value filter criteria
dst-port-min <0-65535>	Specify the L4 destination port minimum value classifier criteria
flow-id <0x00-0xfffff>	Specify the IPv6 flow identifier classifier criteria
ip-flag <LINE>	Specify the IP fragment flag criteria
ipv4-option <no-opt|with-opt>	Specify the IPv4 option criteria
name <WORD>	Specify name of ip-element
next-header <0-255>	Specify the IPv6 next header classifier criteria
protocol <0-255>	Specify the IPv4 protocol classifier criteria
session-id <1-4294967295>	Specify the session ID
src-ip {A.B.C.D}/<0-32>	Specify the source IP classifier criteria
src-port-max <0-65535>	Specify the L4 source port maximum value filter criteria
src-port-min <0-65535>	Specify the L4 source port minimum value classifier criteria
tcp-control <a|f|p|r|s|u>	Specify the TCP control criteria

Default

None

Command Mode

Global Configuration

qos l2-acl

Create Layer 2 access-list element

Syntax

- **no qos l2-acl {<1-55000> | all}**

- **qos l2-acl name <WORD> [src-mac <H.H.H>] [src-mac-mask <H.H.H>] [dst-mac <H.H.H>] [dst-mac-mask <H.H.H>] [vlan-min <1-4094> vlan-max <1-4094>][vlan-tag <tagged | untagged>] [ethertype <0x0-0xFFFF>] [priority <0-7>| All] [drop-action {enable | disable}] [update-dscp <0-63>] [update-1p <0-7>] [set-drop-prec {high-drop | low-drop}] [block <WORD>]**

Command Parameters

block <WORD>	Specify the label to identify access-list elements that are of the same block
drop-action {enable | disable}	Specify the drop action
dst-mac <H.H.H>	Specify the destination MAC classifier criteria
dst-mac-mask <H.H.H>	Specify the destination MAC mask classifier criteria
ethertype <0x0-0xFFFF>	Specify the ethertype classifier criteria
priority <0-7>| All	Specify the user priority classifier criteria
set-drop-prec {high drop | low drop}	Specify the set drop precedence
src-mac <H.H.H>	Specify the source MAC classifier criteria
src-mac-mask <H.H.H>	Specify the source MAC mask classifier criteria
update-1p <0-7>	Specify the update user priority
update-dscp <0-63>	Specify the update DSCP
vlan-min <1-4094> vlan-max <1-4094>	Specify the vlan ID minimum and maximum value classifier criteria
vlan-tag <tagged | untagged>	Specify the vlan tag classifier criteria

Default

None

Command Mode

Global Configuration

qos l2-element

Create Layer 2 classifier element entry.

Syntax

- `no qos l2-element <1-55000>`
- `qos l2-element <1-55000> [dst-mac <H.H.H>] [dst-mac-mask <H.H.H>] [ethertype <0x00-0xffff>] [name <WORD>] [pkttype <etherII|llc|snap>] [priority <0-7>|all] [session-id <1-4294967295>] [src-mac <H.H.H>] [src-mac-mask <H.H.H>] [vlan-min <1-4094> vlan-max <1-4094>] [vlan-tag <tagged| untagged>]`

Command Parameters

<1-55000>	Specify the Layer 2 classifier element ID.
dst-mac <H.H.H>	Specify the destination MAC classifier criteria.
dst-mac-mask <H.H.H>	Specify the destination MAC mask classifier criteria.
ethertype <0x0-0xFFFF>	Specify the ethertype classifier criteria.
name <WORD>	Specify name of Layer 2 element.
pkt-type <etherII|llc|snap>	Specify the filter packet format ethertype encoding criteria (Ethernet II packet, or LLC packet or SNAP packet.
priority <0-7>| All	Specify the user priority classifier criteria.
session-id <1-4294967295>	Specify the session ID.
src-mac <H.H.H>	Specify the source MAC classifier criteria.
src-mac-mask <H.H.H>	Specify the source MAC mask classifier criteria.
vlan-min <1-4094> vlan-max <1-4094>	Specify the vlan ID minimum value classifier criteria.
vlan-tag <tagged | untagged>	Specify the vlan tag classifier criteria.

Default

None

Command Mode

Global Configuration

qos meter

Create meter entry

Syntax

- `no qos meter <1-55000>`
- `qos meter <1-5000> [name <WORD>] [committed-rate <64-10230000>] [burst-size <1024 | 128 | 16 | 16384 | 2048 | 256 | 32 | 4 | 4096 | 512 | 64 | 8 | 8192>] [max-burst-rate <64-4294967295>] [max-burst-duration <1-4294967295>] {inprofile-action <1-55000> | in-profile-action-name <WORD>} {outprofile-action <1,9-55000> | out-profile-action-name <WORD>} [session-id <1-4294967295>]`

Command Parameters

<1-5000>	Specify the meter ID
burst-size <1024 | 128 | 16 | 16384 | 2048 | 256 | 32 | 4 | 4096 | 512 | 64 | 8 | 8192>	Specify the burst size in KBytes
committed-rate <64-10230000>	Specify the committed rate value
in-profile-action <1-55000>	Specify the in-profile action ID
in-profile-action-name <WORD>	Specify the in-profile action name
max-burst-duration<64-4294967295>	Specify the maximum burst duration value
max-burst-rate <64-4294967295>	Specify the maximum burst rate value
name <WORD>	Specify the meter label
out-profile-action <1,9-55000>	Specify the out-profile action ID
out-profile-action-name <WORD>	Specify the out-profile action name
session-id <1-4294967295>	Specify the session ID

Default

None

Command Mode

Global Configuration

qos policy

Create policy entry

Syntax

- `no qos policy <1-55000> [enable]`

- **qos policy <1-55000> [enable] [name <WORD>] [port <LINE>] [if-group <WORD> clfr-type {classifier | block} {clfr-id <1-55000> | clfr-name <WORD>}{in-profile-action <1-55000> | in-profile-action-name <WORD>} | meter <1-55000> | meter-name <WORD>} precedence <1-7> [track-statistics <individual | aggregate>]} [session-id <1-4294967295>]**

Command Parameters

<1-55000>	Enter an integer to specify the QoS policy; range is 1–55000.
aggregate	All classifiers associated with the policy will share the statistics resource
block	Associate a classifier block to the policy
classifier	Associate a classifier to the policy
clfr-id <1-55000>	Specify the classifier set ID or classifier block number
clfr-name <NAME>	Specify the classifier set name or classifier block name
clfr-type	Specify the classifier type (classifier,block)
enable	Enable the policy
if-group <WORD>	Specify the interface group to apply policy
individual	Each classifier associated with the policy will have its own statistics resource
in-profile-action <1-55000>	Specify the in-profile action ID
in-profile-action-name <WORD>	Specify the in-profile action name
meter <1-55000>	Specify the meter ID
meter-name <WORD>	Specify the meter name
name <WORD>	Specify the policy label
port <LINE>	Specify the port to apply policy
precedence <1-7>	Specify the precedence of this policy in relation to other policies associated with the same interface group
session-id <1-4294967295>	Specify the session ID
track-statistics <individual | aggregate>	Specify to track statistics on policy

Default

None

Command Mode

Global Configuration

qos queue-set-assignment

Configure the 802.1p priority to queue

Syntax

- `qos queue-set-assignment queue-set <1-32> 1p <0-7> queue <1-8>`

Command Parameters

1p <0-7>	Specify the 802.1p priority value
queue <1-8>	Specifies the QoS queue set. Values range from 1 to 8.
queue-set <1-32>	Specify the queue set ID

Default

None

Command Mode

Global Configuration

qos system-element

Create system classifier element entry.

Syntax

- `no qos system-element <1-55000>`
- `qos system-element <1-55000> [name <WORD>] [known-ip-mcast] [known-non-ipmcast] [non-ip] [unknown-ucast] [unknown-ip-mcast] [unknown-non-ip-mcast] [pattern-data <WORD> pattern-mask <WORD>] [pattern-format <tagged | untagged>] [pattern-ip-version <ipv4|ipv6|nonip>] [pattern-l2-format <ethernetII|llc|snap>] [session-id <1-4294967295>]`

Command Parameters

<1-55000>	Specify the system classifier element ID.

known-ip-mcast	Match frames containing a known IP multicast destination address.
known-non-ip-mcast	Match frames containing a known non-IP multicast destination address.
name <WORD>	Specify name of system element.
non-ip	Match non-IP frames.
pattern-data <WORD>	Match frames with a specific data pattern.
pattern-format <tagged | untagged>	Specify the format of the pattern data/mask.
pattern-ip-version <ipv4|ipv6| nonip>	Specify the IP version of the pattern data/mask.
pattern-l2-format <ethernetII|llc| snap>	Specify the Layer 2 format of the pattern data/mask.
pattern-mask <WORD>	Specifies the specific data pattern bit positions of interest.
session-id <1-4294967295>	Specify the session ID.
unknown-ip-mcast	Match frames containing an unknown IP multicast destination address.
unknown-non-ip-mcast	Match frames containing an unknown non-IP multicast destination address
unknown-ucast	Match frames containing an unknown unicast destination address.

Default

None

Command Mode

Global Configuration

qos traffic-profile

Create QoS Traffic Profile entries

Syntax

- **qos traffic-profile classifier name <WORD> [addr-type <ipv4|ipv6>] [block <WORD>][committed-rate <64-10230000> {committed-burst-size**

<burst-size-options> drop-out-action <disable|enable>| max-burstrate <64-4294967295> max-burst-duration <1-4294967295>}][drop-action <disable|enable>][ds-field <0-63>] [dst-ip <dst-ip-info>][dst-mac <dst-mac-info> dst-mac-mask <dst-mac-mask>][src-mac <src-mac> srcmac-mask <src-mac-mask>][dst-port-min <0-65535> dst-port-max <0-65535>] [src-port-min <0-65535> src-port- max <0-65535>][ethertype <0x0-0xFFFF>][eval-order <1-255>][flow-id <0x0-0xFFFF>][ip-flag <ipflags>][ipv4-option <no-opt|with-opt>][master][next-header <0-255>] [pkt-type <etherll|llc|snap>][priority <0-7|all>][protocol <0-255>] [set-drop-prec <high-drop|low-drop>][set-drop-prec-out-action <highdrop| low-drop>][src-ip <src-ip-info>][tcp-control <Urg|Ack|Psh| Rst| Syn|Fin>][update-1p <0-7>][update-dscp <0-63>][update-dscp-outaction <0-63>][vlan-min <1-4094>][vlan-max <1-4094>][vlan-tag <tagged| untagged>]

- **no qos traffic-profile classifier name <WORD> [eval-order <1-255>]**

Command Parameters

name <WORD>	Specifies an alphanumeric identifier for the traffic profile. The value is a character string from 1–16 characters in length. All classifiers associated with a specific traffic-profile filter set share the same name.
addr-type <ipv4 | ipv6>	Specifies the type of IP address used by this classifier entry.
block <WORD>	Specifies the label to identify traffic profile classifier elements that are of the same block.
committed-rate <64-10230000>	Specifies the committed rate for metering.
committed-burst-size <burst-sizeoptions>	Specifies the committed burst size in KiloBytes.
drop-action <disable | enable>	Specifies whether to drop (enable) or pass (disable) traffic matching the classifier criteria.
drop-out-action <disable | enable>	Specifies whether to drop (enable) or pass (disable) out of profile packets.
ds-field <0-63>	Specifies the value for the DiffServ Codepoint (DSCP) in a packet.
dst-ip <dst-ip-info>	Specifies the IP address to match against the destination IP address of a packet.
dst-mac <dst-mac-info>	Specifies MAC address against which the MAC destination address of incoming packets is compared.
src-mac <src-mac>	Specifies the MAC source address of incoming packets.

dst-mac-mask <dst-mac-mask>	Specifies the mask for the MAC address against which the MAC destination address of incoming packets is compared.
src-mac-mask <src-mac-mask>	Specifies the MAC source address mask of incoming packets.
dst-port-min <0-65535>	Specifies the minimum value for the Layer 4 destination port classifier.
src-port-min <0-65535>	Specifies the minimum value for the Layer 4 source port number in a packet.
dst-port-max <0-65535>	Specifies the maximum value for the Layer 4 destination port classifier.
src-port-max <0-65535>	Specifies the maximum value for the Layer 4 source port number in a packet.
ethertype <0x0-0xFFFF>	Specifies the type of information carried in the data portion of the frame.
eval-order <1-255>	Specifies the evaluation order for all elements with the same name. Values range from 1–255.
flow-id <0x0-0xFFFF>	Specifies the flow identifier for IPv6 packets. Values range from 0x0 to 0xFFFF hexadecimal.
ip-flag <ip-flags>	Specifies the IP fragment flag criteria.
ipv4-option <no-opt | with-opt>	Specifies the IPv4 option criteria.
master	Designates the classifier as the master block member.
max-burst-rate <64-4294967295>	Specifies the maximum burst rate.
max-burst-duration <1-4294967295>	Specifies the maximum burst duration in milliseconds (ms).
next-header <0-255>	Specifies the IPv6 next-header value. Values range from 0–255.
pkt-type <etherII | llc | snap>	Specifies the filter packet format ethertype encoding criteria.
priority <0-7 | all>	Specifies a 802.1p user priority value for classifier.
protocol <0-255>	Specifies the IPv4 protocol value. Values range from 0–255.

set-drop-prec <high-drop | low-drop>	Specifies the drop precedence for traffic matching the classifier criteria.
set-drop-prec-out-action <high-drop | low-drop>	Specifies the drop precedence value associated with out of profile traffic.
src-ip <src-ip-info>	Specifies the IP address to match against the source IP address of a packet.
tcp-control <Urg | Ack | Psh | Rst | Syn | Fin>	Specifies the TCP control criteria.
update-1p <0-7>	Specifies the 802.1p user priority update value.
update-dscp <0-63>	Specifies the DSCP update value.
update-dscp-out-action <0-63>	Specifies the DSCP update value in out of profile packets.
vlan-min <1-4094>	Specifies the minimum VLAN ID value for the classifier.
vlan-max <1-4094>	Specifies the maximum VLAN ID value for the classifier.
vlan-tag <tagged | untagged>	Specifies whether VLAN tagged or untagged traffic is matched by the classifier.

Default

None

Command Mode

Global Configuration

qos traffic-profile set

Configure a QoS traffic profile filter set

Syntax

- **qos traffic-profile set [port <LINE>] [name <WORD>] [enable] [meter-mode <uniform-per-policy | individual-per-policy | classifier>] [update-dscp-out-action <0-63>][track-statistics {aggregate | disable | individual}] [committed-rate <64-10230000> {committed-burst-size | max-burst-rate <64-4294967295>}]**
- **no qos traffic-profile set [port <port>] name <WORD> enable**

Command Parameters

committed-rate <64-10230000>	Specifies the committed rate for metering.

committed-burst-size <burst-sizeoptions>	Specifies the committed burst size in KiloBytes.
drop-out-action <enable | disable>	Specifies whether to drop (enable) or pass (disable) out-of-profile packets.
enable	Enables the traffic profile filter set
name <WORD>	Specifies the traffic profile filter set name.
max-burst-rate <64-4294967295>	Specifies the maximum burst rate.
max-burst-duration <1-4294967295>	Specifies the maximum burst duration in milliseconds (ms).
meter-mode <uniform-per-policy | individual-per-policy | classifier>	Specifies the metering type.
port <port>	Specifies the ports on which the traffic profile filter set is to be applied.
set-drop-prec-out-action <high-drop | low-drop>	Specifies the drop precedence value for out-of-profile traffic.
track-statistics <aggregate|disable| individual>	Specifies how to track policy statistics for the traffic profile filter set.
update-dscp-out-action <0-63>	Updates the DSCP value in out-of-profile IP packets

Default

None

Command Mode

Global Configuration

qos ubp classifier

Create QoS UBP classifier entry

Syntax

- **no qos ubp name <WORD> [eval-order <1-255>]**
- **qos ubp classifier name <WORD>] [addr-type {ipv4 | ipv6}] [block <WORD>] [drop-action {disable | enable}] [ds-field <0-63>] [dst-ip A.B.C.D/<0-32>] [dst-mac <H.H.H> dst-mac-mask <H.H.H>] [dst-port-min <0-65535> dst-port-max <0-65535>] [ethertype <0x0-0xFFFF>] [eval-order <1-255>] [master] [priority {<0-7> | all}] [protocol <0-255>] [set-**

```
drop-prec {high-drop | low-drop}] [src-ip <A.B.C.D/<0-32>] [src-mac
<H.H.H> src-mac-mask <H.H.H>] [src-port-min <0-65535> src-port-max
<0-65535>] [update-1p {<0-7> | use-egress | use-tos-prec}] [update-
dscp <0-63>] [vlan-min <1-4094> vlan-max <1-4094>] [vlan-tag {tagged |
untagged}]
```

Command Parameters

master	Specify as the master member of the block
addr-type {ipv4 | ipv6}	Specify the address type (IPv4, IPv6) classifier criteria
dst-ip A.B.C.D/<0-32>	Specify the destination IP classifier criteria
dst-mac <H.H.H>	Specify the destination MAC classifier criteria
drop-action {disable | enable}	Specify the drop action
ds-field <0-63>	Specify the DSCP classifier criteria
ethertype <0x0-0xFFFF>	Specify the ethertype classifier criteria
eval-order <1-255>	Specify the evaluation order
protocol <0-255>	Specify the IPv4 protocol classifier criteria
dst-port-min <0-65535>	Specify the L4 destination port minimum value classifier criteria
src-port-min <0-65535>	Specify the L4 source port minimum value classifier criteria
block <WORD>	Specify the label to identify access-list elements that are of the same block
name <WORD>	Specify the label used to reference the Traffic Profile entry
set-drop-prec {high-drop | low-drop}	Specify the set drop precedence
src-ip <A.B.C.D/<0-32>	Specify the source IP classifier criteria
src-mac <H.H.H>	Specify the source MAC classifier criteria
update-dscp <0-63>	Specify the update DSCP
update-1p {<0-7> | use-egress | use-tos-prec}	Specify the update user priority
priority <0-7>| All	Specify the user priority classifier criteria

vlan-min <1-4094>	Specify the Vlan ID minimum value classifier criteria
vlan-tag {tagged |untagged}	Specify the vlan tag classifier criteria

Default

None

Command Mode

Global Configuration

qos ubp set

Creates QoS UBP set

Syntax

- **no qos ubp name <WORD>**
- **qos ubp set name <WORD> [committed-rate <64-10230000> [committed-burst-size <1024|128|16|16384|2048|256|32|4|4096|512|64|8|8192> {drop-outaction {enable|disable}} {set-drop-prec-out-action {high-drop|lowdrop}| set-priority <1-255>|track-statistics {aggregate|disable|individual}|update-dscp-out-action <0-63>}}]] [max-burst-rate <64-4294967295> {[drop-out-action {disable|enable}] [max-burstduration <1-4294967295>][set-drop-prec-out-action {high-drop|lowdrop}] [update-dscp-out-action <0-63>]}] [set-priority <1-255> [track-statistics <aggregate|disable|individual>]]**

Command Parameters

committed-burst-size	Specify the burst size in KBytes
committed-rate <64-10230000>	Specify the committed rate value
set-priority <1-255>	Specify the filter set priority
name <WORD>	Specify the label.
max-burst-rate <64-4294967295>	Specify the maximum burst rate value
track-statistics {aggregate | disable | individual}	Specify to track statistics on policy
drop-out-action {enable|disable}	Specify the action to take when a packet is out-of-profile. Options are enable (packet is dropped) and disable (packet is not dropped).

set-drop-prec-out-action {highdrop | low-drop}	Specify the set drop precedence out-of-profile action.
update-dscp-out-action <0-63>	Specify the remark DSCP out-of-profile action.
max-burst-duration <1-4294967295>	Specify the maximum burst duration in milliseconds.

