

C51/D51/H51/C60/C62/D60/H60 Series CLI User Guide

Outdoor L2 PoE Switch Series

Release A2

ABOUT THIS GUIDE

PURPOSE

This guide gives specific information on how to operate CLI to manage this switch.

AUDIENCE

The guide is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of general switch functions, Internet Protocol (IP), and SSH Protocol.

Revision History

Release	Date	Revision
Initial Release	2022/01/03	A1
Revision	2023/01/13	A2

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The following description is the brief of the network connection.

-- Attach the RJ45 serial port on the switch's front panel which used to connect to the switch for telnet configuration

-- At "Com Port Properties" Menu, configure the parameters as below: (see the next section)

Baud rate	115200
Stop bits	1
Data bits	8
Parity	N
Flow control	none

1-1 Login

The command-line interface (CLI) is a text-based interface. User can access the CLI through either a direct serial connection to the device or a Telnet session (Default IP address: **192.168.1.1**). The default user and password to login into the Managed Switch are listed below:

Username: **admin**

Password: **admin**

After you login successfully, the prompt will be shown as "<sys_name>#". See the following figures. It means you behave as an administrator and have the privilege for setting the Managed Switch. If log as not the administrator, the prompt will be shown as "<sys_name>>", it means you behave as a guest and are only allowed for setting the system under the administrator. Each CLI command has its privilege

```
Username: admin
Password: admin
D60-044-90#
```

1-2 Commands of CLI

The CLI is divided into several modes. If a user has enough privilege to run a particular command, the user has to run the command in the correct mode. To see the commands of the mode, please input “?” after the system prompt, then all commands will be listed in the screen. The command modes are listed as follows:

Command Modes

MODE	PROMPT	COMMAND FUNCTION IN THIS MODE
exec	<sys_name>#	Display current configuration, diagnostics, maintenance
config	<sys_name>(config)#	Configure features other than those below
config-if	<sys_name>(config-interface)#	Configure ports
config-if-range	<sys_name>(config-if-range)#	Configure a range of ports
config-vlan	<sys_name>(config-vlan)#	Configure static vlan

Commands reside in the corresponding modes could run only in that mode. If a user wants to run a particular command, the user has to change to the appropriate mode. The command modes are organized as a tree, and users start to in enable mode. The following table explains how to change from one mode to another.

Change Between Command Modes

MODE	ENTER MODE	LEAVE MODE
exec	--	--
config	Configure terminal	exit
config-interfcae	Interface <port-type> <port-number>	exit
config-interfcae-range	Interface range <port-type> <port-type-list>	exit
config-vlan	vlan <vlan_list>	exit

1-3 Global Commands of CLI

```
D60-044-90# ?  
  
clear          Reset functions  
clock         Manage the system clock  
configure     Configuration Mode  
copy         Copy from one file to another  
debug        Debug Options  
delete       Delete a file from the flash file system  
disable     Turn off privileged mode command  
end         End current mode and change to enable mode  
exit       Exit current mode and down to previous mode  
no         Negate command  
ping      Send ICMP ECHO_REQUEST to network hosts  
reboot    Halt and perform a cold restart  
restore-defaults Restore to default  
save     Save running configuration to flash  
show    Show running system information  
ssl     Setup SSL host keys  
terminal Terminal configuration  
traceroute Trace route to network hosts
```

Table : CLEAR Commands

Command	Function
interfaces	Interface status and configuration
ip	IP information
lacp	LACP Configuration
line	To identify a specific line for configuration
lldp	Reset lldp information
logging	Log Configuration
mac	MAC configuration
port-security	Port Security
power	Power-over-Ethernet Configuration
spanning-tree	Spanning-tree configuration

2-1 interfaces

Clear interface status and configuration.

Syntax

clear interfaces GigabitEthernet <port_list> counters

clear interfaces LAG <lag_list> counters

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

```
D60-044-90# clear interfaces GigabitEthernet 1-3,6 counters
D60-044-90# clear interfaces LAG 2-4,6 counters
D60-044-90#
```

2-2 ip

Clear IP information.

Syntax

clear ip igmp snooping groups {<cr>|<dynamic>|<static>}

clear ip igmp snooping statistics

Parameter

groups	IPv4 multicast groups	
	<cr>	
	dynamic	dynamic groups
	static	static groups
statistics	Clear IGMP snooping statistics	

Example

```
D60-044-90# clear ip igmp snooping statistics
D60-044-90# clear ip igmp snooping groups static
D60-044-90# clear ip igmp snooping groups dynamic
D60-044-90#
```

2-3 lacp

Clear LACP Configuration.

Syntax

Clear lacp counters

Parameter

counters	LAG number
-----------------	------------

Example

```
D60-044-90# clear lacp counters
D60-044-90#
```

2-4 line

Clear a specific line for configuration.

Syntax

clear line telnet

Parameter

telnet	Telnet daemon configuration
---------------	-----------------------------

Example

```
D60-044-90# clear line telnet
D60-044-90#
```

2-5 lldp

Clear lldp information.