Default

None

Command Mode

Global Configuration

radius accounting

Configure RADIUS accounting settings

Syntax

- **default radius accounting interim-updates [enable] [interval] [use-server-interval]**
- **no radius accounting interim-updates [enable] [use-server-interval]**
- **radius accounting interim-updates [enable] [interval <60-3600>] [use-server-interval]**

Command Parameters

enable	Enable RADIUS Accounting Interim-Updates
interim-updates	Modify interim-updates settings
interval <60-3600>	Modify the timeout interval for RADIUS Accouning Interim-Updates
use-server-interval	Use the value given by server for the timeout interval

Default

None

Command Mode

Global Configuration

radius dynamic-server

RADIUS Dynamic Authorization Client settings

Syntax

- **default radius dynamic-server {[client] {A.B.C.D} [secret] [enable] [port] [process-disconnect-requests] [process-change-of-auth-requests]} | [replay-protection]**
- **no radius dynamic-server {[client] {A.B.C.D} [secret] [enable] [process-disconnect-requests] [process-change-of-auth-requests]} | [replay-protection]**
- **radius dynamic-server {[client] {A.B.C.D} [secret] [port <1024-65535>] [enable] [process-disconnect-requests] [process-change-of-auth-requests]} | [replay-protection]**

Command Parameters

{A.B.C.D}	Add new RADIUS Dynamic Authorization Client or change RADIUS Dynamic Authorization Client settings
client	Add new RADIUS Dynamic Authorization Client or change RADIUS Dynamic
enable	Enable packet receive from this RADIUS Dynamic Authorization Client
port <1024-65535>	Set server/NAS UDP port to listen for requests from this RADIUS Dynamic Authorization Client
process-change-of-auth-requests	Enable change-of-authorization requests processing
process-disconnect-requests	Enable disconnect requests processing
replay-protection	Enable globally Radius dynamic server replay protection
secret	Set RADIUS Dynamic Authorization Client secret

Default

None

Command Mode

Global Configuration

radius reachability

Configure RADIUS server reachability settings

Syntax

- **default radius reachability [bad-timer][good-timer][mode][retry] [timeout]**
- **radius reachability {check {eap | non-eap} [global] | mode {use-icmp | use-radius [username <username> password <password>} [timeout <1-60>] [retry <1-5>] [bad-timer <30-600>] [good-timer <30-600>] | bad-timer <30-600> | good-timer <30-600> | retry <1-5>}**

Command Parameters

good-timer <30-600>	Configures the interval between checks when the RADIUS server is reachable.
mode {use-icmp|use-radius}	Configures the RADIUS reachability mode as use-icmp to enable RADIUS server reachability using ICMP or use-radius to enable RADIUS server reachability using RADIUS requests.
password <LINE>	Configures the RADIUS request password.
retry <1-5>	Specifies the retry attempts.
timeout <1-60>	Specifies the timeout period in seconds.
username <LINE>	Set RADIUS request username
check	Initiates an immediate check to determine the reachability of the RADIUS server.
eap	Checks the EAP RADIUS server reachability.
non-eap	Checks the Non-EAP RADIUS server reachability.
global	Checks the Global RADIUS server reachability.

Default

None

Command Mode

Global Configuration

radius server host

Configure RADIUS server settings

Syntax

- **radius server host [acct-port <1–65535>][host][secondary][key][port <1–65535>][retry <1–5>][timeout <1–60>][used-by {eapol | non-eapol}]**

Command Parameters

{A.B.C.D}	IP address of RADIUS server
acct-enable	Enable RADIUS accounting mode
acct-port <1–65535>	Radius accounting port
host	RADIUS host
key	RADIUS shared secret
port <1–65535>	RADIUS UDP port
retry <1–5>	RADIUS retry attempts
secondary	Set as RADIUS secondary host
timeout <1-60>	RADIUS time-out period
used-by {eapol | non-eapol}	Application name
WORD	IPV6 address of RADIUS server

Default

None

Command Mode

Global Configuration

radius use-management-ip

Enable Radius use-management-ip flag

Syntax

- **default radius use-management-ip**
- **no radius use-management-ip**
- **radius use-management-ip**

Default

None

Command Mode

Global Configuration

radius-server

Configure RADIUS server password fallback

Syntax

- **default radius-server password fallback**
- **no radius-server password fallback**
- **radius-server password fallback**

Command Parameters

{A.B.C.D}	IP address of RADIUS server
acct-enable	Enable RADIUS accounting mode
acct-port <1–65535>	Radius accounting port
fallback	RADIUS password fallback
host	RADIUS host
key	RADIUS shared secret
password	RADIUS password fallback
port <1–65535>	RADIUS UDP port
retry <1–5>	RADIUS retry attempts
secondary	Set as RADIUS secondary host
timeout <1-60>	RADIUS time-out period
used-by {eapol | non-eapol}	Application name
WORD	IPV6 address of RADIUS server

Default

None

Command Mode

Global Configuration

rate-limit

Configures rate-limiting on the port.

Syntax

- **default rate-limit [port <portlist>]**
- **no rate-limit [port <portlist>]**
- **rate-limit [port <portlist>] {multicast <pct> | broadcast <pct> | both <pct>}**

Command Parameters

both <pct>	Apply rate-limiting to both multicast and broadcast. Enter an integer from 1–10 to set the rate-limiting percentage.
broadcast <pct>	Apply rate-limiting to broadcast packets. Enter an integer from 1–10 to set the rate-limiting percentage.
multicast <pct>	Apply rate-limiting to multicast packets. Enter an integer from 1–10 to set the rate-limiting percentage.
port <portlist>	Specify the port numbers to configure for rate-limiting. Enter the port numbers to configure. If you omit this parameter, the system uses the port number you specified in the interface command.

Default

None

Command Mode

Global Configuration

renumber

Renumbers the unit numbers in a stack

Syntax

- **renumber unit**

Command Parameters

unit	Renumber unit numbers in a stack

Default

None

Command Mode

Global Configuration

rmon alarm

Create RMON Alarm entries

Syntax

- `no rmon alarm <1-65535>`
- `rmon alarm <1-65535> <WORD> <1-2147483647> {absolute | delta} [rising-threshold <-2147483648-2147483647>] [<1-65535>] [falling-threshold <-2147483648-2147483647>] [<1-65535>] [owner <LINE>]`

Command Parameters

<1-2147483647>	Sampling interval (seconds)
<1-65535>	Index of entry
<1-65535>	falling event index
<1-65535>	rising event index
absolute	Absolute sampling type
delta	Delta sampling type
falling-threshold <-2147483648-2147483647>	Specify falling threshold values
owner <LINE>	Specify owner string
rising-threshold <-2147483648 - 2147483647>	Specify rising threshold values
WORD	Alarm variable (OID)

Default

None

Command Mode

Global Configuration

rmon event

Create RMON Event entries

Syntax

- `no rmon event <1-65535>`
- `rmon event <1-65535> [log] [trap] [description <LINE>] [owner <LINE>] [community <LINE>]`

Command Parameters

<1-65535>	Index of entry
community <LINE>]	Specify community string
description <LINE>]	Specify description of event
log	Specify events should be logged
owner <LINE>	Specify owner string
trap	Specify that events should generate traps

Default

None

Command Mode

Global Configuration

rmon history

Create RMON History entries

Syntax

- `no rmon history <1-65535>`
- `rmon history <1-65535> <LINE> <1-65535> <1-3600> [owner <LINE>]`

Command Parameters

<1-3600>	Sampling interval (seconds)
<1-65535>	Index of entry
LINE <1-65535>	Data source (port number)
owner <LINE>	Specify owner string

Default

None

Command Mode

Global Configuration

rmon stats

Create RMON Stats entries

Syntax

- `no rmon stats <1-65535>`
- `rmon stats <1-65535> <LINE> [owner <LINE>]`

Command Parameters

<1-65535>	Index of entry
LINE	Data source (port number)
owner <LINE>	Specify owner string

Default

None

Command Mode

Global Configuration

route-map

Add or modify an IP route policy map

Syntax

- `route-map {<name> [deny | permit] <1-65535> } [match { interface | metric | network | next-hop | protocol | route-source | route-type }] [set { injectlist | ip-preference | mask | metric }]`

Command Parameters

enable	Enable route map policy
match	Configure match criteria
name	Rename policy
set	Set a route map policy
interface	Set match received interface.(Only for rip routes. Ignored in all other cases).
metric	Set match the metric field in the incoming advertisement
network	Set match network (can specify one or more prefix list name)

next-hop	Set the next hop (RIP interface
protocol	Set match protocol
route-source	Set route source (on RIP is RIP interface)
route-type	Set route type
injectlist	Specifies the prefix list to be used either for injecting the routes into the routing table or to include the networks in the advertisement.
ip-preference	Specifies the route preference value to be assigned to the routes that this policy applies to.
mask	Set Mask IP Address
metric	Set metric used while sending an update for the routes that match the matching criteria in this route policy.

Default

None

Command Mode

Global Configuration

router rip

Changes RIP config settings.

Syntax

- **`default router rip enable`**
- **`no router rip enable`**
- **`router rip enable`**

Command Parameters

enable	Enable RIP config settings

Default

None

Command Mode

Global Configuration

show ip prefix-list

Display IP prefix lists

Syntax

- **show ip prefix-list {prefix <A.B.C.D> | <name> }**

Command Parameters

prefix <A.B.C.D>	IP prefix
<name>	Name of the prefix list

Default

None

Command Mode

Global Configuration

slpp-guard ethertype

Specifies the Ethernet type used to detect SLPP packets.

Syntax

- **slpp-guard ethertype {<0x0-0xffff> | <1-65535>}**

Command Parameters

{<0x0-0xffff> | <1-65535>}	Specifies the Ethernet type used to detect SLPP packets.

Default

0x8102

Command Mode

Global Configuration

snmp-server bootstrap

Generate SNMP bootstrap parameters

Syntax

- **snmp-server bootstrap <minimum-secure>|<semi-secure> |<very-secure>**

Command Parameters

minimum-secure	Use minimum security configuration
semi-secure	Use partial security configuration
very-secure	Use maximum security configuration

Default

None

Command Mode

Global Configuration

snmp-server community

Enable SNMP; set community string and access privs

Syntax

- **default snmp-server community { ro |rw }**
- **no snmp-server community {<WORD> | ro |rw }**
- **snmp-server community <WORD> {read-view <WORD> | write-view <WORD>| notify-view <WORD> | ro |rw }**

Command Parameters

<WORD>	SNMP community string
notify-view <WORD>	Enter notify (trap) access view name
read-view <WORD>	Enter read access view name
ro	Read-only access with this community string
rw	Read-write access with this community string
write-view <WORD>	Enter write access view name

Default

None

Command Mode

Global Configuration

snmp-server contact

Text for mib object sysContact

Syntax

- **default snmp-server contact**
- **no snmp-server contact**
- **snmp-server contact <LINE>**

Command Parameters

<LINE>	Identification of the contact person for this managed node

Default

None

Command Mode

Global Configuration

snmp-server disable

Disable SNMP access

Syntax

- **snmp-server disable**

Default

None

Command Mode

Global Configuration

snmp-server enable

Enable SNMP access

Syntax

- **snmp-server enable**

Default

None

Command Mode

Global Configuration

snmp-server host

Specify hosts to receive SNMP notifications

Syntax

- **default snmp-server host**
- **no snmp-server host [A.B.C.D] [<WORD>] [port <1-65535>] [v1] [v2c] [v3] [<WORD>]**
- **snmp-server host [A.B.C.D] [<WORD>] [port <1-65535>] [v1 <WORD> filter <WORD>] [v2c <WORD> {filter <WORD> | inform {[timeout <1-2147483647>] [retries <0-255>]} [v3 <auth | no-auth> <WORD>]**

Command Parameters

<WORD>	IPv6 Address of SNMP Notification Host
A.B.C.D	IP address of SNMP notification host
auth	Generate authenticated traps
filter <WORD>	Create SNMP notify filter profile
inform	Generate acknowledge Inform requests
no-auth	Generate unauthenticated traps
port <1-65535>	Select a non-standard SNMP trap port
retries <0-255>	Retries for inform requests
timeout <1-2147483647>	Timeout for inform requests (centi-seconds)
v1 <WORD>	Create SNMPv1 trap receiver
v2c <WORD>	Create SNMPv2c trap receiver
v3	Create SNMPv3 trap receiver

Default

None

Command Mode

Global Configuration

snmp-server location

Modify text for mib object sysLocation

Syntax

- **default snmp-server location**
- **no snmp-server location**
- **snmp-server location <LINE>**

Command Parameters

<LINE>	The physical location of this node

Default

None

Command Mode

Global Configuration

snmp-server name

Modify text for mib object sysName

Syntax

- **default snmp-server name**
- **no snmp-server name**
- **snmp-server name <LINE>**

Command Parameters

<LINE>	The system name of this node

Default

None

Command Mode

Global Configuration

snmp-server notification-control

Enable generation of a notification type

Syntax

- **default snmp-server notification-control <WORD> <LINE>**
- **no snmp-server notification-control <WORD> <LINE>**
- **snmp-server notification-control <WORD> <LINE>**

Command Parameters

<LINE>	List of ports
<WORD>	Description or OID of a notification type

Default

None

Command Mode

Global Configuration

snmp-server notify-filter

Create SNMP notify filter

Syntax

- **no snmp-server notify-filter <WORD> [<WORD>]**
- **snmp-server notify-filter <Profile-name> <WORD> [<WORD>] [<WORD>] [<WORD>] [<WORD>] [<WORD>] [<WORD>] [<WORD>] [<WORD>] [<WORD>]**

Command Parameters

<Profile-name>	Filter profile name
<WORD>	Description or OID filter specification

Default

None

Command Mode

Global Configuration

snmp-server user

Create SNMPv3 user

Syntax

- **default snmp-server port**
- **no snmp-server user [engine-id <WORD>] | [WORD]**
- **snmp-server user {[engine-id <WORD> <user-name>] [md5 <LINE>] | [WORD] [md5<LINE>] [read-view <WORD>] [write-view <WORD>] [notify-view <WORD>]}**

Command Parameters

<user-name>	User name
engine-id <WORD>	Enter a remote SNMP entity's snmpEngineID
md5	Select MD5 authentication protocol
md5 <LINE>	MD5 authentication password
notify-view <WORD>	Enter unauthenticated notify (trap) access view name
read-view <WORD>	Enter unauthenticated read access view name
write-view <WORD>	Enter unauthenticated write access view name

Default

None

Command Mode

Global Configuration

snmp-server view

Create/modify an SNMP access view

Syntax

- **no snmp-server view <view-name>**
- **snmp-server view <view-name> <OID> [<OID> [<OID> [<OID> [<OID> [<OID> [<OID> [<OID> [<OID> [<OID>]]]]]]]]]**

Command Parameters

<OID>	OID view specification
<view-name>	View name

Default

None

Command Mode

Global Configuration

sntp enable

Enable Simple Network Time Protocol (SNTP) parameters

Syntax

- `default sntp enable`
- `no sntp enable`
- `sntp enable`

Default

None

Command Mode

Global Configuration

sntp server primary

Configure primary SNTP server

Syntax

- `default sntp server primary`
- `no sntp server primary`
- `sntp server primary address {A.B.C.D} | [WORD]`

Command Parameters

{A.B.C.D}	server IP address
<WORD>	primary server IPV6 address (45 length)
address	primary server address

Default

None

Command Mode

Global Configuration

sntp server secondary

Configure secondary SNTP server

Syntax

- **default sntp server secondary**
- **no sntp server secondary**
- **sntp server secondary address {A.B.C.D} | [WORD]**

Command Parameters

{A.B.C.D}	server IP address
<WORD>	secondary server IPV6 address (45 length)
address	secondary server address

Default

None

Command Mode

Global Configuration

sntp sync-interval

Set SNTP re-synchronization interval

Syntax

- **default sntp sync-interval**
- **sntp sync-interval <0-168>**

Command Parameters

<0-168>	SNTP re-synchronization interval hours

Default

None

Command Mode

Global Configuration

sntp sync-now

Force immediate SNTP synchronization

Syntax

- **sntp sync-now**

Default

None

Command Mode

Global Configuration

spanning-tree 802dot1d-port-compliance

Set 802dot1d port compliance mode

Syntax

- **spanning-tree 802dot1d-port-compliance enable**

Command Parameters

enable	Enable 802dot1d port compliance mode

Default

None

Command Mode

Global Configuration

spanning-tree bpdu-filtering

Configure spanning-tree bpdu-filtering

Syntax

- **default spanning-tree bpdu-filtering ignore-self**
- **no spanning-tree bpdu-filtering ignore-self**
- **spanning-tree bpdu-filtering ignore-self**

Command Parameters

ignore-self	Ignore bridge's own BPDUs

Default

None

Command Mode

Global Configuration

spanning-tree cost-calc-mode

Set pathcost type IEEE 802.1d or IEEE 802.1t

Syntax

- `default spanning-tree cost-calc-mode`
- `spanning-tree cost-calc-mode {dot1d | dot1t}`

Command Parameters

dot1d	IEEE 802.1d pathcost
dot1t	IEEE 802.1t pathcost

Default

None

Command Mode

Global Configuration

spanning-tree forward-time <4-30>

Set spanning tree forwarding time

Syntax

- `spanning-tree forward-time <4-30> [ hello-time <1-10> ] [ max-age <6-40>] [priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>] [multicast-address <H.H.H>]`

Command Parameters

hello-time <1-10>	Set spanning tree hello time
max-age <6-40>	Set spanning tree maximum age
multicast-address <H.H.H>	Set spanning-tree multicast MAC address

priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>	Set spanning tree priority (in Hex); if 802.1T compliance, should be multiple of 0x1000.

Default

None

Command Mode

Global Configuration

spanning-tree hello-time <1-10>

Set spanning tree hello time

Syntax

- **spanning-tree hello-time <1-10> [max-age <6-40>] [priority <0000 \| 1000 \| 2000 \| 3000 \| 4000 \| 5000 \| 6000 \| 7000 \| 8000 \| 9000 \| a000 \| b000 \| c000 \| d000 \| e000 \| f000>] [multicast-address <H.H.H>]**

Command Parameters

max-age <6-40>	Set spanning tree maximum age
multicast-address <H.H.H>	Set spanning-tree multicast MAC address
priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>	Set spanning tree priority (in Hex); if 802.1T compliance, should be multiple of 0x1000.

Default

None

Command Mode

Global Configuration

spanning-tree max-age <6-40>

Set spanning tree maximum age

Syntax

- **spanning-tree max-age <6-40> [priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>] [multicast-address <H.H.H>]**

Command Parameters

multicast-address <H.H.H>	Set spanning-tree multicast MAC address
priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>	Set spanning tree priority (in Hex); if 802.1T compliance, should be multiple of 0x1000.

Default

None

Command Mode

Global Configuration

spanning-tree mode

Set spanning tree operation mode

Syntax

- **spanning-tree mode [mst] | [rstp] | [stpg]**

Command Parameters

mst	802.1s Multi Spanning Tree Protocol
rstp	802.1w Rapid Spanning Tree Protocol (single group/instance)
stpg	Multi Spanning Tree Protocol

Default

mst

Command Mode

Global Configuration

spanning-tree multicast-address

Set spanning-tree multicast MAC address

Syntax

- **spanning-tree multicast-address <H.H.H>**

Command Parameters

<H.H.H >	Multicast MAC Address (i.e. H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx)

Default

None

Command Mode

Global Configuration

spanning-tree port-mode

Set spanning-tree port membership mode

Syntax

- **spanning-tree port-mode {auto | normal }**

Command Parameters

auto	spanning-tree auto port membership mode
normal	spanning-tree normal port membership mode

Default

Auto

Command Mode

Global Configuration

spanning-tree priority

Set spanning tree priority (in Hex); if 802.1T compliance, should be multiple of 0x1000.

Syntax

- **spanning-tree priority <0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000> [multicast-address <H.H.H>]**

Command Parameters

<0000 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | a000 |b000 | c000 | d000 | e000 | f000>	Set spanning tree priority (in Hex); if 802.1T compliance, should be multiple of 0x1000.
multicast-address <H.H.H>	Set spanning-tree multicast MAC address

Default

None

Command Mode

Global Configuration

spanning-tree rstp

Sets the RSTP parameters.

Syntax

- **default spanning-tree rstp [port <LINE>] [cost | edge-port | learning | p2p | priority | protocol-migration]**
- **spanning-tree rstp [port <portlist>] [cost <1 - 200000000>] [edge-port {false | true}] [learning {disable | enable}] [p2p {auto | force-false | force-true}] [priority {00 | 10 | ... | F0}] [protocol-migration {false | true}]**

Command Parameters

cost <1 -200000000>	Set the RSTP path cost on the single or multiple ports; the default is 200000.
edge-port {false | true}	Indicate whether the single or multiple ports are assumed to be edge ports. This parameter sets the Admin value of edge port status; the default is false.
learning {disable | enable}	Enable or disable RSTP on the single or multiple ports; the default is enable.
p2p {auto | force-false | force-true}	Indicate whether the single or multiple ports are to be treated as point-to-point links. This command sets the Admin value of P2P Status; the default is force-true.
port <portlist>	Filter on list of ports.
priority {00 | 10 |... | F0}	Set the RSTP port priority on the single or multiple ports; the default is 80.

protocol-migration {false | true}	Force the single or multiple port to transmit RSTP BPDUs when set to true, while operating in RSTP mode; the default is false.

Default

None

Command Mode

Global Configuration

stack auto-unit-replacement

Set auto unit replacement settings

Syntax

- `default stack auto-unit-replacement enable`
- `no stack auto-unit-replacement enable`
- `stack auto-unit-replacement config {restore unit <1-8> | save [disable] [enable] [unit <1-8>]}`

Command Parameters

config	Modify AUR operational settings
disable	Disable AUR auto-save
enable	Enable AUR auto-save
restore	Restore configuration of a unit from the saved configuration on the base unit
save	Enable/disable auto-save of unit configuration to base unit
unit <1-8>	Force immediate save of NBU config to BU

Default

None

Command Mode

Global Configuration

stack auto-unit-replacement-image

Set auto unit image replacement settings

Syntax

- **default stack auto-unit-replacement-image enable**
- **no stack auto-unit-replacement-image enable**
- **stack auto-unit-replacement-image enable**

Command Parameters

enable	Enable auto unit image replacement

Default

None

Command Mode

Global Configuration

stack forced-mode

Enables the forced stack mode

Syntax

- **default stack forced-mode**
- **no stack forced-mode**
- **stack forced-mode**

Default

None

Command Mode

Global Configuration

stack reboot-on-failure

Reboot stack units when their stacking ports fail to come up

Syntax

- **default stack reboot-on-failure**
- **no stack reboot-on-failure**
- **stack reboot-on-failure**

Default

None

Command Mode

Global Configuration

stack retry-count

Configure stack retry count

Syntax

- `default stack retry-count`
- `stack retry-count <0-4294967295>`

Command Parameters

<0-4294967295>	retry count

Default

None

Command Mode

Global Configuration

stacking-ports mode

Sets the default stacking mode

Syntax

- `stacking-ports mode stacking`
- `stacking-ports mode sfp+`

Command Parameters

stacking	Set the port mode to stacking
sfp+	Set the port mode to standalone

Default

stacking

Command Mode

Global Configuration

stack-monitor

Configures stack monitoring

Syntax

- **default stack-monitor [enable] [stack-size] [trap-interval]**
- **no stack-monitor enable**
- **stack-monitor [enable] [stack-size <2-8>] [trap-interval <30-300>]**

Command Parameters

enable	Enables stack monitoring
stack-size <2-8>	Sets the stack size to be monitored within the range <2-8>
trap-interval <30-300>	Sets the interval between traps (seconds) that ranges from <30-300>

Default

None

Command Mode

Global Configuration

storm-control all

Configure Storm Control settings for all types of traffic

Syntax

- **default storm-control all {action [trap-interval]}{ high-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {low-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {poll-interval [action [trap-interval]] trap-interval} {trap-interval}**
- **no storm-control all enable**
- **storm-control all action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} [enable] high-watermark <10-100000000> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} low-watermark <10-100000000> action {drop [enable | trap-interval <0- 1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} poll-interval <5-300> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} trap-interval <0-1000> enable**

Command Parameters

action none	Globally sets the Storm Control action to none
poll-interval <5-300>	Sets the interval for watermark checking (seconds)
action drop	Globally sets the Storm Control action to drop
action shutdown	Globally sets the Storm Control action to shutdown
enable	Enables storm control globally
high-watermark <10-100000000>	Set high-watermark in pps
low-watermark <10-100000000>	Set low-watermark in pps
trap-interval <0-1000>	Set trap sending interval in poll-intervals when above high-watermark (0= do not send)

Default

None

Command Mode

Global Configuration

storm-control broadcast

Configure broadcast Storm Control settings

Syntax

- **default storm-control broadcast {action [trap-interval]}{ high-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {low-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {poll-interval [action [trap-interval]] trap-interval} {trap-interval}**
- **no storm-control broadcast enable**
- **storm-control broadcast action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} [enable] high-watermark <10-100000000> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} low-watermark <10-100000000> action {drop [enable | trap-interval <0- 1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000>**

```
enable]} poll-interval <5-300> action {drop [enable | trap-interval
<0-1000> enable]} {none [enable |trap-interval <0-1000> enable]}
{shutdown [enable | trap-interval <0-1000> enable]} trap-interval
<0-1000> enable
```

Command Parameters

action none	Sets the Storm Control action to none for the broadcast interface
low-watermark <10-100000000>	Set low-watermark in pps for the broadcast interface
action drop	Sets the Storm Control action to drop for the broadcast interface
action shutdown	Sets the Storm Control action to shutdown for the broadcast interface
enable	Enables storm control on the broadcast interface
high-watermark <10-100000000>	Set high-watermark in pps for the broadcast interface
poll-interval <5-300>	Sets the interval for watermark checking (seconds) for the broadcast interface
trap-interval <0-1000>	Sets the trap sending interval for the broadcast interface in poll-intervals when above high-watermark (0= do not send)

Default

None

Command Mode

Global Configuration

storm-control multicast

Configure multicast Storm Control settings

Syntax

- **default storm-control multicast {action [trap-interval]}{ high-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {low-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {poll-interval [action [trap-interval]] trap-interval} {trap-interval}**
- **no storm-control multicast enable**

- **storm-control multicast action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} [enable] high-watermark <10-100000000> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} low-watermark <10-100000000> action {drop [enable | trap-interval <0- 1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} poll-interval <5-300> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} trap-interval <0-1000> enable**

Command Parameters

enable	Enables storm control on the multicast interface
low-watermark <10-100000000>	Set low-watermark in pps for the multicast interface
poll-interval <5-300>	Sets the interval for watermark checking (seconds) for the multicast interface
action drop	Sets the Storm Control action to drop for the multicast interface
action none	Sets the Storm Control action to none for the multicast interface
action shutdown	Sets the Storm Control action to shutdown for the multicast interface
high-watermark <10-100000000>	Set high-watermark in pps for the multicast interface
trap-interval <0-1000>	Sets the trap sending interval for the multicast interface in poll-intervals when above high-watermark (0= do not send)

Default

None

Command Mode

Global Configuration

storm-control unicast

Configure unicast storm control settings

Syntax

- **default storm-control unicast {action [trap-interval]}{ high-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {low-watermark [action [trap-interval]] [poll-interval action [trap-interval] trap-interval] [trap-interval]} {poll-interval [action [trap-interval]] trap-interval} {trap-interval}**
- **no storm-control unicast enable**
- **storm-control unicast action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} [enable] high-watermark <10-100000000> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} low-watermark <10-100000000> action {drop [enable | trap-interval <0- 1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} poll-interval <5-300> action {drop [enable | trap-interval <0-1000> enable]} {none [enable |trap-interval <0-1000> enable]} {shutdown [enable | trap-interval <0-1000> enable]} trap-interval <0-1000> enable**

Command Parameters

enable	Enables storm control on the unicast interface
action drop	Sets the Storm Control action to drop for the unicast interface
action none	Sets the Storm Control action to none for the unicast interface
action shutdown	Sets the Storm Control action to shutdown for the unicast interface
high-watermark <10-100000000>	Set high-watermark in pps for the unicast interface
low-watermark <10-100000000>	Set low-watermark in pps for the unicast interface
poll-interval <5-300>	Sets the interval for watermark checking (seconds) for the unicast interface
trap-interval <0-1000>	Sets the trap sending interval for the unicast interface in poll-intervals when above high-watermark (0= do not send)

Default

None

Command Mode

Global Configuration

tacacs accounting

TACACS+ accounting tracks the user actions

Syntax

- **tacacs accounting {disable | enable}**

Command Parameters

disable	disable accounting
enable	enable accounting

Default

None

Command Mode

Global Configuration

tacacs authorization

TACACS+ authorization determines the user priviliges

Syntax

- **tacacs authorization {disable | enable | level {ALL | <LINE> | NONE}}**

Command Parameters

ALL	all privilege levels
disable	disable authorization
enable	enable authorization
level	authorization level
LINE	Enable authorization on privilege level(s)
NONE	none privilege level

Default

None

Command Mode

Global Configuration

tacacs server

TACACS+ server's primary/secondary host, shared secret key and TCP port

Syntax

- `default tacacs server [host] [secondary-host] [port] [key]`
- `no tacacs server [host] [secondary-host] [port] [key]`
- `tacacs server [host {A.B.C.D}] [secondary-host {A.B.C.D}] [port <1-65535>] [key]`

Command Parameters

{A.B.C.D}	IP address of primary TACACS+ server
{A.B.C.D}	IP address of secondary TACACS+ server
host {A.B.C.D}	TACACS+ primary host
key	TACACS+ shared secret
port <1–65535>	TACACS+ TCP port
secondary-host {A.B.C.D}	TACACS+ secondary host

Default

None

Command Mode

Global Configuration

tacacs switch

Switch between TACACS+ privilege levels

Syntax

- `tacacs switch {back | level <1-15>}`

Command Parameters

<1-15>	privilege level
back	Back one level
level	New privilege level

Default

None

Command Mode

Global Configuration

telnet-access

Configure TELNET access settings

Syntax

- **default telnet-access**
- **no telnet-access source-ip {<1-50> | <51-100>}**
- **telnet-access [enable | disable] [login-timeout <1-10>] [retry <1-100>] [inactive-timeout <0-60>] [logging {none | access | failures | all}] [source-ip {<1-50> {A.B.C.D} mask {A.B.C.D} | <51-100> <WORD>]**

Command Parameters

<1-50>	Select which address/mask pair
<51-100>	Select which ipv6 address/prefix
access	Log successful telnet connections
all	Log all telnet connections
disable	Disable TELNET access
enable	Enable TELNET access
failures	Log failed telnet connections
inactive-timeout <0-60>	Inactivity timeout for TELNET and CONSOLE sessions
logging {none | access | failures | all}	Level of logging for TELNET and CONSOLE attempts
login-timeout <1-10>	Set time to wait for TELNET and CONSOLE login before closing connection
mask {A.B.C.D}	Source IP mask from which connections are allowed
none	Do not log telnet connections
retry <1-100>	Number of allowed login attempts for TELNET and CONSOLE
source-ip	Set source IP address from which connections are allowed

Default

None

Command Mode

Global Configuration

tftp-server

Configure the tftp server

Syntax

- **default tftp-server**
- **no tftp-server**
- **tftp-server {<A.B.C.D> | <WORD>}**

Command Parameters

<A.B.C.D>	IP address of TFTP server
<WORD>	IPv6 address of TFTP server

Default

None

Command Mode

Global Configuration

username

Sets the RO/RW credentials

Syntax

- **default username {ro | rw}**
- **username <WORD> <password> {ro | rw}**

Command Parameters

<password>	Cleartext password (when password security is disabled)
<WORD>	Username
ro	Read-only user name reset to default.

rw	Read-write user name reset to default.

Default

None

Command Mode

Global Configuration

vlacp

Modify VLACP configuration

Syntax

- **default vlacp {enable | macaddress}**
- **no vlacp {enable | macaddress}**
- **vlacp {enable | macaddress <H.H.H>}**

Command Parameters

<H.H.H>	VLACP multicast address (i.e. H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx)
enable	Enable VLACP for the system
macaddress	Set the multicast address used for VLACPDU

Default

None

Command Mode

Global Configuration

vlan configcontrol

Configure the VLAN control mode

Syntax

- **default vlan configcontrol**
- **vlan configcontrol {automatic | autopvid | flexible | strict}**

Command Parameters

automatic	AutoPVID and automatic change to membership of port-based VLANs
autopvid	Automatic change to PVID
flexible	No restricts or automatic changes
strict	AutoPVID and restrictions imposed on adding port to VLAN and changing tagging

Default

None

Command Mode

Global Configuration

vlan create

Create new VLAN

Syntax

- **vlan create [<2-4094>] [<LINE>] [name <LINE>] [type] [port] [protocol-decEther2] [protocol-ipEther2] [protocol-ipv6Ether2] [protocol-ipx802.2] [protocol-ipx802.3] [protocol-ipxEther2] [protocol-ipxSnap] [protocol-Netbios] [protocol-RarpEther2] [protocol-sna802.2] [protocol-snaEther2] [protocol-vinesEther2] [protocol-xnsEther2] [protocol-Userdef {ether <4096-65534> | llc <1-65534> | snap <1-65534>}] [spbm-bvlan] [spbm-switchedUni] [<1-8>][remote-span] [voice-vlan]**

Command Parameters

<1-8>	Spanning Tree Group ID
<2-4094>	VLAN ID
<LINE>	VLAN List
ether <4096-65534>	Create Ethernet II Userdef VLAN
llc <1-65534>	Create LLC Userdef VLAN
name <LINE>	Specify name of new VLAN
port	Create port-based VLAN
protocol-decEther2	Create decEther2 VLAN

protocol-ipEther2	Create ipEther2 VLAN
protocol-ipv6Ether2	Create ipv6Ether2 VLAN
protocol-ipx802.2	Create ipx802.2 VLAN
protocol-ipx802.3	Create ipx802.3 VLAN
protocol-ipxEther2	Create ipxEther2 VLAN
protocol-ipxSnap	Create ipxSnap VLAN
protocol-Netbios	Create Netbios VLAN
protocol-RarpEther2	Create RarpEther2 VLAN
protocol-sna802.2	Create sna802.2 VLAN
protocol-snaEther2	Create snaEther2 VLAN
protocol-Userdef	Create Userdef VLAN
protocol-vinesEther2	Create vinesEther2 VLAN
protocol-xnsEther2	Create xnsEther2 VLAN
remote-span	Create RSPAN VLAN
snap <1-65534>	Create SNAP Userdef VLAN
spbm-bvlan	Create SPBM B-VLAN
spbm-switchedUni	Create SPBM switched UNI
type	Specify type of new VLAN
voice-vlan	Create Voice VLAN

Default

None

Command Mode

Global Configuration

vlan delete

Delete a VLAN

Syntax

- **vlan delete <LINE>**

Command Parameters

<LINE>	VLAN list

Default

None

Command Mode

Global Configuration

vlan igmp

Modify IGMP snoop settings

Syntax

- **default vlan igmp <1-4094>**
- **vlan igmp [<1-4094>] [snooping {disable | enable}] [proxy {disable | enable}] [robust-value <2-255>][query-interval <1-65535>] [v1-members {[add | remove] <LINE>}] [v2-members {[add | remove] <LINE>}]**

Command Parameters

<1-4094>	VLAN ID
proxy {disable | enable}	Enable/disable VLAN proxy
query-interval <1-65535>	Set the IGMP query

Default

None

Command Mode

Global Configuration

vlan members

Modify VLAN port membership

Syntax

- **vlan members {[add] [<VLANlist>] [remove]} <LINE>**

Command Parameters

<LINE>	Port list
<VLANlist>	VLAN list
add	Add ports to a VLAN
remove	Remove ports from a VLAN

Default

None

Command Mode

Global Configuration

vlan mgmt

Set management VLAN

Syntax

- **default vlan mgmt**
- **vlan mgmt <1-4094>**

Command Parameters

<1-4094>	VLAN ID

Default

None

Command Mode

Global Configuration

vlan name

Change the name of a VLAN

Syntax

- **default vlan name <LINE>**
- **no vlan name <LINE>**
- **vlan name <1-4094> <LINE>**

Command Parameters

<1-4094>	VLAN ID
<LINE>	New name for VLAN

Default

None

Command Mode

Global Configuration

vlan ports

Modify VLAN port settings

Syntax

- **default vlan ports name <LINE>**
- **no vlan ports name <LINE>**
- **vlan ports <LINE> [tagging {disable | enable | tagAll | tagPvidOnly | untagAll | untagPvidOnly}] [pvid <1-4094>] [filter-untagged-frame {disable | enable}] [filter-unregistered-frames {disable | enable}] [priority <0-7>] [name <LINE>]**

Command Parameters

<LINE>	Port list
enable	Enable tagging on this port
filter-unregistered-frames {disable | enable}	Enable/disable filtering of unregistered frames
filter-untagged-frame {disable | enable}	Enable/disable filtering of untagged frames
name <LINE>	Set VLAN port name
priority <0-7>	Set VLAN port priority
pvid <1-4094>	Change PVID
tagAll	Enable tagging on this port
tagging {disable | enable | tagAll | tagPvidOnly | untagAll | untagPvidOnly}	Enable/disable tagging
tagPvidOnly	Enable tagging of packets matching the

untagAll	Disable tagging on this port
untagPvidOnly	Disable tagging of packets matching the Pv

Default

None

Command Mode

Global Configuration

vlan voice-vlan

Change to voice VLAN

Syntax

- **no vlan <LINE> {voice-vlan}**
- **vlan voice-vlan <LINE>**

Command Parameters

<LINE>	The VLAN id

Default

None

Command Mode

Global Configuration

web-server

Modify WEB server parameters

Syntax

- **no web-server**
- **web-server {disable | enable}**

Command Parameters

disable	Enable HTTP access
enable	Disable HTTP access

Default

None

Command Mode

Global Configuration

Chapter 8: Loopback Interface Configuration

This chapter provides information related to the Loopback Interface configuration commands.

end (Loopback Interface configuration mode)

Exit from interface configure mode

Syntax

- **end**

Default

None

Command Mode

Loopback Interface Configuration

exit (Loopback Interface configuration mode)

Exit from loopback interface configuration mode

Syntax

- **exit**

Default

None

Command Mode

Loopback Interface Configuration

ipv6 interface

Create/configure loopback IPv6 interface

Syntax

- **default ipv6 interface enable**
- **ipv6 interface [address <WORD>] enable**
- **no ipv6 interface [address <WORD>] enable**

Command Parameters

address <WORD>	Address/Prefix_length
enable	Enable loopback interface admin status

Default

None

Command Mode

Loopback Interface Configuration

Chapter 9: Privileged Executive

This chapter provides information related to the Privileged Executive commands.

blink-leds

Blink the LEDs on the display panel to identify the unit.

Syntax

- `blink-leds [unit <1-8>] { time <1-10> | off}`

Command Parameters

off	Stop blinking the LEDs.
time <1-10>	How long to blink the LEDs.
unit <1-8>	Unit number.

Default

None

Command Mode

Privileged EXEC

boot

Reset the switch or stack.

Syntax

- `boot [default unit <1-8> | unit <1-8>]`

Command Parameters

default	Reboot the stack or switch and use the factory default configurations.

unit <1-8> Specifies the unit number to be rebooted on the switch or stack.

Default

None

Command Mode

Privileged EXEC

clear app-telemetry counters

Clear the Application Telemetry status counters.

Syntax

- `clear app-telemetry counters [id <1-256>] [name <LINE>]`

Command Parameters

id <1-256> Clears the Application Telemetry counters for the filter identified by ID.

name <LINE> Clears the Application Telemetry counters for the filter identified by name.

Default

None

Command Mode

Privileged Executive

clear arp-cache

Clear the Layer 3 ARP cache.

Syntax

- `clear arp-cache`

Default

None

Command Mode

Privileged EXEC

clear eapol

Clear authenticated clients.

Syntax

- `clear eapol non-eap [<LINE>] address <H.H.H>`

Command Parameters

<LINE>	List of ports
address <H.H.H>	Non-EAP MAC address
non-eap	Clear NEAP authenticated clients

Default

None

Command Mode

Privileged EXEC

clear fa statistics

Clear FA summary and per-port statistics counters.

Syntax

- `clear fa statistics [summary | <PortList>]`

Command Parameters

summary	Clears FA summary statistics.

Default

None

Command Mode

Privileged EXEC

clear ip dhcp-snooping

Clear DHCP snooping data.