Syntax

clear lldp global statistics

clear lldp interfaces GigabitEthernet <port_list> statistics

clear lldp interfaces LAG <lag_list> statistics

Parameter

global	Clear LLDP statistics		
	statistics		
interfaces	Clear LLDP statistics for specified ports		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
<lag_list>		LAG List X-Y,Z	

Example

```
D60-044-90# clear lldp global statistics
D60-044-90# clear lldp interfaces GigabitEthernet 1-3,6 statistics
D60-044-90# clear lldp interfaces LAG 1-3,6 statistics
D60-044-90#
```

2-6 logging

Clear log configuration.

Syntax

clear logging {<buffered>|<file>}

Parameter

buffered	Buffered logging
file	File logging

Example

```
D60-044-90# clear logging buffered
D60-044-90# clear logging file
D60-044-90#
```

2-7 mac

Clear MAC configuration.

Syntax

clear mac address-table dynamic

clear mac address-table dynamic interface GigabitEthernet <port_list>

clear mac address-table dynamic interface LAG <lag_list>

clear mac address-table dynamic vlan <vlan_id>

Parameter

interface	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
<lag_list>		LAG List X-Y,Z	
vlan	VLAN configuration		
	<vlan_id>	VLAN ID (1-4094)	

Example

```
clear mac address-table dynamic
D60-044-90# clear mac address-table dynamic interfaces GigabitEthernet 1-3,6
D60-044-90# clear mac address-table dynamic interfaces LAG 1-3,6
D60-044-90# clear mac address-table dynamic vlan 2
D60-044-90#
```

2-8 port-security

Clear port security configuration.

Syntax

clear port-security all {<cr>|<address>|<interface>}

clear port-security configured {<cr>|<address>|<interface>}

clear port-security dynamic {<cr>|<address>|<interface>}

clear port-security sticky {<cr>|<address>|<interface>}

Parameter

all	All secure mac addresses
configured	Configured secure mac addresses
dynamic	Secure MAC address auto-learned by hardware
sticky	Secure MAC address either auto-learned or configured

Example

```
D60-044-90# clear port-security all
D60-044-90# clear port-security all address 68:8D:B6:00:00:01
D60-044-90# clear port-security all interface GigabitEthernet 1
D60-044-90#
```

2-9 power

Clear power-over-ethernet configuration.

Syntax

clear power inline interfaces GigabitEthernet <port_list> statistics

Parameter

<port_list>	Port List X-Y,Z
--------------------------	-----------------

Example

```
D60-044-90# clear power inline interfaces GigabitEthernet 3-6 statistics
D60-044-90#
```

2-10 spanning-tree

clear spanning-tree statistics

Syntax

clear spanning-tree interfaces GigabitEthernet <port_list> statistics

clear spanning-tree interfaces LAG <lag_list> statistics

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

```
D60-044-90# clear spanning-tree interfaces GigabitEthernet 1-3,6 statistics
D60-044-90# clear spanning-tree interfaces LAG 1-3,6 statistics
D60-044-90#
```

Manage the system clock.

Syntax

clock set <HH:MM:SS> <month> <day> <year>

Parameter

set	Manually set the system clock	
	< HH:MM:SS >	Current time in hours (24 Hour format), minutes, and seconds.
	<month>	jan Month January feb Month February mar Month March apr Month April may Month May jun Month June jul Month July aug Month August sep Month September oct Month October nov Month November dec Month December
	<day>	Current day in the month.Current year
	<year>	<2000-2035>

Example

```
D60-044-90# clock set 16:54:00 jan 7 2022
D60-044-90#
```

Table : CONFIGURE Commands

Command	Function
boot	Booting Operations
clock	Manage the system clock
custom	Custom Module configuration
dido	Digital I/O Configuration
dos	DoS information
do	To run exec commands in current mode
end	End current mode and change to enable mode
errdisable	Error Disable
exit	Exit current mode and down to previous mode
hostname	Set system's network name
interface	Select an interface to configure
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
no	Negate command
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration
smtp	SMTP Configuration
snmp	SNMP information
spanning-tree	Spanning-tree configuration

system	System information
username	Local User
vlan	VLAN configuration

4-1 configure

Configure from the terminal.

Syntax

configure

Example

```
D60-044-90# configure
D60-044-90(config)#
```

4-1.1 boot

To select booting image.

Syntax

boot system {<image0>|<image1>}

Parameter

image0	Runtime image 0
Image1	Runtime image 1

Example

```
D60-044-90(config)# boot system image0
D60-044-90(config)#
```

4-1.2 clock

To manage the system clock.

Syntax

clock {<source>|<summer-time>|<timezone>}

Parameter

source	Configure an external time source for the system clock
summer-time	Configure the system to automatically switch to summer time (daylight saving time)
timezone	Set the time zone for display purposes

Example

```
D60-044-90 (config)# clock source local
D60-044-90 (config)# clock source ntp
D60-044-90 (config)#
```

4-1.3 custom

To configure custom module.

Syntax

custom enable

Parameter

Example

```
D60-044-90 (config)# custom enable
D60-044-90 (config)#
```

4-1.4 dido

Digital I/O Configuration.