Syntax

- **clear ip dhcp-snooping binding {dynamic | static}**

Command Parameters

binding	Clear DHCP snooping bindings.
dynamic	Clear DHCP snooping dynamic bindings.
static	Clear DHCP snooping static bindings.

Default

None

Command Mode

Privileged EXEC

clear ip forward-protocol

Clears broadcast protocols counters.

Syntax

- **clear ip forward-protocol udp counters <LINE>**

Command Parameters

<LINE>	Clear counters for specific VLAN
udp counters	Clear UDP broadcast counters

Default

None

Command Mode

Privileged EXEC

clear ip igmp

Clear IGMP data.

Syntax

- **clear ip igmp profile stats <1-65535>**

Command Parameters

<1-65535>	Specifies the Profile ID.
profile	Clears IGMP profile data.
stats	Clears IGMP profile statistics.

Default

None

Command Mode

Privileged EXEC

clear ipv6 destinationcache

Clear the IPv6 destination cache.

Syntax

- **clear ipv6 destinationcache**

Default

None

Command Mode

Privileged EXEC

clear ssh banner

Clear the SSH banner.

Syntax

- **clear ssh banner**

Default

None

Command Mode

Privileged EXEC

configure network address

Specify address of TFTP server.

Syntax

- **configure network address {A.B.C.D | <WORD>} filename <word>**

Command Parameters

{A.B.C.D}	Specifies the TFTP Server IP address.
<WORD>	Specifies the TFTP Server IPv6 address.
filename <word>	Specifies the filename of the config file.

Default

None

Command Mode

Privileged EXEC

configure network filename

Specify filename of config file.

Syntax

- **configure network filename <WORD> address {<A.B.C.D> | word}**

Command Parameters

{<A.B.C.D> | word}	Specifies the TFTP Server IP address or TFTP Server IPv6 address.
<WORD>	Config file name
address	Specifies the address of TFTP server.

Default

None

Command Mode

Privileged EXEC

configure network load-on-boot

Specify settings for loading config file at boot time.

Syntax

- `configure network load-on-boot {[disable] [use-config] [filename <word>] address {A.B.C.D | <WORD>} filename <word>} | use-bootp`

Command Parameters

{A.B.C.D}	Specifies the TFTP Server IP address.
<WORD>	Specifies the TFTP Server IPv6 address.
address {A.B.C.D | <WORD>}	Specifies the address of TFTP server.
disable	Disables loading of config file at boot time.
filename <word>	Specifies the filename of config file.
use-bootp	Load config file at boot time using BOOTP.
use-config	Load config file at boot time using configured parameters.

Default

None

Command Mode

Privileged EXEC

configure terminal

Configure from the terminal

Syntax

- `configure terminal`

Default

None

Command Mode

Privileged EXEC

copy config

Copy to local NV storage

Syntax

- **copy config [nvram|tftp address <ipv4 or ipv6> filename <filename>]**

Command Parameters

nvram	Copy to local NV storage
tftp address <ipv4 or ipv6> filename <filename>	Specify the IP or IPv6 address to be copied on the TFTP server

Default

None

Command Mode

Privileged EXEC

copy running-config tftp

Copy to TFTP server

Syntax

- **copy running-config tftp [verbose] [module [802.1ab] [aaur] [adac] [arp-inspection] [asset-id] [aur] [banner] [brouter] [cfm] [core] [dhcp-relay] [dhcp-snooping] [eap] [energy-saver] [igmp] [interface] [ip] [ip-source-guard] [ipfix] [ipmgr] [ipv6] [l3] [l3-protocols] [lacp] [link-state] [logging] [mac-security] [mlt] [poe] [port-mirroring] [qos] [rate-limit] [rmon] [rtc] [slamon] [slpp] [snmp] [spbm] [stack] [stkmon] [stp] [vlacp] [vlan]] filename <file-name> address {A.B.C.D | <WORD>}**

Command Parameters

<file-name>	Config file name on TFTP server
802.1ab	Copy 802.1ab configuration
A.B.C.D	TFTP server IP address
aaur	Copy AAUR configuration
adac	Copy ADAC configuration
address	Specify address of the TFTP server

arp-inspection	Copy ARP Inspection configuration
asset-id	Copy Asset ID configuration
aur	Copy AUR configuration
banner	Copy Custom Banner configuration
brouter	Copy Brouter configuration
cfm	Copy CFM configuration
core	Copy Core configuration
dhcp-relay	Copy DHCP Relay configuration
dhcp-snooping	Copy DHCP Snooping configuration
eap	Copy EAP configuration
energy-saver	Copy Energy Saver configuration
filename	Specify filename in which to store configuration on TFTP server
igmp	Copy IGMP configuration
interface	Copy Interface configuration
ip	Copy IP configuration
ipfix	Copy IPFIX configuration
ipmgr	Copy IP Manager configuration
ip-source-guard	Copy IP Source Guard configuration
ipv6	Copy IPV6 configuration
l3	Copy L3 configuration
l3-protocols	Copy L3 Protocols configuration
lacp	Copy LACP configuration
link-state	Copy Link State Tracking configuration
logging	Copy System Logging configuration
mac-security	Copy MAC Security configuration

mlt	Copy MLT configuration
module	Copy configuration of an application
poe	Copy PoE configuration
port-mirroring	Copy Port Mirroring configuration
qos	Copy QoS configuration
rate-limit	Copy Rate Limiting configuration
rmon	Copy RMON configuration
rtc	Copy RTC configuration
slamon	Copy SLAMon configuration
slpp	Copy SLPP configuration
snmp	Copy SNMP configuration
spbm	Copy SPBM configuration
stack	Copy Stack configuration
stkmon	Copy Stack Monitor configuration
stp	Copy STP configuration
verbose	Copy entire configuration (defaults and non-defaults)
vlacp	Copy VLACP configuration
vlan	Copy VLAN configuration
WORD	TFTP server IPv6 address

Default

None

Command Mode

Privileged EXEC

copy sftp

Copy configuration from SFTP server

Syntax

- **copy sftp**

Default

None

Command Mode

Privileged EXEC

copy tftp

Copy configuration to TFTP server.

Syntax

- **copy tftp config [address <A.B.C.D>|<WORD>]**

Command Parameters

config <ipv4 or ipv6> filename <filename>	Specify address of the TFTP server to copy to local configuration

Default

None

Command Mode

Privileged EXEC

disable

Turn off privileged commands

Syntax

- **disable**

Default

None

Command Mode

Privileged EXEC

download

Downloads and run new image.

Syntax

- **download address [<A.B.C.D>|<WORD>]**
- **download diag <WORD>**
- **download image <WORD>**
- **download image-if-newer <WORD>**
- **download no-reset**
- **download poe_module_image <WORD>**
- **download sftp address [<A.B.C.D>|<WORD>]**
- **download sftp diag <WORD>**
- **download sftp image <WORD>**
- **download sftp poe_module_image <WORD>**
- **download usb diag <WORD>**
- **download usb image <WORD>**
- **download usb image-if-newer <WORD>**
- **download usb poe_module_image <WORD>**

Command Parameters

diag <image-name>	Diagnostics image file name
no-reset	Do not reset the switch after downloading
usb	Download image from USB
poe_module_image <image-name>	PoE image file name
image <image-name>	Software image
image-if-newer <image-name>	Software image if version newer
address {A.B.C.D | <WORD>	Specify IP address of TFTP server
username <WORD>	Specify the username
sftp	Download from SFTP

Default

None

Command Mode

Privileged EXEC

energy-saver

Manually activate or deactivate energy saver

Syntax

- energy-saver {activate | deactivate}

Comnand Parameters

activate	Manually activate energy saver.
deactivate	Manually deactivate energy saver.

Default

None

Command Mode

Privileged EXEC

install

Quick Install & Setup Script

Syntax

- **install**

Default

None

Command Mode

Privileged EXEC

ip igmp flush vlan

Flush on vlan interfaces

Syntax

- **ip igmp flush vlan <1-4094> grp-member**
- **ip igmp flush vlan <1-4094> mrouter**
- **ip igmp flush vlan <1-4094> stream**

Command Parameters

<1-4094> grp-member	Specifies the group member to flush the VLAN interfaces
<1-4094> mrouter	Specifies the mrouter address to flush the VLAN interfaces
<1-4094> stream	Flush IGMP streams on VLAN interfaces.

Default

None

Command Mode

Privileged EXEC

manualtrigger

Triggers RIP update manually.

Syntax

- **manualtrigger ip rip interface vlan <1-4094>**

Command Parameters

interface	Trigger per-interface RIP update
ip	Global IP configuration subcommands
rip	Trigger RIP update
vlan <1-4094>	VLAN interface

Default

None

Command Mode

Privileged EXEC

reload

Reload the switch/stack

Syntax

- **reload {cancel | force minutes-to-wait <1-60> | minutes-to-wait <1-60>}**

Command Parameters

cancel	Cancel a previous scheduled reload
force	Do not ask for confirmation
minutes-to-wait <1-60>	Minutes to wait before reboot

Default

None

Command Mode

Privileged EXEC

renew

Renew DHCP lease

Syntax

- **renew dhcp**

Command Parameters

dhcp	Renew DHCP lease

Default

None

Command Mode

Privileged EXEC

restore

Reset the switch/stack to factory default

Syntax

- **restore factory-default [-y]**

Command Parameters

factory-default	Reset stack/switch to factory default configurations
-y	Do not prompt

Default

None

Command Mode

Privileged EXEC

run ipoffice

Specialized scripted CLI commands for automated configuration

Syntax

- `run ipoffice verbose`

Command Parameters

verbose	Scripted CLI commands for setup with IP Office solutions

Default

None

Command Mode

Privileged EXEC

save

Save configuration to local NV storage

Syntax

- `save config`

Command Parameters

config	Save configuration to local NV storage

Default

None

Command Mode

Privileged EXEC

show adac

Display ADAC configuration

Syntax

- **show adac**

Default

None

Command Mode

Privileged EXEC

show adac detection

Display ADAC detection mechanisms

Syntax

- **show adac detection interface [ethernet] <LINE>**

Command Parameters

<LINE>	List of ports
Ethernet	Ethernet IEEE 802.3
interface	Select interfaces for which to display detection mechanisms

Default

None

Command Mode

Privileged EXEC

show adac interface

Display configuration for specified interfaces

Syntax

- **show adac interface [ethernet] <LINE>**

Command Parameters

<LINE>	List of ports
Ethernet	Ethernet IEEE 802.3

Default

None

Command Mode

Privileged EXEC

show adac mac-range-table

Display the supported MAC address ranges

Syntax

- **show adac mac-range-table**

Default

None

Command Mode

Privileged EXEC

show application slamon agent

Displays the global SLA Monitor agent settings.

Syntax

- **show application slamon agent**

Default

None

Command Mode

Privileged EXEC

show app-telemetry counters

Displays the Application Telemetry counters.

Syntax

- **show app-telemetry counters [id <1-256>] [name <LINE>]**

Command Parameters

id <1-256>	Displays Application Telemetry counters for the filter identified by ID.
name <LINE>	Displays Application Telemetry counters for the filter identified by name.

Default

None

Command Mode

Privileged Executive

Command Output

The following table shows the field descriptions for the **show app-telemetry counters** command output.

Field	Description
Filter Number	Indicates the counter ID.
Filter Name	Indicates the counter name.
No. of Packets	Indicates the number of counter packets received.
No. of Bytes	Indicates the number of counter bytes used.

Example

The following is an example for the **show app-telemetry counters** command output:

```
Switch:1>enable
Switch:1#show app-telemetry counters
================================================
Filter |  Filter  |    No. of     |    No. of
Number |   Name   |    Packets    |    Bytes
================================================
 1      ssh            1258             72145
 2      sslclient      457              27000
```

show app-telemetry status

Displays whether Application Telemetry is enabled or disabled and whether or not the collector is reachable.

Syntax

- **show app-telemetry status**

Default

None

Command Mode

Privileged Executive

Example

The following is an example for the **show app-telemetry status** command output:

```
Switch:1>enable
Switch:1#show app-telemetry status
APPTEL is disabled
The collector's address is: 0.0.0.0
```

The following is an example for the **show app-telemetry status** command output, when the Application Telemetry is enabled:

```
Switch:1>enable
Switch:1#show app-telemetry status
APPTEL is enabled
Current set of ports: ALL
The collector's address is: 10.10.10.2
The collector is reachable via:
        U 0/P 1/NH 0-9-f-9-0-6/172.16.120.1
Policy file in use: apptel_default.pol
```

show auto-negotiation-advertisements

Display current auto-negotiation advertisement settings

Syntax

- **show auto-negotiation-advertisements port <LINE>**

Command Parameters

<LINE>	List of ports
port	Display auto-negotiation-advertisements configuration for specified ports

Default

None

Command Mode

Privileged EXEC

show auto-negotiation-capabilities

Display auto-negotiation advertisement capabilities

Syntax

- **show auto-negotiation-capabilities port <LINE>**

Command Parameters

<LINE>	List of ports
port	Display auto-negotiation-capabilities for specified ports

Default

None

Command Mode

Privileged EXEC

show autosave

Display current autosave setting

Syntax

- **show autosave**

Default

None

Command Mode

Privileged EXEC

show autotopology

Display autotopology information

Syntax

- **show autotopology {nmm-table | settings}**

Command Parameters

nmm-table	Display autotopology NMM table

settings	Display autotopology global settings

Default

None

Command Mode

Privileged EXEC

show banner

Display banner information

Syntax

- **show banner {custom | static}**

Command Parameters

custom	Display custom banner
static	Display static banner

Default

None

Command Mode

Privileged EXEC

show cli

Display password settings

Syntax

- **show cli [info|mode|password]**

Command Parameters

info	Display general Console settings
mode	Display information about current CLI mode
password	Display CLI usernames and passwords

Default

None

Command Mode

Privileged EXEC

show clock

Display current time

Syntax

- `show clock {summer-time | time-zone}`

Command Parameters

summer-time	Show daylight saving time settings
time-zone	Show local time zone settings

Default

None

Command Mode

Privileged EXEC

show config-network

Displays the settings for downloading config files

Syntax

- `show config-network`

Default

None

Command Mode

Privileged EXEC

show eapol

Displays the current settings of the EAPoL protocol.

Syntax

- **show eapol {auth-diags interface <LINE> | auth-stats interface <LINE> | guest-vlan interface <LINE> | multihost { [fail-open-vlan]|[interface <LINE>]|[non-eap-mac]|[non-eap-pwd-fmt]|[status]|[voip-vlan]} | port <LINE> | sessions {[dhcp-phones]|[eap]|[non-eap]|[port <LINE>]|[unauthenticated]} | summary {[interface <LINE>]|[verbose]}**

Command Parameters

auth-diags	Displays EAPoL diags.
auth-stats	Displays EAPoL statistics.
guest-vlan	Displays EAPoL Guest VLAN settings.
interface <LINE>	Selects the ports on which to display EAPoL configuration.
multihost	Displays EAPoL multi-host information.
non-eap-mac	Displays allowed non-EAPoL MAC addresses.
non-eap-pwd-fmt	Shows Non-EAP Password Format.
voip-vlan	Displays EAPoL multihost VoIP VLAN settings.
port <LINE>	Selects the ports on which to display EAPoL configuration.
sessions	Shows information on the MACs for EAP sessions.
summary	Displays a summary of authenticated clients.

Default

None

Command Mode

Privileged EXEC

show eapol multihost non-eap-pwd-fmt

Displays Non-EAP password format.

Syntax

- **show eapol multihost non-eap-pwd-fmt**

Default

None

Command Mode

Privileged EXEC

show eapol sessions

Displays information on MACs for EAP sessions.

Syntax

- **show eapol sessions {[port <portmask>] | [dhcp-phones] | [[eap] | [non-eap [radius] [local] [adac-lldp] [adac-mac-range] [held] [mhsa]] | [[unauthenticated [intruder] [guest-vlan] [fail-open-vlan][mhsa-no-limit]]}**

Command Parameters

port <portmask>	Specifies the numeric slot/port format.
dhcp-phones	Displays MACs of DHCP Phones.
eap	Displays authenticated EAPOL sessions.
non-eap	Displays authenticated non-EAPOL clients.
radius	Displays non-EAPOL clients authenticated by RADIUS.
local	Displays locally authenticated non-EAPOL clients.
adac-lldp	Displays non-EAPOL clients authenticated through ADAC.
adac-mac-range	Displays neap sessions with macs in the adac mac range list.
held	Displays unauthenticated clients held by RADIUS.
mhsa	Displays non-EAP sessions for MHSA.
unauthenticated	Displays unauthenticated EAPOL and non-EAPOL clients.
intruder	Displays intruder MACs.
guest-vlan	Displays unauthenticated clients in Guest VLAN.
fail-open-vlan	Displays MACs of clients in Fail Open VLAN.
mhsa-no-limit	Displays non-EAP sessions for MHSA when no-limit is enabled.

interface <portlist>	Specifies the interfaces for which to display information. Select a port or a list of ports for which to display information.

Default

None

Command Mode

Privileged EXEC

show edm help-file-path

Displays the EDM help file path

Syntax

- **show edm help-file-path**

Default

None

Command Mode

Privileged EXEC

show environmental

Displays environmental information of the switch

Syntax

- **show environmental**

Default

None

Command Mode

Privileged EXEC

show fa zero-touch-client

Display Fabric Attach Zero Touch client attach data

Syntax

- **show fa zero-touch-client**

Default

None

Command Mode

Privileged EXEC

show http-port

Displays the TCP port on which web server will listen

Syntax

- **show http-port**

Default

None

Command Mode

Privileged EXEC

show ip

Display IP-related information.

Syntax

- show ip [bootp] [default-gateway] address {source | stack | switch | unit <1-8>}

Command Parameters

address	IP address of switch or stack.
bootp	Display bootp settings.
default-gateway	IP address of default gateway.
source	Display BOOTP/DHCP settings.
stack	Display stack ip address.
switch	Display the ip adddress of local unit.
unit <1-8>	Display the IP address of another unit in a stack.

Default

None

Command Mode

Privileged EXEC

show ip arp-inspection

Display ARP inspection information.

Syntax

- show ip arp-inspection vlan <LINE>

Command Parameters

vlan <LINE>	Display ARP inspection VLAN information.

Default

None

Command Mode

Privileged EXEC

show ip dhcp-relay

Display DHCP relay information

Syntax

- **show ip dhcp-relay**

Default

None

Command Mode

Privileged EXEC

show ip dhcp-server leases

Display all the DHCP server leases

Syntax

- **show ip dhcp-server leases verbose**

Command Parameters

verbose	Display DHCP leases in verbose mode

Default

None

Command Mode

Privileged EXEC

show ip dhcp-server pool

Display the state of DHCP server pool

Syntax

- **show ip dhcp-server pool <word>**

Command Parameters

<WORD>	Display the state of specific DHCP server scopes

Default

None

Command Mode

Privileged EXEC

show ip igmp cache

Display IGMP cache details

Syntax

- **show ip igmp cache**

Default

None

Command Mode

Privileged EXEC

show ip igmp group

Display IGMP group details

Syntax

- **show ip igmp group [count] [member-subnet A.B.C.D/<0-32>] [group {A.B.C.D}]**

Command Parameters

count	Display count of entries
group {A.B.C.D}	Select group
member-subnet A.B.C.D/<0-32>	Select member subnet

Default

None

Command Mode

Privileged EXEC

show ip igmp group-ext

Display IGMP extended group details

Syntax

- **show ip igmp group-ext [count] [member-subnet A.B.C.D/<0-32>] [group {A.B.C.D}] [source {A.B.C.D}]**

Command Parameters

count	Display count of entries
group {A.B.C.D}	Select group
member-subnet A.B.C.D/<0-32>	Select member subnet
source {A.B.C.D}	Select source address

Default

None

Command Mode

Privileged EXEC

show ip igmp interface

Display IGMP interface information

Syntax

- **show ip igmp interface vlan <1-4094>**

Command Parameters

vlan <1-4094>	Display VLAN interfaces

Default

None

Command Mode

Privileged EXEC

show ip igmp profile

Displays IGMP filter profiles.

Syntax

- **show ip igmp profile <1-65535>**

Command Parameters

<1-65535>	profile ID

Default

None

Command Mode

Privileged EXEC

show ip igmp router-alert

Display router-alert settings

Syntax

- **show ip igmp router-alert vlan <1-4094>**

Command Parameters

vlan <1-4094>	Display VLAN interfaces

Default

None

Command Mode

Privileged EXEC

show ip igmp snooping

Display IGMP snooping information

Syntax

- **show ip igmp snooping**

Default

None

Command Mode

Privileged EXEC

show ip source

Display IP Source Guard address bindings

Syntax

- **show ip source binding**

Command Parameters

binding	Display IP Source Guard address bindings

Default

None

Command Mode

Privileged EXEC

show ip verify

Display IP Source Guard settings

Syntax

- **show ip verify source**

Command Parameters

source	Display IP Source Guard settings

Default

None

Command Mode

Privileged EXEC

show ipmgr

Displays IP Manager settings

Syntax

- **show ipmgr {IPv4 | IPv6}**

Command Parameters

IPv4	Show only IPv4 information.
IPv6	Show only IPv6 information.

Default

None

Command Mode

Privileged EXEC

show ipv6 address

Display configured ipv6 addresses

Syntax

- **show ipv6 address {stack | switch | unit <1-8>}**

Command Parameters

stack	Display configured stack ipv6 address/prefix
switch	Display configured IPv6 adddress/prefix of local unit
unit <1-8>	Display configured IPv6 address/prefix of another unit in a stack

Default

None

Command Mode

Privileged EXEC

show ipv6 address interface

Display addresses for IPv6 interfaces

Syntax

- **show ipv6 address interface {loopback <-16>| summary | vlan <1-4094> | <WORD>}**

Command Parameters

<WORD>	IPv6 Address, 45 length
loopback <1-16>	Display ipv6 address per loopback interface
summary	Display IPv6 interfaces summary
vlan <1-4094>	Display per vlan addresses for IPv6 interfaces

Default

None

Command Mode

Privileged EXEC

show ipv6 default-gateway

Display IPv6 default gateway

Syntax

- **show ipv6 default-gateway**

Default

None

Command Mode

Privileged EXEC

show ipv6 default-routers

Display IPv6 default routers

Syntax

- **show ipv6 default-routers**

Default

None

Command Mode

Privileged EXEC

show ipv6 destinationcache

Show IPv6 destination cache content

Syntax

- **show ipv6 destinationcache**

Default

None

Command Mode

Privileged EXEC

show ipv6 global

Display IPv6 global configuration

Syntax

- **show ipv6 global**

Default

None

Command Mode

Privileged EXEC

show ipv6 interface

Display interface information

Syntax

- **show ipv6 interface {icmpstatistics | process-redirect |statistics} {loopback <1-16>| vlan <1-4094>}**

Command Parameters

icmpstatistics	Display IPv6 icmp statistics
loopback <1-16>	Display per loopback IPv6 interfaces
process-redirect	Display processing redirect
statistics	Display IPv6 statistics
vlan <1-4094>	Display by VLAN

Default

None

Command Mode

Privileged EXEC

show ipv6 interface icmpstatistics

Displays IPv6 ICMP statistics.

Syntax

- show ipv6 interface icmpstatistics [loopback <1-16>][mgmt][tunnel <1-2147483647>] [vlan <1-4094>}

Command Parameters

loopback <1-16>	Displays by IPv6 loopback interface.

mgmt	Out of band.
tunnel <1-2147483647>	Displays by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 interface process-redirect

Displays IPv6 processing redirect.

Syntax

- show ipv6 interface process-redirect [mgmt] [vlan <1-4094>]

Command Parameters

mgmt	Out of band management interface.
vlan <1-4094>	Display processing redirect per vlan.

Default

None

Command Mode

Privileged EXEC

show ipv6 interface statistics

Displays IPv6 statistics.

Syntax

- show ipv6 interface statistics [loopback <1-16>][mgmt][tunnel <1-2147483647>][vlan <1-4094>]

Command Parameters

loopback <1-16>	Displays by loopback interface.

mgmt	Out of band management interface.
tunnel <1-2147483647>	Display by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 mld group

Displays the learned multicast groups information.

Syntax

- **show ipv6 mld group [count][group <WORD>][interface vlan <1-4094>] [member-subnet <WORD>][port <LINE>]**

Command Parameters

count	Displays the count of entries.
group <WORD>	Displays the group by IPv6 address. <WORD> specifies the IPv6 address.
interface vlan <1-4094>	Displays the VLAN interfaces.
member-subnet <WORD>	Displays the subnet-mask for group member network by IPv6 address. <WORD> specifies the IPv6 address.
port <LINE>	Filters information by port number or a list of ports. <LINE> specifies the port or list of ports.

Default

None

Command Mode

Privileged EXEC

show ipv6 mld interface

Displays the learned multicast groups interface.

Syntax

- **show ipv6 mld interface [vlan <1-4094>]**

Command Parameters

vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

Usage Guidelines

Command Output

The **show ipv6 mld interface** command displays the following information:

Output field	Description
VID	Indicates the VLAN ID.
Q-INT	Indicates the query interval, the frequency at which IPv6 MLD snooping host-query packets are transmitted on this interface.
VR	Indicates the version.
OVR	Indicates the operational version.
QUERIER	Indicates the IPv6 MLD snooping querier on the IPv6 subnet to which this interface is attached.
Q-M-R	Indicates the maximum query response time advertised in IPv6 MLD snooping queries on this interface.
ROB	Indicates the robustness value.
L-M-Q	Indicates the last member query interval. The last member query interval is the maximum response delay inserted into group-specific queries sent in response to leave group messages, and it is also the amount of time between group-specific query messages.
S-Q	Indicates the send-query status.

Example

```
Switch(config)#show ipv mld interface
================================================================================
                          MLD Interface Information
================================================================================
VID  Q-INT VR OVR QUERIER                                 Q-M-R  ROB L-M-Q S-Q
--------------------------------------------------------------------------------
430  125   2  2   ::                                      10     2   1     Yes
```

```
1 out of 1 Total Num of MLD Interface Entries displayed.

Legend: VID: vlan id  Q-INT: query-interval VR: admin version OVR: operational version
        QUERIER: querier address  Q-M-R: query-max-resp ROB: robust-value
        L-M-Q: last-memb-query-int S-Q: send-query
```

show ipv6 mld stream

Displays MLD sender details.

Syntax

- **show ipv6 mld stream vlan <1-4094>**

Command Parameters

vlan <1-4094>	Select VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 mld-cache interface

Displays the learned multicast groups in the cache.

Syntax

- **show ipv6 mld-cache interface [vlan <1-4094>]**

Command Parameters

vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 mld-host-cache

Displays the learned multicast groups in the host cache.

Syntax

- **show ipv6 mld-host-cache [interface <1-4094>]**

Command Parameters

interface <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 mld-proxy-cache

Displays MLD Proxy Cache.

Syntax

- **show ipv6 mld-proxy-cache vlan <1-4094> group <WORD>**

Command Parameters

vlan <1-4094>	Select VLAN
group <WORD>	Select group

Default

None

Command Mode

Privileged EXEC

show ipv6 nd interface

Displays the neighbor discovery (ND) interface configuration.

Syntax

- **show ipv6 nd interface [<1-4094>][details][vlan]**

Command Parameters

<1-4094>	Displays IPv6 neighbor discovery information by VLAN ID.
details	Displays IPv6 neighbor discovery details by on the interface.
vlan	Displays IPv6 neighbor discovery information on VLAN interfaces only.

Default

None

Command Mode

Privileged EXEC

show ipv6 nd raguard policy

Displays the neighbor discovery (ND) router advertisement (RA) guard policy information.

Syntax

- **show ipv6 nd raguard policy [<WORD>]**

Command Parameters

<WORD>	Displays by the policy name.

Default

None

Command Mode

Privileged EXEC

show ipv6 nd-prefix interface

Displays the neighbor discovery (ND) prefix information.

Syntax

- **show ipv6 nd-prefix interface [<1-4094>][details][vlan]**

Command Parameters

<1-4094>	Displays IPv6 neighbor discovery information by VLAN ID.
details	Displays IPv6 neighbor discovery details by on the interface.

vlan	Displays IPv6 neighbor discovery information on VLAN interfaces only.

Default

None

Command Mode

Privileged EXEC

show ipv6 neighbor

Displays IPv6 neighbor information.

Syntax

- **show ipv6 neighbor interface {loopback <1-16>|mgmt | tunnel <1-2147483647> | vlan <1-4094>}**

Command Parameters

loopback <1-16>	Displays the loopback.
mgmt	Out of band.
tunnel <1-2147483647>	Displays by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 neighbor binding

Displays source binding table (SBT) entries and other timer values.

Syntax

- **show ipv6 neighbor binding [interface Ethernet <LINE>][ipv6 <WORD>] [vlan <1-4094>]**

Command Parameters

interface Ethernet <LINE>	Displays SBT entries and other timer values by Ethernet interface and port.
ipv6 <WORD>	Displays SBT entries and other timer values by IPv6 address.
vlan <1-4094>	Displays SBT entries and other timer values by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 neighbor interface

Displays IPv6 neighbor information by interface.

Syntax

- **show ipv6 neighbor interface [loopback <1-16>][tunnel <1-2147483647>] [vlan <1-4094>]**

Command Parameters

loopback <1-16>	Displays neighbor information by loopback interface.
tunnel <1-2147483647>	Displays neighbor information by tunnel.
vlan <1-4094>	Displays neighbor information by VLAN.

Default

None

Command Mode

Privileged EXEC

show ipv6 tcp

Displays IPV6 tcp info.

Syntax

- **show ipv6 tcp**

Default

None

Command Mode

Privileged EXEC

show ipv6 tcp connections

Displays IPv6 tcp connections.

Syntax

- **show ipv6 tcp connections**

Default

None

Command Mode

Privileged EXEC

show ipv6 tcp listener

Displays IPv6 tcp listeners.

Syntax

- **show ipv6 tcp listener**

Default

None

Command Mode

Privileged EXEC

show ipv6 udp

Displays IPv6 udp global.

Syntax

- **show ipv6 udp endpoints**

Command Parameters

endpoints	Display ipv6 udp endpoints

Default

None

Command Mode

Privileged EXEC

show mac-address-table

Display forwarding database tables

Syntax

- **show mac-address-table**

Default

None

Command Mode

Privileged EXEC

show poe-power-measurement

Displays the port power measurement

Syntax

- **show poe-power-measurement <port-list>**

Command Parameters

<port-list>	Show port power measurement

Default

None

Command Mode

Privileged EXEC

show port-mirroring

Displays port mirroring configuration

Syntax

- **show port-mirroring**

Default

None

Command Mode

Privileged EXEC

show port-statistics

Displays the port counter for a port

Syntax

- **show port-statistics port <LINE>**

Command Parameters

port<LINE>	List of ports

Default

None

Command Mode

Privileged EXEC

show qos acl-assign

Display access-list assignments

Syntax

- **show qos acl-assign <1-65535>**

Command Parameters

<1-65535>	Display the specified access-list assignment entry

Default

None

Command Mode

Privileged EXEC

show qos action

Display the base action entries

Syntax

- **show qos action {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified base action entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos agent

Display the global QoS parameters

Syntax

- **show qos agent details**

Command Parameters

details	Display QoS agent details

Default

None

Command Mode

Privileged EXEC

show qos capability

Display QoS port capabilities

Syntax

- **show qos capability {meter | shaper} port <LINE>**

Command Parameters

meter	Display QoS port meter capabilities
port <LINE>	Specify list of ports
shaper	Display QoS port shaper capabilities

Default

None

Command Mode

Privileged EXEC

show qos classifier

Display the classifier entries

Syntax

- **show qos classifier {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified classifier entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos classifier-block

Display the classifier block entries

Syntax

- **show qos classifier-block {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified classifier block entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos diag

Display the diagnostics entries

Syntax

- **show qos diag unit <1-8>**
- **show qos diag**
- **show qos diag**

Command Parameters

unit <1-8>	Display the diagnostics entries for specific unit

Default

None

Command Mode

Privileged EXEC

show qos egressmap

Display the association between the DSCP and the 802.1p priority and drop precedence

Syntax

- `show qos egressmap ds <0-63>`

Command Parameters

ds <0-63>	Show mapping for one DSCP value

Default

None

Command Mode

Privileged EXEC

show qos if-action-extension

Display the interface action extension entries

Syntax

- `show qos if-action-extension {<1-65535> | all | system | user}`

Command Parameters

<1-65535>	Display the specified interface action extension entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos if-assign

Display the list of interface assignments

Syntax

- **show qos if-assign port <LINE>**

Command Parameters

port <LINE>	Specify list of ports

Default

None

Command Mode

Privileged EXEC

show qos if-group

Display the interface groups

Syntax

- **show qos if-group**

Default

None

Command Mode

Privileged EXEC

show qos if-shaper

Display the interface shaping parameters

Syntax

- **show qos if-shaper port <LINE>**

Command Parameters

port <LINE>	Specify list of ports

Default

None

Command Mode

Privileged EXEC

show qos ingressmap

Display the 802.1p priority to DSCP mapping

Syntax

- **show qos ingressmap**

Default

None

Command Mode

Privileged EXEC

show qos ip-acl

Display IP access-lists

Syntax

- **show qos ip-acl <1-65535>**

Command Parameters

<1-65535>	The identifier of the IP access list

Default

None

Command Mode

Privileged EXEC

show qos ip-element

Display the IP classifier element entries

Syntax

- **show qos ip-element {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified IP classifier element entry
all	Display all user-created, default, and system entries

system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos l2-acl

Display Layer 2 access-lists.

Syntax

- **show qos l2-acl <1-65535>**

Command Parameters

<1-65535>	The identifier of the Layer =2 access list.

Default

None

Command Mode

Privileged EXEC

show qos l2-element

Display the Layer 2 classifier element entries.

Syntax

- **show qos l2-element {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified Layer2 classifier element entry.
all	Display all user-created, default, and system entries.
system	Display only system entries.
user	Display only user-created and default entries.

Default

None

Command Mode

Privileged EXEC

show qos meter

Display the meter entries

Syntax

- **show qos meter {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified meter entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos policy

Display the policy entries

Syntax

- **show qos policy {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified policy entry
all	Display all user-created, default, and system entries
port	Specify list of ports

system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos port

Display QoS port configuration

Syntax

- **show qos port <LINE>**

Command Parameters

LINE	List of ports

Default

None

Command Mode

Privileged EXEC

show qos queue-set

Display the queue set configuration

Syntax

- **show qos queue-set <1-32>**

Command Parameters

<1-32>	Display the specified queue-set

Default

None

Command Mode

Privileged EXEC

show qos queue-set-assignment

Display the association between the 802.1p priority to that of a specific queue

Syntax

- **show qos queue-set-assignment queue-set <1-32>**

Command Parameters

queue-set <1-32>	Display the specified queue-set

Default

None

Command Mode

Privileged EXEC

show qos statistics

Display the statistics values

Syntax

- **show qos statistics <1-65535> port <LINE>**

Command Parameters

<1-65535>	Policy ID
port <LINE>	Display the port statistics for the specified policy

Default

None

Command Mode

Privileged EXEC

show qos system-element

Display the system classifier element entries

Syntax

- **show qos system-element {<1-65535> | all | system | user}**

Command Parameters

<1-65535>	Display the specified system classifier element entry
all	Display all user-created, default, and system entries
system	Display only system entries
user	Display only user-created and default entries

Default

None

Command Mode

Privileged EXEC

show qos ubp

Display user based policy filter parameters

Syntax

- **show qos ubp**
- **show qos ubp**

Default

None

Command Mode

Privileged EXEC

show qos ubp classifier

Display classifier entries

Syntax

- **show qos ubp classifier**
- **show qos ubp classifier**

Default

None

Command Mode

Privileged EXEC

show qos ubp interface

Display ports and the filter sets assigned to those ports

Syntax

- **show qos ubp interface**
- **show qos ubp interface**

Default

None

Command Mode

Privileged EXEC

show qos ubp name

Display parameters for a specific filter set

Syntax

- **show qos ubp name**
- **show qos ubp name <filter name>**

Default

None

Command Mode

Privileged EXEC

show qos ubp statistics port

Display UBP statistics

Syntax

- **show qos ubp statistics port**
- **show qos ubp statistics port <port number> name <word>**

Default

None

Command Mode

Privileged EXEC

show radius

Display RADIUS settings

Syntax

- **show radius {accounting interim-updates | dynamic-server {client {A.B.C.D} | replay-protection | statistics client {A.B.C.D}} | reachability | use-management-ip}**

Command Parameters

accounting	Display the configuration of RADIUS Accounting Interim-Updates
client {A.B.C.D}	Display the configuration of RADIUS Dynamic Authorization Client
dynamic-server	Display the configuration of RADIUS Dynamic Authorization Clients
interim-updates	Display the parameters of interim-updates
reachability	Display RADIUS reachability settings
replay-protection	Display status of RADIUS dynamic server replay protection
statistics	Display the statistics for RADIUS Dynamic Authorization Client
use-management-ip	Display RADIUS use-management-ip setting

Default

None

Command Mode

Privileged EXEC

show radius-server

Display current RADIUS server/port/key configuration.

Syntax

- **show radius-server**

Default

None

Command Mode

Privileged EXEC

show rate-limit

Display rate-limiting settings and statistics

Syntax

- **show rate-limit port <LINE>**

Default

None

Command Mode

Privileged EXEC

show rmon alarm

Display RMON Alarm entries

Syntax

- **show rmon alarm sort-reverse**

Command Parameters

sort-reverse	Display RMON Alarm entries in reversed order

Default

None

Command Mode

Privileged EXEC

show rmon ethernet history

Display RMON ethernet history data

Syntax

- **show rmon ethernet history [sample-set <1-65535>] [sample-range <1-2147483647> <1-2147483647>] [interval-range <hh:mm:ss> <hh:mm:ss>] [port <LINE>]delta**

Command Parameters

<hh:mm:ss>	First or second history interval-range value

<1-2147483647>	First or second history sample index value
delta	Display deltas of consecutive history data
interval-range	Display history data for specific interval range
port <LINE>	Display history data for specific ports
sample-range	Display history data for specific sample range
sample-set <1-65535>	Display history data for specific index

Default

None

Command Mode

Privileged EXEC

show rmon ethernet packets

Display rmon ethernet packets according to their size

Syntax

- **show rmon ethernet packets port <LINE>**

Command Parameters

port <LINE>	Display rmon ethernet packets specific to port

Default

None

Command Mode

Privileged EXEC

show rmon ethernet statistics

Display rmon ethernet statistics

Syntax

- **show rmon ethernet statistics port <LINE>**

Command Parameters

port <LINE>	Display ethernet statistics for specific ports

Default

None

Command Mode

Privileged EXEC

show rmon event

Display RMON Event entries

Syntax

- **show rmon event**

Default

None

Command Mode

Privileged EXEC

show rmon history

Display RMON History entries

Syntax

- **show rmon history port <LINE>**

Command Parameters

port <LINE>	Display rmon history for specific ports

Default

None

Command Mode

Privileged EXEC

show rmon stats

Display RMON Stats entries

Syntax

- **show rmon stats**

Default

None

Command Mode

Privileged EXEC

show route-map

Display route policy table

Syntax

- **show route-map {<name> | detail}**

Command Parameters

detail	Display Route policy details
WORD	Display name of set of policies

Default

None

Command Mode

Privileged EXEC

show running-config

Display current configuration of system as a series of CLI commands

Syntax

- **show running-config [verbose] [module [802.1ab] [aaur] [adac] [arp-inspection] [asset-id] [aur] [banner] [core] [dhcp-relay] [dhcp-server] [dhcp-snooping] [eap] [energy-saver] [igmp] [interface] [ip] [ip-source-guard] [ipmgr] [ipv6] [l3] [l3-protocols] [lacp] [logging] [mac-security] [mlt] [poe] [port-mirroring] [qos] [rate-limit] [rmon] [rtc] [slamon] [slpp] [snmp] [storm control] [stp] [vlacp] [vlan]]**

Command Parameters

802.1ab	Display 802.1ab configuration
aaur	Display AAUR configuration
adac	Display ADAC configuration
arp-inspection	Display ARP Inspection configuration
asset-id	Display Asset ID configuration
aur	Display AUR configuration
banner	Display Custom Banner configuration
core	Display Core configuration
dhcp-relay	Display DHCP Relay configuration
dhcp-server	Display DHCP Server configuration
dhcp-snooping	Display DHCP Snooping configuration
eap	Display EAP configuration
igmp	Display IGMP configuration
interface	Display Interface configuration
ip	Display IP configuration
ipmgr	Display IP Manager configuration
ip-source-guard	Display IP Source Guard configuration
ipv6	Display IPV6 configuration
l3	Display L3 configuration
l3-protocols	Display L3 Protocols configuration
lacp	Display LACP configuration
logging	Display System Logging configuration
mac-security	Display MAC Security configuration
mlt	Display MLT configuration
module	Display configuration of an application

poe	Display PoE configuration
port-mirroring	Display Port Mirroring configuration
qos	Display QoS configuration
rate-limit	Display Rate Limiting configuration
rmon	Display RMON configuration
rtc	Display RTC configuration
slamon	Display SLAMon configuration
snmp	Display SNMP configuration
storm control	Display storm control configuration
stp	Display STP configuration
verbose	Display entire configuration (defaults and non-defaults)
vlacp	Display VLACP configuration
vlan	Display VLAN configuration

Default

None

Command Mode

Privileged EXEC

show snmp-server

Display SNMP configuration

Syntax

- **show snmp-server {community | host | notification-control <WORD> | notify-filter | user | view}**

Command Parameters

<WORD>	Description or OID of a notification type
community	Display SNMP community strings
host	Display SNMP trap destinations

notification-control <WORD>	Display notification control table
notify-filter	Display SNMP notify filter configuration
user	Display SNMP users
view	Display SNMP views

Default

None

Command Mode

Privileged EXEC

show sntp

Display Simple Network Time Protocol (SNTP) configuration

Syntax

- **show sntp**

Default

None

Command Mode

Privileged EXEC

show spanning-tree bpdu-filtering

Display BPDU filtering configuration

Syntax

- **show spanning-tree bpdu-filtering {[Ethernet] port <LINE> | ignore-self}**

Command Parameters

Ethernet	Interface configuration mode IEEE 802.3
ignore-self	Ignore bridge's own BPDUs
port <LINE>	The port list whose BPDU filtering settings will be displayed

Default

None

Command Mode

Privileged EXEC

show spanning-tree rstp

Display spanning-tree configuration for specified group ID.

Syntax

- show spanning-tree rstp [config] [port<LINE>] [statistics] [status]

Command Parameters

config	Display RSTP related bridge-level statistics.
status	Display RSTP related bridge-level status.
statistics	Display RSTP related bridge-level statistics.
port <LINE>	The port list whose BPDU filtering settings will be displayed.

Default

None

Command Mode

Privileged EXEC

show spanning-tree rstp port

Display RSTP related port-level information.

Syntax

- **show spanning-tree rstp port [config port <LINE>] [role port <LINE>] [statistics port<LINE>] [status port <LINE>]**

Command Parameters

config <LINE>	Display RSTP related port-level configuration
role <LINE>	Display RSTP related port-level role information
statistics <LINE>	Display RSTP related port-level statistics

status <LINE>	Display RSTP related port-level status

Default

None

Command Mode

Privileged EXEC

show ssh

Display SSH Information.

Syntax

- show ssh [download-auth-key][global][session]

Command Parameters

download-auth-key	Display auth key TFTP download info.
global	Display general SSH settings.
session	Display SSH session info.

Default

None

Command Mode

Privileged EXEC

show stack

Displays the stacking information.

Syntax

- **show stack {auto-unit-replacement [mac-addresses] | auto-unit-replacement-image | forced-mode |health|port-statistics unit <1-8>}**

Command Parameters

auto-unit-replacement	Display auto unit replacement configuration.
auto-unit-replacement-image	Display auto unit image replacement configuration.

forced-mode	Display the forced stack mode.
health	Display the status of each stacking link.
port-statistics	Display stack port counters.
port-statistics unit <1-8>	Display stack port counters for specific port.

Default

None

Command Mode

Privileged EXEC

show stack-info

Display stack information.

Syntax

- **show stack-info uptime**

Default

None

Command Mode

Privileged EXEC

show stacking-ports mode

Display stacking-ports mode.

Syntax

- **show stacking-ports mode**

Default

stacking

Command Mode

Privileged EXEC

show stack-monitor

Display stack-monitor configuration

Syntax

- **show stack-monitor**

Default

None

Command Mode

Privileged EXEC

show storm-control

Display packet storm control settings

Syntax

- **show storm-control {all | broadcast | multicast | unicast}**

Command Parameters

all	Display storm control settings for all types of traffic
broadcast	Display storm control settings for broadcast traffic
multicast	Display storm control settings for multicast traffic
unicast	Display storm control settings for unicast traffic

Default

None

Command Mode

Privileged EXEC

show sys-info

Display system information

Syntax

- **show sys-info**

Default

None

Command Mode

Privileged EXEC

show system

Display consolidated system information.

Syntax

- **show system {last-exception unit<1-8>|all} | verbose**

Command Parameters

last-exception	Display last software exception information.
unit <1-8>|all	Display last exception for a specified unit.
verbose	Display verbose system information.

Default

None

Command Mode

Privileged EXEC

Command Output

Example

The following is an example for the **show system verbose** command output:

```
Switch:1# show system verbose
System Information:
        Operation Mode:       Stack, Unit # 3
        Size Of Stack:        3
        Base Unit:            1
        MAC Address:          C4-BE-D4-72-03-01
        PoE Module FW:        1.5.0.6
        Reset Count:          332
        Last Reset Type:      Software Download
        Autotopology:         Enabled
        Base Unit Selection:  Non-base unit using rear-panel switch
        sysDescr:             Ethernet Routing Switch 3650GTS-PWR+
                              HW:B2       FW:6.0.0.3   SW:v6.3.0.017
        sysObjectID:          1.3.6.1.4.1.45.3.83.4
        sysUpTime:            0 days, 00:18:45
        sysNtpTime:           NTP not synchronized.
        sysServices:          6
        sysContact:
        sysName:              3626GTS-PWR+
```

```
        sysLocation:
        Stack sysAssetId:
        Operational license:   Base Software
        Installed license:     Base Software
Unit #1 (Base Unit):
        Switch Model:          3650GTS-PWR+
        Pluggable Port 47:     (47) None
        Pluggable Port 48:     (48) None
        Pluggable Port 49:     (49) None
        Pluggable Port 50:     (50) SX
        Pluggable Port 51:     (51) Direct Attach Cable
        Pluggable Port 52:     (52) Direct Attach Cable
        MAC Address:           C4-BE-D4-72-03-00
        PoE Module FW:         1.5.0.11
        Hardware Version:      B2
        Firmware Version:      6.1.0.0
        Firmware FLASH:        6.0.0.3
        Software Version:      v6.3.0.017
        Software FLASH:        v6.3.0.017
        Serial Number:         16OL13600347
        Manufacturing Date:    20160405
        Fan #1 Status:         Normal
        Fan #2 Status:         Normal
        Fan #3 Status:         Normal
        Fan #4 Status:         Normal
        Unit sysAssetId:
Unit #2:
        Switch Model:          3650GTS-PWR+
        Pluggable Port 47:     (47) None
        Pluggable Port 48:     (48) None
        Pluggable Port 49:     (49) None
        Pluggable Port 50:     (50) SR
        Pluggable Port 51:     (51) Direct Attach Cable
        Pluggable Port 52:     (52) Direct Attach Cable
        MAC Address:           C4-BE-D4-72-0C-00
        PoE Module FW:         1.5.0.11
        Hardware Version:      B2
        Firmware Version:      6.1.0.0
        Firmware FLASH:        6.0.0.3
        Software Version:      v6.3.0.017
        Software FLASH:        v6.3.0.017
        Serial Number:         16OL13600356
        Manufacturing Date:    20160405
        Fan #1 Status:         Normal
        Fan #2 Status:         Normal
        Fan #3 Status:         Normal
        Fan #4 Status:         Normal
        Unit sysAssetId:
Unit #3:
        Switch Model:          3650GTS-PWR+
        Pluggable Port 47:     (47) None
        Pluggable Port 48:     (48) None
        Pluggable Port 49:     (49) None
        Pluggable Port 50:     (50) None
        Pluggable Port 51:     (51) Direct Attach Cable
        Pluggable Port 52:     (52) Direct Attach Cable
        MAC Address:           C4-BE-D4-72-02-00
        PoE Module FW:         1.5.0.6
        Hardware Version:      B2
        Firmware Version:      6.0.0.3
        Firmware FLASH:        6.0.0.3
        Software Version:      v6.3.0.017
        Software FLASH:        v6.3.0.017
        Serial Number:         16OL13600346
        Manufacturing Date:    20160405
```

```
        Fan #1 Status:          Normal
        Fan #2 Status:          Normal
        Fan #3 Status:          Normal
        Fan #4 Status:          Normal
        Unit sysAssetId:
```

show tacacs

Display current TACACS+ server/port/key configuration.

Syntax

- **show tacacs**

Default

None

Command Mode

Privileged EXEC

show tdr

Display TDR test results

Syntax

- **show tdr [word]**

Command Parameters

WORD	List of ports

Default

None

Command Mode

Privileged EXEC

show tech

Show telnet active sessions

Syntax

- **show tech**

Default

None

Command Mode

Privileged EXEC

show telnet

Display configuration of telnet access

Syntax

- `show telnet sessions`

Command Parameters

sessions	Show telnet active sessions

Default

None

Command Mode

Privileged EXEC

show telnet-access

Display terminal configuration parameters

Syntax

- `show telnet-access`

Default

None

Command Mode

Privileged EXEC

show terminal

Shows the TFTP Server IP address

Syntax

- **show terminal**

Default

None

Command Mode

Privileged EXEC

show tftp-server

Display trace information

Syntax

- **show tftp-server**

Default

None

Command Mode

Privileged EXEC

show vlacp

Display VLACP configuration

Syntax

- **show vlacp interface <LINE>**

Command Parameters

<LINE>	List of ports
interface	Display VLACP configuration for specified interfaces

Default

None

Command Mode

Privileged EXEC

show vlan configcontrol

Display VLAN control mode

Syntax

- **show vlan configcontrol**

Default

None

Command Mode

Privileged EXEC

show vlan dhcp-relay

Display DHCP relay info for a particular VLAN

Syntax

- **show vlan dhcp-relay <LINE>**

Command Parameters

<LINE>	VLAN list

Default

None

Command Mode

Privileged EXEC

show vlan id

Display specific VLAN

Syntax

- **show vlan id <LINE>**

Command Parameters

LINE	VLAN list

Default

None

Command Mode

Privileged EXEC

show vlan igmp

Display IGMP snoop settings

Syntax

- **show vlan igmp <LINE>**

Command Parameters

<1-4094>	Vlan ID
<LINE>	VLAN list

Default

None

Command Mode

Privileged EXEC

show vlan interface

Display VLAN configuration for specified interfaces

Syntax

- **show vlan interface {info | vids} <LINE>**

Command Parameters

info <LINE>	Display VLAN-related settings of ports
vids <LINE>	Display VLAN membership of ports

Default

None

Command Mode

Privileged EXEC

show vlan ip

Display IP info for VLANs

Syntax

- **show vlan ip [id <LINE>] summary**

Command Parameters

id <LINE>	display for specific VLAN ID
summary	Display vlan ip summary

Default

None

Command Mode

Privileged EXEC

show vlan mgmt

Display mgmt vlan ID

Syntax

- **show vlan mgmt**

Default

None

Command Mode

Privileged EXEC

show vlan multicast

Display VLAN multicast configuration

Syntax

- **show vlan multicast membership <1-4094>**

Command Parameters

<1-4094>	Vlan ID

membership	Display VLAN multicast membership

Default

None

Command Mode

Privileged EXEC

show vlan summary

Display a summary of VLANs

Syntax

- **show vlan summary**

Default

None

Command Mode

Privileged EXEC

show vlan type

Display specific type of VLAN

Syntax

- **show vlan type {port |protocol-ipv6Ether2 | voice-vlan}**

Command Parameters

port	Display All Userdef VLANs
protocol-ipv6Ether2	Display Ethernet II Userdef VLANs
voice-vlan	Display LLC Userdef VLANs

Default

None

Command Mode

Privileged EXEC

show vlan voice-vlan

Display voice VLANs

Syntax

- **show vlan voice-vlan**

Default

None

Command Mode

Privileged EXEC

show web-server

Display web server status

Syntax

- **show web-server**

Default

None

Command Mode

Privileged EXEC

shutdown

Saves configuration and shutdown the switch/stack

Syntax

- **shutdown {cancel | [force] minutes-to-wait <1-60>}**

Command Parameters

force minutes-to-wait <1-60>	Number of minutes to wait before reset
cancel	Cancel a previous scheduled shutdown
force	Do not ask for confirmation
minutes-to-wait <1-60>	Number of minutes to wait before reset

Default

None

Command Mode

Privileged EXEC

stack auto-unit-replacement config

Modify AUR operational settings

Syntax

- `stack auto-unit-replacement config {restore unit <1-8>} | save {disable |enable |unit <1-8>}`

Command Parameters

disable	Disable AUR auto-save
enable	Enable AUR auto-save
restore	Restore configuration of a unit from the saved configuration on the base unit
save	Enable/disable auto-save of unit configuration to base unit
unit	Force immediate save of NBU config to BU
unit <1-8>	select unit

Default

None

Command Mode

Privileged EXEC

stack auto-unit-replacement remove-mac-address

Remove a unit's MAC address from the AUR cache

Syntax

- `stack auto-unit-replacement remove-mac-address unit <1-8>`

Command Parameters

unit <1-8>	select unit

Default

None

Command Mode

Privileged EXEC

tdr test

Set TDR tests

Syntax

- `tdr test <WORD>`

Command Parameters

WORD	List of ports

Default

None

Command Mode

Privileged EXEC

trace

Trace operations

Syntax

- `trace {level <1-7> <0-4>} | {screen <disable|enable>} | shutdown`

Command Parameters

<0-4>	Trace level ID
<1-7>	Trace module ID
disable	Disable screen trace
enable	Enable screen trace
level	Set the trace module ID
screen	Enable/Disable screen trace

shutdown	Trace OFF

Default

None

Command Mode

Privileged EXEC

write

Write configuration to local NV storage

Syntax

- **write memory**

Command Parameters

memory	Write configuration to local NV storage

Default

None

Command Mode

Privileged EXEC

Chapter 10: RIP Router Configuration

This chapter provides information related to the RIP Router configuration commands.

default-metric

Set RIP default import metric

Syntax

- `[default] default-metric <metric_value>`

Command Parameters

<metric_value>	Specifies a metric value between 0 and 15.
default	Returns the switch to the factory default RIP default import metric value (8).

Default

8

Command Mode

Router RIP Configuration

end (Router RIP configuration mode)

Exit from router configure mode

Syntax

- `end`

Default

None

Command Mode

Router RIP Configuration

exit (Router RIP configuration mode)

Exit from router configuration mode

Syntax

- **exit**

Default

None

Command Mode

Router RIP Configuration

network (Router RIP configuration mode)

Enable RIP on an IP interface

Syntax

- **network <A.B.C.D>**

Command Parameters

<A.B.C.D>	Specifies the IP address of the interface.

Default

None

Command Mode

Router RIP Configuration

timers basic

Configure timer values.

Syntax

- timers basic [holddown <0-360>] [timeout <15-259200>][update <1-360>]

Command Parameters

holddown <0-360>	Specifies the global holddown timer, which is the length of time (in seconds) that RIP maintains a route in the garbage list after determining that it is unreachable. During this period, RIP continues to advertise the garbage route with a metric of infinity (16). If a valid update for a garbage route is received within the holddown period, the router adds the route back into its routing table. If no update is received,

	the router deletes the garbage list entry. Range is 0–360 seconds. Default is 120 seconds.
update <1-360>	Specifies a value for the RIP update timer, which is the time interval (in seconds) between regular RIP updates. The update timer value must be less than the timeout interval. Range is 0–360 seconds. Default is 30 seconds.
timeout <15-259200>	Specifies the timeout interval parameter. If a RIP router does not receive an update from another RIP router within the configured timeout period, it moves the routes advertised by the nonupdating router to the garbage list. The timeout interval must be greater than the update timer. Range is 15–259200 seconds. Default is 180 seconds.

Default

None

Command Mode

Router RIP Configuration

Chapter 11: User Executive

This chapter provides information related to the User Executive commands.

edm help-file-path

Set the EDM help file path

Syntax

- **edm help-file-path**

Command Parameters

WORD	Specifies the EDM help file path

Default

None

Command Mode

User EXEC

exit

Exit from configure mode

Syntax

- **exit**

Default

None

Command Mode

User EXEC

help

Description of the interactive help system

Syntax

- **help {commands mode { application | config | current | exec | ifconfig | interface { Ethernet | vlan } | privExec } | modes**

Command Parameters

application	Show commands available in Application Configuration Mode
commands	Show commands available
config	Show commands available in Global Configuration Mode
current	Show commands available in current configuration mode
exec	Show commands available in executive mode
ifconfig	Show commands available in Interface Configuration Mode
interface	Show commands available in Interface Configuration Modes
mode	Show commands available on specific mode
modes	Show available modes
privExec	Show commands available in Privileged Executive Mode

Default

None

Command Mode

User EXEC

logout

Exit from the EXEC and end the current session

Syntax

- **logout**

Default

None

Command Mode

User EXEC

ping

Send echo messages

Syntax

- `ping {<Host-name> | {A.B.C.D} | <WORD>} [datasize <64-4096>] [ttl <0-255>] [continuous] [count <1-9999>] [timeout <1-120>] [-t <1-120>] [interval <1-60>] [debug] [source {A.B.C.D}]`

Command Parameters

<Host-name> | {A.B.C.D}	The hostname or ip address to ping
<WORD>	Ipv6 address to ping
continuous	Ping in continuous mode
count <1-9999>	Number of packets
datasize <64-4096>	Packet size
debug	Enable ping debug
interval <1-60>	Interval to retransmit in seconds
source {A.B.C.D}	Source address for ping
-t <1-120>	Timeout in seconds
timeout <1-120>	Timeout in seconds
ttl <0-255>	Time to live for packet

Default

None

Command Mode

User EXEC

run vs

Deletes previously configured settings

Syntax

- run vs

Default

None

Command Mode

User EXEC

show arp

Display ARP entries.

Syntax

- show arp [vlan <1-4094>] [<ip-addr>] [-s <subnet> <mask>] [static <ip-addr> [-s <subnet> <mask>]] [dynamic <ip-addr> [-s <subnet> <mask>]] [<H.H.H>] [summary]

Command Parameters

{A.B.C.D}	Display the IP address of the ARP entry.
<H.H.H>	Display the MAC address of the ARP entry (for example, H.H.H or xx:xx:xx:xx:xx:xx or xx.xx.xx.xx.xx.xx or xx-xx-xx-xx-xx-xx).
<subnet-mask>	Displays the subnet mask.
dynamic	Include dynamic ARP entries without a valid route.
-s	Specify IP and subnet of ARP entries to be displayed.
static	Include static ARP entries without a valid route.
summary	Display a summary of ARP entries.
vlan <1-4094>	Display ARP entries for a specific VLAN.

Default

None

Command Mode

User EXEC

show arp-table

Display system ARP table

Syntax

- **show arp-table**

Default

None

Command Mode

User EXEC

show auto-pvid

Show Auto-PVID mode

Syntax

- **show auto-pvid**

Default

None

Command Mode

User EXEC

show auto-provision

Displays whether ZTP+ auto-provisioning is enabled on the switch.

Syntax

- **show auto-provision**

Default

None

Command Mode

User EXEC

Command Output

The **show auto-provision** command displays the following information:

Output field	Description
Admin state	Displays whether ZTP+ is enabled on the switch.
Operational state	Displays the connectivity state of the switch with the XMC server. The states can be one of: • Not Running • Started. Trying to connect • Running • Upgrading firmware • Completed • Error: IP not in use • Error: No DNS server configured • Error: Failed to resolve the XMC hostname • Error: Failed to connect to the XMC server • Error: No XMC address available • Img Upgrade error: Cannot configure the TFTP server address • Img Upgrade error: Cannot configure the SFTP server address • Img Upgrade error: Cannot configure the SFTP server port • Img Upgrade error: Cannot configure the SFTP auth method • Img Upgrade error: Cannot configure the SFTP username • Img Upgrade error: Cannot configure the SFTP password • Img Upgrade error: Cannot configure the firmware image name • Img Upgrade error: XMC protocol for download is not supported • Img Upgrade error: Failed to download the firmware image

Example

The following is an example output of the **show auto-provision** command:

```
Switch:1>show auto-provision

Admin state          : Enabled
Operational state    : Running
```

show boot

Display boot settings

Syntax

- **show boot {diag | image}**

Command Parameters

diag	Display information about the diag images
image	Display information about images

Default

None

Command Mode

User EXEC

show cpu-utilization

Display CPU utilization info

Syntax

- **show cpu-utilization unit <1-8>**

Command Parameters

unit <1-8>	Unit number

Default

None

Command Mode

User EXEC

show eapol multihost non-eap-pwd-fmt key

Displays the key for the Non-EAP password.

Syntax

- **show eapol multihost non-eap-pwd-fmt key**

Default

None

Command Mode

User EXEC

show energy-saver

Displays the Energy Saver configuration on the switch.

Syntax

- **show energy-saver**

Command Parameters

interface <portlist>	Displays the Energy Saver configuration for all ports on the switch, an individual port, or a range of ports.

Default

None

Command Mode

User EXEC

show energy-saver savings

Displays the switch capacity energy saving (Watts) and the PoE energy saving (Watts).

Syntax

- **show energy-saver savings**

Default

None

Command Mode

User EXEC

show energy-saver schedule

Displays configured energy saving schedule information.

Syntax

- **show energy-saver schedule**

Default

None

Command Mode

User EXEC

show fa

Displays Fabric Attach specific settings.

Syntax

- show fa {agent | assignment<1-16777214> | elements [client-type]| i-sid <1-16777214> | interface {disabled-auth | disabled-port | enabled-auth | enabled-port | LINE} | port-enable <LINE> | uplink | vlan <LINE> | zero-touch-options [client-data] | statistics [summary | <portlist>] | zero-touch-client}

Command Parameters

assignment <1-16777214>	Display Fabric Attach configured UNIs.
elements	Displays discovered Fabric Attach elements.
i-sid <1-16777214>	Displays the Fabric Attach configured user-to-network interface (UNIs).
interface	Display Fabric Attach port settings.
disabled-auth	Display only disabled authorized ports.
disabled-port	Display only disabled ports.
enabled-auth	Display only enabled authorized ports.
enabled-port	Display only enabled ports.
<LINE>	List of ports.
uplink	Display Fabric Attach uplink data.
client-data	Displays FA Client type information.
port-enable <LINE>	Displays the Fabric Attach port settings.
agent	Displays the Fabric Attach agent status.
vlan	Displays Fabric Attach VLANs.
zero-touch-options	Displays Fabric Attach Zero Touch option settings.
statistics	Displays the FA summary and per-port statistics counters.

Default

None

Command Mode

User EXEC

show flash

Displays FLASH information.

Syntax

- show flash [history] unit <1-8>

Command Parameters

history	Display FLASH writes.
unit <1-8>	Unit number.

Default

None

Command Mode

User EXEC

show interfaces

Show interface status and configuration

Syntax

- **show interfaces {admin-disabled <LINE> | admin-enabled <LINE> | gbic-info <LINE> | <LINE>{config | verbose} | link-down <LINE> | link-up <LINE> | names <LINE> | verbose}**

Command Parameters

<LINE>	List of ports
admin-disabled	Display the admin disabled interfaces
admin-enabled	Display the admin enabled interfaces
config	Show interfaces configuration
gbic-info	Display gbic details
link-down	Display the interfaces with link down
link-up	Display the interfaces with link up
names	Display interface names
verbose	Display port status information for several applications

verbose	Display port status information for several applications

Default

None

Command Mode

User EXEC

show ip

Displays IP-related information.

Syntax

- show ip [bootp] [default-gateway] [address] {source | stack | switch | unit <1-8>}

Command Parameters

address	IP address of switch or stack.
bootp	Displays bootp settings.
default-gateway	IP address of default gateway.
source	Displays BOOTP/DHCP settings.
stack	Displays stack ip address.
switch	Displays the ip adddress of local unit.
unit <1-8>	Displays the IP address of another unit in a stack.

Default

None

Command Mode

User EXEC

show ip arp-inspection

Displays ARP inspection VLAN information.

Syntax

- show ip arp-inspection vlan <LINE>

Command Parameters

vlan <LINE>	Displays ARP inspection VLAN information.

Default

None

Command Mode

User EXEC

show ip arp-inspection interface

Displays ARP inspection port information.

Syntax

- **show ip arp-inspection interface [Ethernet] [LINE]**

Command Parameters

Ethernet	Ethernet IEEE 802.3
LINE	List of ports

Default

None

Command Mode

User EXEC

show ip arp-proxy

Display Proxy ARP status

Syntax

- **show ip arp-proxy interface vlan <1-4094>**

Command Parameters

interface	Display interface configuration
vlan <1-4094>	Layer 3 IP VLAN

Default

None

Command Mode

User EXEC

show ip default-ttl

Display default TTL

Syntax

- **show ip default-ttl**

Default

None

Command Mode

User EXEC

show ip dhcp

Display DHCP settings

Syntax

- **show ip dhcp client lease**

Command Parameters

client lease	DHCP client lease

Default

None

Command Mode

User EXEC

show ip dhcp-relay counters

Display DHCP relay statistics

Syntax

- **show ip dhcp-relay counters**

Default

None

Command Mode

User EXEC

show ip dhcp-relay fwd-path

Display DHCP relay global configuration

Syntax

- **show ip dhcp-relay fwd-path summary**

Command Parameters

summary	Display DHCP relay fwd-path summary

Default

None

Command Mode

User EXEC

show ip dhcp-relay interface

Display DHCP relay per-Interface configuration mode

Syntax

- **show ip dhcp-relay interface {Ethernet <LINE> | vlan <LINE>}**

Command Parameters

<LINE>	List of ports
Ethernet	Ethernet IEEE 802.3
Ethernet <LINE>	Ethernet IEEE 802.3
vlan	VLAN interface
vlan <LINE>	VLAN interface

Default

None

Command Mode

User EXEC

show ip dhcp-snooping

Display DHCP snooping information

Syntax

- **show ip dhcp-snooping**

Default

None

Command Mode

User EXEC

show ip dhcp-snooping binding

Display DHCP snooping binding table

Syntax

- **show ip dhcp-snooping binding summary**

Command Parameters

summary	Display DHCP snooping binding table summary

Default

None

Command Mode

User EXEC

show ip dhcp-snooping interface

Display DHCP snooping port information

Syntax

- **show ip dhcp-snooping interface [Ethernet] [LINE]**

Command Parameters

Ethernet	Ethernet IEEE 802.3
LINE	List of ports

Default

None

Command Mode

User EXEC

show ip dhcp-snooping vlan

Display DHCP snooping VLAN information

Syntax

- **show ip dhcp-snooping vlan <LINE>**

Command Parameters

<LINE>	VLAN list

Default

None

Command Mode

User EXEC

show ip directed-broadcast

Display directed-broadcast forwarding mode

Syntax

- **show ip directed-broadcast**

Default

None

Command Mode

User EXEC

show ip dns

Display DNS configuration

Syntax

- **show ip dns**

Default

None

Command Mode

User EXEC

show ip forward-protocol

Display broadcast forwarding settings

Syntax

- **show ip forward-protocol udp [portfwdlist <1-128>] [interface] [vlan <1-4094>]**

Command Parameters

interface	Display interface configuration
portfwdlist <1-128>	Shows UDP fwdlists configured
udp	Shows UDP ports configured
vlan <1-4094>	Layer 3 IP VLAN

Default

None

Command Mode

User EXEC

show ip mgmt

Display management information

Syntax

- **show ip mgmt route**

Command Parameters

route	Display management VLAN information

Default

None

Command Mode

User EXEC

show ip netstat

Show ip tcp/udp connections and services

Syntax

- **show ip netstat {tcp | udp}**

Command Parameters

tcp	Show ip tcp connections and services
udp	Show ip udp endpoints

Default

None

Command Mode

User EXEC

show ip rip

Displays global RIP settings.

Syntax

- show ip rip

Default

None

Command Mode

User EXEC

Command Output

The **show ip rip** command displays the following information:

Field	Description
Default Import Metric	Indicates the value of the default import metric.
Domain	Indicates the value inserted into the Routing Domain field of all RIP packets sent on this device. This value is not configurable.
HoldDown Time	Indicates the value of the holddown timer.
Queries	Indicates the number of responses the router has sent in response to RIP queries from other systems.
Rip	Indicates whether RIP is enabled.
Route Changes	Indicates the number of route changes the RIP process has made to the routing database.
Timeout Interval	Indicates the RIP timeout interval.
Update Time	Indicates the value of the RIP update timer.

Example

The following is an example of the **show ip rip** command output:

```
Switch:1>show ip rip
Default Import Metric:  8
Domain:
HoldDown Time:  120
Queries:  0
Rip:  Enabled
Route Changes:  0
Timeout Interval:  180
Update Time:  30
```

show ip rip interface

Displays per-interface RIP configuration.

Syntax

- show ip rip interface [<1-4094> | ethernet <LINE> | vlan <1-4094>] enabled

Command Parameters

vlan <1-4094>	Vlan ID.
enabled	Display only enabled RIP interfaces.
Ethernet	Ethernet IEEE 802.3.
<LINE>	List of ports.

Default

None

Command Mode

User EXEC

Command Output

The **show ip rip interface** command displays the following information:

Field	Description
unit/port	Indicates the unit and port of the RIP interface.
IP Address	Indicates the IP address of the RIP interface.
Enable	Indicates whether RIP is enabled or disabled on the interface.
Send	Indicates which send mode is enabled.
Receive	Indicates which receive mode is enabled.
Advertise When Down	Indicates whether the advertise when down feature is enabled.
RIP Cost	Indicates the RIP cost (metric) for this interface.
Dflt Supply	Indicates whether the interface sends the default route in RIP updates, if a default route exists in the routing table.
Dflt Listen	Indicates whether the interface listens for default routes in RIP updates.
Trigger Update	Indicates whether triggered updates are enabled.
AutoAgg Enable	Indicates whether auto aggregation is enabled.
Supply	Indicates whether the interface is enabled to supply updates for RIP.
Listen	Indicates whether the interface is enabled to listen for RIP routes.
Poison	Indicates whether RIP routes on the interface learned from a neighbor are advertised back to the neighbor.
Proxy	Indicates whether proxy announcements are enabled.
RIP IN Policy	Indicates the RIP policy for inbound filtering on the interface.
RIP Out Policy	Indicates the RIP policy for outbound filtering on the interface.
Holddown	Indicates the value of the RIP holddown timer for the interface.
Timeout	Indicate the RIP timeout interval for the interface.

Example

The following is an example of the **show ip rip interface** command output:

```
Switch:1>show ip rip interface
IP Address      Enable Send           Receive      Advertise When Down
--------------- ------ -------------- ------------ -------------------
192.0.2.10      false  rip1Compatible rip1OrRip2   false

                RIP  Dflt   Dflt   Trigger AutoAgg
IP Address      Cost Supply Listen Update  Enable  Supply Listen Poison Proxy
--------------- ---- ------ ------ ------- ------- ------ ------ ------ -----

192.0.2.10      1    false  false  false   false   true   true   false  false
```

```
IP Address      RIP In Policy
--------------- ------------------------------------------------------------
192.0.2.10

IP Address      RIP Out Policy
--------------- ------------------------------------------------------------
192.0.2.10

IP Address      Holddown Timeout
--------------- -------- -------
192.0.2.10      120      180
```

show ip rip stats

Displays per-interface RIP statistics.

Syntax

- show ip rip stats

Default

None

Command Mode

User EXEC

show ip route

Display IP route information

Syntax

- **show ip route [static] [A.B.C.D] [-s <subnet-ip> <mask-ip>] [summary]**

Command Parameters

A.B.C.D	specify IP addr of route to be displayed
-s	specify subnet(s) of routes to be displayed
static	Display IP static route(s) information
summary	Display summary of IP route information

Default

None

Command Mode

User EXEC

show ip routing

Displays global routing enable/disable

Syntax

- **show ip routing**

Default

None

Command Mode

User EXEC

show ipv6 dhcp guard policy

Displays the Dynamic Host Configuration Protocol (DHCP) guard policy information.

Syntax

- show ipv6 dhcp guard policy [<WORD>]

Command Parameters

<WORD>	Policy name.

Default

None

Command Mode

User EXEC

Usage Guidelines

Command Output

The **show ipv6 dhcp guard policy** command displays the following information:

Output Field	Description
DHCP guard policy name	Indicates the DHCPv6-guard policy name.
Device role	Indicates if the device role is client or server.

Table continues…

Output Field	Description
Server ip ACL Policy	Indicates if the received DHCP-server packet source IP matches the configured IP ACL.
Reply ip prefix ACL Policy	Indicates if the received DHCP-server prefix in the packet matches the configured IP ACL.
Router preference minimum limit	Indicates the advertised router preference minimum limit.
Router preference maximum limit	Indicates the advertised router preference maximum limit.

Example

```
Switch#show ipv6 dhcp guard policy dhcpg
DHCP guard policy name :dhcpg
Device role : Client
Server ip ACL Policy : None
Reply ip prefix ACL Policy : None
Router preference minimum limit : 0
Router preference maximum limit : 0
```

show ipv6 fhs capture-policy

Displays the Dynamic Host Configuration Protocol for IPv6 (DHCPv6)/Router Advertisement (RA) guard policy name configured, number of DHCPv6/RA packets received, number of DHCPv6/RA packets dropped, and if dynamic learning is enabled or disabled for neighbor discovery inspection configuration.

Syntax

- show ipv6 fhs capture-policy [interface <LINE>]

Command Parameters

Interface <LINE> Displays the first hop security statistics for the port number specified.

Default

None

Command Mode

User EXEC

Command Output

The **`show ipv6 fhs capture-policy`** command displays the following information:

Output Field	Description
port	Indicates the port number.

Table continues…

Output Field	Description
Protocol	Indicates the protocol.
Policy Name	Indicates the policy name.
PktsRcv PktsDrop	Indicates the received and dropped packets.
DynLearn	Indicates the dynamically learnt neighbor source IP address. If there is a rogue, you can add a static entry to the SBT for legitimate reachability and disable dynamic learning. The rogue ND packets arriving at this port are dropped allowing only the ND packets matching the statically configured SBT entry.

Example

```
Switch#show ipv6 fhs capture-policy
-------------------------------------------------------------------
port  Protocol     Policy Name              PktsRcv PktsDrop DynLearn
-------------------------------------------------------------------
 1      DHCP         dhcpg                    0        0        -
        NDI          None                     9        1       TRUE
 2      NDI          None                     0        0       TRUE
```

show ipv6 fhs ipv6-access-list

Displays all of the configured IPv6 access lists in the system.

Syntax

- show ipv6 fhs ipv6-access-list [<WORD>]

Command Parameters

<WORD> Displays the IPv6 access list for the access list name specified.

Default

None

Command Mode

User EXEC

Command Output

The **`show ipv6 fhs ipv6-access-list`** command displays the following information:

Output Field	Description
Access list name	Indicates the IP access list name.
ip_prefix	Indicates the IP prefix added to the IP access list.

Table continues…

Output Field	Description
mask_len	Indicates prefix mask length added to the IP access list.
mask_range_from	Indicates the IP range start mask length.
mask_range_to	Indicates the IP range end mask length.
mode	Indicates the access mode.

Example

```
Switch#show ipv6 fhs ipv6-access-list


     Access list name : AccName
ip_prefix         : fe80::221:2fff:fe31:5376
mask_len          : 24
mask_range_from   : 0
mask_range_to     : 0
mode              : Allow
Switch#
```

show ipv6 fhs mac-access-list

Displays all of the MAC access lists in the system.

Syntax

- show ipv6 fhs mac-access-list [<WORD>]

Command Parameters

<WORD> Displays the IPv6 MAC access list for the MAC access list name specified.

Default

None

Command Mode

User EXEC

Command Output

The **`show ipv6 fhs mac-access-list`** command displays the following information:

Output Field	Description
Access list name	Indicates the FHS access list name.
MAC-Address	Indicates the MAC address.
ACL-Mode	Indicates the ACL mode.

Example

```
Switch#show ipv6 fhs mac-access-list


     Access list name : MACList
S.No   MAC-Address        ACL-Mode
1      10:20:30:40:50:60  Allow
Switch#
```

show ipv6 fhs status

Displays the global first hop security (FHS) status, router advertisement (RA) guard status, Dynamic Host Configuration Protocol for IPv6 (DHCPv6), neighbor discovery (ND) inspection status, reachable timer value, stale timer value, down timer value and source binding table (SBT) entry overflow.

Syntax

- show ipv6 fhs status

Default

None

Command Mode

User EXEC

show ipv6 interface icmpstatistics

Displays IPv6 ICMP statistics.

Syntax

- show ipv6 interface icmpstatistics [loopback <1-16>][mgmt][tunnel <1-2147483647>] [vlan <1-4094>}

Command Parameters

loopback <1-16>	Displays by IPv6 loopback interface.
mgmt	Out of band.
tunnel <1-2147483647>	Displays by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

User EXEC

show ipv6 interface process-redirect

Displays IPv6 processing redirect.

Syntax

- show ipv6 interface process-redirect [mgmt] [vlan <1-4094>]

Command Parameters

mgmt	Out of band management interface.
vlan <1-4094>	Display processing redirect per vlan.

Default

None

Command Mode

User EXEC

show ipv6 interface statistics

Displays IPv6 statistics.

Syntax

- show ipv6 interface statistics [loopback <1-16>][mgmt][tunnel <1-2147483647>][vlan <1-4094>]

Command Parameters

loopback <1-16>	Displays by loopback interface.
mgmt	Out of band mgmt interface.
tunnel <1-2147483647>	Displays by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

User EXEC

show ipv6 mld snooping

Displays the learned multicast groups snooping information.

Syntax

- **show ipv6 mld snooping**

Default

None

Command Mode

User EXEC

Command Output

The **show ipv6 mld snooping** command displays the following information:

Variable	Description
Vlan	Identifies the VLAN ID.
Snoop Enable	Identifies whether snoop is enabled (true) or disabled (false).
Proxy Enable	Identifies whether MLD Proxy is enabled (true) or disabled (false).
Static Mrouter Ports	Identifies the static mrouter ports in this VLAN that provide connectivity to an IP multicast router.
Active Mrouter Ports	Displays all dynamic (querier port) and static mrouter ports that are active on the interface.
Mrouter Expiration Time	Specifies the time remaining before the multicast router is aged out on this interface. If the switch does not receive queries before this time expires, it flushes out all group memberships known to the VLAN. The Query Max Response Interval (obtained from the queries received) is used as the timer resolution.

Example

The following is an example for the **show ipv6 mld snooping** command output:

```
Switch#show ipv6 mld snooping
```

```
Vlan Snoop  Proxy  Static                  Active                  Mrouter
     Enable Enable Mrouter                 Mrouter                 Expiration
                   Ports                   Ports                   Time
---- ------ ------ ----------------------- ----------------------- ----------
1    True   True   NONE                    NONE                    0
```

show ipv6 mld-cache interface

Displays the learned multicast groups in the cache.

Syntax

- **show ipv6 mld-cache interface [vlan <1-4094>]**

Command Parameters

vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

User EXEC

show ipv6 mld-host-cache

Displays the learned multicast groups in the host cache.

Syntax

- **show ipv6 mld-host-cache {interface <1-4094> | mgmt}**
- **show ipv6 mld-host-cache [interface <1-4094>]**

Command Parameters

interface <1-4094>	Display by interface
mgmt	Out of Band
interface <1-4094>	Displays by VLAN.

Default

None

Command Mode

User EXEC

show ipv6 nd interface

Displays the neighbor discovery (ND) interface configuration.

Syntax

- **show ipv6 nd interface [<1-4094>][details][vlan]**

Command Parameters

<1-4094>	VLAN ID
details	Display IPV6 nd details on interface
vlan <1-4094>	Display IPV6 nd on VLAN interfaces only

Default

None

Command Mode

User EXEC

show ipv6 nd raguard policy

Displays the neighbor discovery (ND) router advertisement (RA) guard policy information.

Syntax

- **show ipv6 nd raguard policy [<WORD>]**

Command Parameters

<WORD>	Displays by the policy name.

Default

None

Command Mode

User EXEC

Usage Guidelines

Command Output

The **show ipv6 nd raguard policy** command displays the following information:

Output Field	Description
Ra guard policy name	Indicates the RA-guard policy name.

Table continues…

Output Field	Description
Device role	Indicates if the device role is router or host.
Source ip ACL policy	Indicates if the received RA router packet source IP matches the configured IP ACL.
Ip prefix ACL policy	Indicates if the received RA prefix in the packet matches the configured IP ACL.
Source MAC ACL policy	Indicates if the received RA router packet source MAC address matches the configured MAC ACL.
Managed config	Indicates the managed address configuration flag status in the advertised RA packet.
Router preference	Indicates the advertised default router preference value.
Minimum hop limit	Indicates the advertised hop count minimum limit.
Maximum hop limit	Indicates the advertised hop count maximum limit.

Example

```
Switch(config)#show ipv6 nd raguard policy
Ra guard policy name :rag
Device role : Router
Source ip ACL policy : None
Ip prefix ACL policy : None
Source MAC ACL policy : None
Managed config : None
Router preference : None
Minimum hop limit : 0
Maximum hop limit : 0
```

show ipv6 nd-prefix interface

Displays the neighbor discovery (ND) prefix information.

Syntax

- **show ipv6 nd-prefix interface [<1-4094>][details][vlan]**

Command Parameters

<1-4094>	Displays IPv6 neighbor discovery prefix information by VLAN ID.
details	Displays IPv6 neighbor discovery prefix details by on the interface.
vlan	Displays IPv6 neighbor discovery prefix information on VLAN interfaces only.

Default

None

Command Mode

User EXEC

show ipv6 neighbor

Displays IPv6 neighbor information.

Syntax

- show ipv6 neighbor interface {loopback <1-16>|mgmt | tunnel <1-2147483647> | vlan <1-4094>}

Command Parameters

loopback <1-16>	Displays by loopback interface.
mgmt	Out of band mgmt interface.
tunnel <1-2147483647>	Displays by tunnel.
vlan <1-4094>	Displays by VLAN.

Default

None

Command Mode

User EXEC

show ipv6 neighbor binding

Displays source binding table (SBT) entries and other timer values.

Syntax

- **show ipv6 neighbor binding [interface Ethernet <LINE>][ipv6 <WORD>] [vlan <1-4094>]**

Command Parameters

interface Ethernet <LINE>	Displays SBT entries and other timer values by Ethernet interface and port.
ipv6 <WORD>	Displays SBT entries and other timer values by IPv6 address.
vlan <1-4094>	Displays SBT entries and other timer values by VLAN.

Default

None

Command Mode

User EXEC

Command Output

The **`show ipv6 neighbor binding`** command displays the following information:

Output Field	Description
Reachable-timer	Indicates the default reachable lifetime for a dynamically learnt SBT entry.
Stale-timer	Indicates the default stale lifetime for a dynamically learnt SBT entry.
Down-timer	Indicates the default down lifetime for a dynamically learnt SBT entry.
Preflevel values in Hex (prlvl)	Indicates the source IP preference value learnt by the switch. SBT entry prefers the highest preference value . On a VLAN, if there is a same IP address from two different pots, the switch prefers only one SBT entry depending on the value learnt during the SBT learning process.
Type	Indicates the following SBT learning types: • ND - discovers SBT entry by processing only the ND packets. • DHCP - discovers SBT entry by snooping the DHCP IP assignment. • STATIC - statically configured.
IPv6-Addr	Indicates the IPv6 address.
LL-Addr	Indicates the MAC address corresponding to the learnt SBT entry.
port	Indicates the port on which the SBT entry is learnt.
vlan	Indicates the VLAN on which the SBT entry is learnt.
prlvl	Indicates the preference level values in hexadecimal.
state	Indicates different stages of the SBT learning process.
Age (sec)	Indicates the ellapsed time on the present state.

Example

```
Switch(config)#show ipv6 neighbor binding
Binding Table has 2 entries, 2 dynamic
Reachable-timer: 300 sec, Stale-timer: 86300 sec, Down-timer 86300 sec
Codes: S - Static, ND - Neighbor Discovery, DH - DHCP
Preflevel values in Hex (prlvl):
```

```
0001:Access 0002:MAC & LLA match 0008:DAD Learnt 0010:DHCP Learnt
0020:Learnt from Non-ND-inspect Port(Trusted-port)
Type IPv6-Addr LL-Addr
================================================================
port vlan prlvl state Age (sec)
================================================================
ND 2001:DB8::/32 00:50:56:84:00:20
1/8 1 0003 REACH 86
ND 2001:DB8::/32 00:50:56:84:00:1e
3/14 1 0003 REACH 60
```

show ipv6 neighbor interface

Displays IPv6 neighbor information by interface.

Syntax

- **show ipv6 neighbor interface [loopback <1-16>][mgmt][tunnel <1-2147483647>][vlan <1-4094>]**

Default

None

Command Mode

User EXEC

show ipv6 neighbor summary

Displays summary of IPv6 Neighbor Table.

Syntax

- **show ipv6 neighbor summary**

Default

None

Command Mode

User EXEC

show ipv6 neighbor type

Displays by type.

Syntax

- show ipv6 neighbor [<WORD>] type {dynamic | local | other | static}

Command Parameters

<WORD>	IPv6 address.
dynamic	Display dynamically learned neighbors.
local	Display local neighbor address.
other	Display other neighbor entries.
static	Display manually configured neighbors.

Default

None

Command Mode

User EXEC

show ipv6 tcp

Displays IPV6 tcp info.

Syntax

- show ipv6 tcp

Default

None

Command Mode

User EXEC

show ipv6 tcp connections

Displays IPv6 tcp connections.

Syntax

- show ipv6 tcp connections

Default

None

Command Mode

User EXEC

show ipv6 tcp listener

Displays IPv6 tcp listeners.

Syntax

- show ipv6 tcp listener

Default

None

Command Mode

User EXEC

show ipv6 UDP endpoints

Displays the IPv6 User Datagram Protocol (UDP) information for the endpoints.

Syntax

- show ipv6 udp endpoints

Default

None

Command Mode

User EXEC

show radius accounting

Display the configuration of RADIUS Accounting Interim-Updates

Syntax

- **`show radius accounting interim-updates`**

Command Parameters

interim-updates	Display the parameters of interim-updates

Default

None

Command Mode

User EXEC

show radius dynamic-server

Display the configuration of RADIUS Dynamic Authorization Clients

Syntax

- **show radius dynamic-server {[statistics] client {A.B.C.D} | replay-protection}**

Command Parameters

A.B.C.D	IP address of RADIUS Dynamic Authorization Client
client	Display the configuration of RADIUS Dynamic Authorization Client
replay-protection	Display status of RADIUS dynamic server replay protection
statistics	Display the statistics for RADIUS Dynamic Authorization Clients

Default

None

Command Mode

User EXEC

show radius reachability

Display RADIUS reachability settings

Syntax

- **show radius reachability**

Default

None

Command Mode

User EXEC

show radius use-management-ip

Display RADIUS use-management-ip setting.

Syntax

- **show radius use-management-ip**

Default

None

Command Mode

User EXEC

show spanning-tree

Sub-commands to display spanning tree information

Syntax

- **show spanning-tree mode**

Command Parameters

mode	Display Spanning Tree operation mode

Default

None

Command Mode

User EXEC

telnet

Telnet to another host

Syntax

- **telnet {Hostname | {A.B.C.D} | <WORD>} port <0-65535>**

Command Parameters

<hostname> | {A.B.C.D}	remote host name or IP address
<WORD>	remote host IPv6 address (45 length)

port <0-65535>	tcp port number

Default

None

Command Mode

User EXEC

terminal

Set terminal line parameters

Syntax

- **terminal {length <0-132> | width <1-132>}**

Command Parameters

length <0-132>	Set number of lines on a screen
width <1-132>	Set width of the display terminal

Default

None

Command Mode

User EXEC

traceroute

Trace route to a remote host

Syntax

- **traceroute {Hostname | {A.B.C.D} | <WORD>} [<1-1460>] [-m <1-255>] [-p <0-65535>] [-q <1-255>] { -v | {-w <1-255>}}**

Command Parameters

<1-1460>	probe packet data length
<WORD>	ipv6 address of remote host
Hostname | {A.B.C.D}	remote host name or IP address

-m <1-255>	max ttl value
-p <1-65535>	base udp port number
-q <1-255>	number of probes per ttl
-v	verbose mode
-w <1-255>	wait time per probe

Default

None

Command Mode

User EXEC

Chapter 12: VLAN Interface Configuration

This chapter provides information related to the VLAN Interface configuration commands.

end (VLAN Interface Configuration)

Exit from interface configure mode.

Syntax

- end

Default

None

Command Mode

VLAN Interface Configuration

exit (VLAN Interface Configuration)

Exit from interface configuration mode.

Syntax

- exit

Default

None

Command Mode

VLAN Interface Configuration

igmp last-member-query-interval

Sets the maximum response time (in tenths of a second) that is inserted into group-specific queries that are sent in response to leave group messages.

Syntax

- `[default] ip igmp last-member-query-interval <0–255>`

Command Parameters

[default]	Sets the last member query interval to the default value of 10.
<0–255>	Specifies the last member query interval value in 1/10 of a second. Values range from 0 to 255. Extreme Networks recommends that you configure this parameter to values higher than 3. If a fast leave process is not required, Extreme Networks recommends values above 10.

Default

10

Command Mode

VLAN Interface Configuration

igmp query-interval

Sets the frequency (in seconds) at which host query packets are transmitted on the VLAN.

Syntax

- `[default] ip igmp query-interval <1–65535>`

Command Parameters

[default]	Sets the query interval to the default value of 125 seconds
<1–65535>	Specifies the query interval value. Values range from 1 to 65535 seconds.

Default

125

Command Mode

VLAN Interface Configuration

igmp query-max-response

Sets the maximum response time (in tenths of a second) that is advertised in IGMPv2 general queries on the VLAN.

Syntax

- `[default] ip igmp query-max-response <0–255>`

Command Parameters

[default]	Sets the maximum query response time to the default value of 100.
<0–255>	Specifies the maximum query response time value in 1/10 of a second. Values range from 0 to 255.

Default

100

Command Mode

VLAN Interface Configuration

igmp send-query

Enables or disables IGMP send query on a snoop-enabled VLAN.

Syntax

- `[default] [no] ip igmp send-query`

Default

None

Command Mode

VLAN Interface Configuration

ip address (VLAN Interface Configuration)

Assigns an IP addr to a vlan.

Syntax

- `[no] ip address A.B.C.D <subnet_mask> [ <1-256> ]`

Command Parameters

<1-256>	MAC offset, 1 for management vlan only.
<subnet_mask>	Subnet mask.
A.B.C.D	IP address.

Default

None

Command Mode

VLAN Interface Configuration

ip arp-proxy

Configure Proxy ARP

Syntax

- `[no] ip arp-proxy enable`

Command Parameters

enable	Enable Proxy ARP

Default

None

Command Mode

VLAN Interface Configuration

ip dhcp-relay (VLAN Interface Configuration)

Configures DHCP relay for a vlan.

Syntax

- ip dhcp-relay [broadcast] [min-sec <min-sec>] [mode {bootp | dhcp | bootp_dhcp}] [option82]
- no ip dhcp-relay [broadcast] [min-sec <min-sec>] [mode {bootp | dhcp | bootp_dhcp}] [option82]
- default ip dhcp-relay option82

Command Parameters

broadcast	Enables the broadcast of DHCP reply packets to the DHCP clients on this VLAN interface.
min-sec <minsec>	Indicates the min-sec value. The switch immediately forwards a BootP/DHCP packet if the secs field in the BootP/DHCP packet header is greater than the configured min-sec value; otherwise, the packet is dropped. Range is 0-65535. The default is 0.
mode {bootp |dhcp |bootp_dhcp}	Specifies the type of DHCP packets this VLAN supports: bootp - Supports BootP only; dhcp - Supports DHCP only; bootp_dhcp - Supports both BootP and DHCP.
option82	Enables Option 82 for DHCP relay on a VLAN.

Default

None

Command Mode

VLAN Interface Configuration

ip forward-protocol udp (VLAN Interface Configuration)

Associates a UDP forwarding list with a VLAN interface.

Syntax

- ip forward-protocol udp [vlan <vid>] [portfwdlist <forward_list>] [broadcastmask <bcast_mask>] [maxttl <max_ttl>]
- no ip forward-protocol udp [vlan <vid>] [portfwdlist <forward_list>] [broadcastmask <bcast_mask>] [maxttl <max_ttl>]
- default ip forward-protocol udp [vlan <vid>] [broadcastmask] [maxttl]

Command Parameters

broadcastmask	Specifies the broadcast mask (can be different of that of the interface).
<bcast_mask>	Specifies the 32-bit mask used by the selected VLAN interface to make forwarding decisions based on the destination IP address of the incoming UDP broadcast traffic. If you do not specify a broadcast mask value, the switch uses the mask of the interface to which the forwarding list is attached.
<forward_list>	Specifies the ID of the UDP forwarding list to attach to the selected VLAN interface.

<max_ttl>	Specifies the timet-to-live (TTL) value inserted in the IP headers of the forwarded UDP packets coming out of the selected VLAN interface. If you do not specify a TTL value, the default value (4) is used.
portfwdlist	Specifies the list to attach to this interface.
vlan <vid>	Specifies the VLAN ID on which to attach the UDP forwarding list. This parameter is optional, and if not specified, the UDP forwarding list is applied to the interface specified in the interface vlan command.

Default

None

Command Mode

VLAN Interface Configuration

ip igmp (VLAN Interface Configuration)

Creates a new IGMP interface.

Syntax

- ip igmp
- default ip igmp
- no ip igmp

Default

None

Command Mode

VLAN Interface Configuration

ip igmp mrouter

Adds one or more static mrouter ports to a VLAN.

Syntax

- **default ip igmp mrouter**
- **ip igmp mrouter <port_list>**
- **no ip igmp mrouter [<port_list>]**

Command Parameters

<port_list> Specifies the port or ports to add to the VLAN as static mrouter ports.

Default

None

Command Mode

VLAN Interface Configuration

ip igmp proxy

Enables or disables IGMP proxy on a VLAN.

Syntax

- **[default] [no] ip igmp proxy**

Default

None

Command Mode

VLAN Interface Configuration

ip igmp robust-value

Sets the robustness value for a VLAN. With IGMP snooping robustness, the switch can offset expected packet loss on a subnet.

Syntax

- **[default] ip igmp robust-value <2–255>**

Command Parameters

<2–255> Specifies a numerical value for IGMP snooping robustness. Values range from 2 to 255.

Default

2

Command Mode

VLAN Interface Configuration

ip igmp router-alert

Enables the router alert feature. This feature instructs the router to drop control packets that do not have the router-alert flag in the IP header.

Syntax

- **[default] [no] ip igmp router-alert**

Default

None

Command Mode

VLAN Interface Configuration

ip igmp snooping

Enables or disables IGMP snooping for a VLAN.

Syntax

- **[default] [no] ip igmp snooping**

Default

None

Command Mode

VLAN Interface Configuration

ip igmp version

Configures the IGMP version running on the VLAN.

Syntax

- **[default] ip igmp version <1-3>**

Command Parameters

<1-3>	Specifies the IGMP version: 1—IGMPv1; 2—IGMPv2; 3—IGMPv3.
default	Restores the IGMP protocol version to the default value (IGMPv2).

Default

IGMPv2

Command Mode

VLAN Interface Configuration

ip rip

Configure RIP settings

Syntax

- `[default] [no] ip rip [advertise-when-down enable] [auto-aggregation enable] [cost <cost>] [default-listen enable] [default-supply enable] [enable] [holddown <holddown> | <global>] [listen enable] [poison enable] [proxy-announce enable] [receive version {rip1 | rip1orrip2 | rip 2}] [send version {notsend | rip1 | rip1comp | rip2}] [supply enable] [timeout {<timeout>} | global}] [triggered enable]`

Command Parameters

advertise-when-down	Advertise even if down
auto-aggregation	Enable auto aggregation
cost	Set admin path cost
default-listen	Accept default route advertisement
default-supply	Advertise default route
enable	Enable RIP on this interface
holddown	Set holdown
in-policy	Add in-policy on this interface
listen	This interface will listen to RIP advertisements
out-policy	Add out-policy on this interface
poison	Enable poison reverse
proxy-announce	Enable proxy
receive	Set RIP version to listen to on this interface
send	Set RIP version to send
supply	This interface will advertise routes

timeout	Set timeout
triggered	Enable triggered updates
no	Clear IP Rip settings
default	Restore IP Rip settings

Default

None

Command Mode

VLAN Interface Configuration

ip routing (VLAN Interface Configuration)

Enables L3 routing on a VLAN.

Syntax

- ip routing
- no ip routing

Default

None

Command Mode

VLAN Interface Configuration

ipv6 mld (VLAN Interface Configuration)

Configures the multicast listener discovery (MLD) settings for each VLAN.

Syntax

- **default ipv6 mld [last-memb-query-int][mrouter][query-interval][query-max-response-time][robust-value][snooping]**
- **ipv6 mld [last-memb-query-int <0-255>][mrouter <LINE>][query-interval <1-65535>][query-max-response-time <0-255>][robust-value <2-255>] [snooping [enable]]**
- **no ipv6 mld [mrouter <LINE>][snooping [enable]]**

Command Parameters

flush	Flushes MLD Mrouter, group member, or sender.
las-memb-query-int <0-255>	Configures the last member query interval.
mrouter <LINE>	Configures multicast forwarding ports.
proxy	Enables MLD proxy.
query-interval <0-65535>	Configures the query interval time.
query-max-response-time <0-255>	Configures the maximum response time in the query message in seconds.
robust-value <2-255>	Configures the robustness variable.
send-query	Enables MLD send query.
snooping [enable]	Enables multicast listener discovery (MLD) snooping.
version	Configures MLD protocol version.

Default

None

Command Mode

VLAN Interface Configuration

ipv6 mld proxy

Enables MLD proxy.

Syntax

- ipv6 mld proxy {[query-interval <1-65535>] [query-max-response-time <0-255>] [robust-value <2-255>]} {send-query}

Command Parameters

query-interval <1-65535>	Configure query interval time
query-max-response-time <0-255>	Configure Max response time in query message (in seconds)
robust-value <2-255>	Configure robustness variable
send-query	Enable MLD send query

Default

None

Command Mode

VLAN Interface Configuration

ipv6 nd (VLAN Interface Configuration)

Configures neighbor discovery.

Syntax

- **default ipv6 nd [dad-ns][hop-limit] [managed-config-flag] [other-config-flag] [ra-lifetime <0-9000>] [rtr-advert-max-interval <4-1800>] [rtr-advert-min-interval <3-1350>] [send-ra]**
- **ipv6 nd [dad-ns][hop-limit] [managed-config-flag] [other-config-flag] [ra-lifetime <0-9000>] [rtr-advert-max-interval <4-1800>] [rtr-advert-min-interval <3-1350>] [send-ra]**
- **no ipv6 nd [managed-config-flag] [other-config-flag] [send-ra]**

Command Parameters

dad-ns <0-600>	Duplicates address detection - neighbor solicitation.
hop-limit <1-255>	Specifies the hop limit value for the interface.
managed-config-flag	Managed config flag
other-config-flag	Other config flag
ra-lifetime <0-9000>	Router advert lifetime
rtr-advert-max-interval <4-1800>	Max interval for router advert
rtr-advert-min-interval <3-1350>	Min interval for router advert
send-ra	Send router advert

Default

None

Command Mode

VLAN Interface Configuration