Syntax

dido di {<abnormal>|<normal>} event-description <event_description>

dido di normal-mode {<high>|<low>}

dido di trigger-mode {<off>|<on>}

dido do auto-recovery

dido do mode {<close>|<open>}

dido do normal-mode {<close>|<open>}

dido do pulse-duration <1-300>

dido do value {<close>|<open>}

Parameter

di	Digital Input (DI) Configuration			
	abnormal / normal	DI Abnormal Event Description Configuration / DI Abnormal Event Description Configuration		
		event-description	DI event Configuration	
			event_description	DI event description
	normal-mode	DI Normal Mode Configuration		
		high	Define DI High as Normal Mode	
		low	Define DI Low as Normal Mode	
	trigger-mode	DI trigger mode configuration		
		off	Off	
		on	On	
do	Digital Output (DO) Configuration			
	auto-recovery	DO auto recovery		
	mode	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	
	normal-mode	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	
	pulse-duration	Timer interval with the number of seconds		
		<1-300>	Timer interval range in seconds	
	value	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	

Example

```
D60-044-90(config)# dido do auto-recovery
D60-044-90(config)#
```

4-1.5 dos

To configure DoS.

Syntax

```
dos {<daeqsa-deny>|<icmp-frag-pkts-deny>|<icmpv4-ping-max-check>|<icmpv6-ping-max-check>|  
  
<ipv6-min-frag-size-check>|<land-deny>|<>nullscan-deny>|<pod-deny>|<smurf-deny>|  
  
<syn-sportl1024-deny>|<synfin-deny>|<synrst-deny>|<tcp-frag-off-min-check>|<tcpblat-deny>|  
  
<tcphdr-min-check>|<udpblat-deny>|<udpblat-deny>}  
  
dos icmp-ping-max-length <0-65535>  
dos ipv6-min-frag-size-length <0-65535>  
dos smurf-netmask <0-32>  
dos tcphdr-min-length <0-31>
```

Parameter

daeqsa-deny	Destination MAC equals to source MAC
icmp-frag-pkts-deny	Fragmented ICMP packets
icmp-ping-max-length	DoS information
icmpv4-ping-max-check	Check ICMPv4 ping maximum packets size
icmpv6-ping-max-check	Check ICMPv6 ping maximum packets size
ipv6-min-frag-size-check	Check minimum size of IPv6 fragments
ipv6-min-frag-size-length	DoS information
land-deny	Source IP equals to destination IP
nullscan-deny	NULL Scan Attacks
pod-deny	Ping of Death Attacks
smurf-deny	Smurf Attacks
smurf-netmask	DoS information
syn-sportl1024-deny	SYN packets with sport less than 1024
synfin-deny	SYN and FIN bits set in the packet
synrst-deny	SYNC and RST bits set in the packet
tcp-frag-off-min-check	TCP fragment packet with offset equals to one
tcpblat-deny	Source TCP port equals to destination TCP port
tcphdr-min-check	Check minimum TCP header
tcphdr-min-length	DoS information
udpblat-deny	Source UDP port equals to destination UDP port

xma-deny	Xmascan: sequence number is zero and the FIN, URG and PSH bits are set
-----------------	--

Example

```
D60-044-90(config)# dos xma-deny
D60-044-90(config)#
```

4-1.6 do

To run exec commands in current mode.

Syntax

do <command for exec mode>

Parameter

Example

```
D60-044-90(config)# do show users
  Username      Protocol      Location
-----
      admin      console      0.0.0.0
D60-044-90(config)#
```

4-1.7 end

End current mode and change to enable mode.

Syntax

end

Example

```
D60-044-90(config)# end
D60-044-90#
```

4-1.8 errdisable

Error Disable.

Syntax

```
errdisable recovery cause {<acl>|<all>|<arp-inspection>|<bpdu-guard>|<broadcast-flood>|  
    <dhcp-rate-limit>|<psecure-violation>|<selfloop>|  
    <unicast-flood>|<unknown-multicast-flood>}  
errdisable recovery interval <interval_time>
```

Parameter

cause	Error Disabled caused reason	
	acl	Enable timer to recover from acl causes
	all	Enable timer to recover from all causes
	arp-inspection	Enable timer to recover from arp rate limit causes
	bpdu-guard	Enable timer to recover from bpdu guard causes
	broadcast-flood	Enable timer to recover from broadcast flood causes
	dhcp-rate-limit	Enable timer to recover from dhcp rate limit causes
	psecure-violation	Enable timer to recover from port security causes
	selfloop	Enable timer to recover from selfloop causes
	unicast-flood	Enable timer to recover from unicast flood causes
	unknown-multicast-flood	Enable timer to recover from unknown multicast flood
interval	Recovery interval	
	<interval_time>	Interval with the number of seconds (30-86400)

Example

```
D60-044-90(config)# errdisable recovery cause unknown-multicast-flood  
D60-044-90(config)#
```

4-1.9 exit

Exit current mode and down to previous mode.

Syntax

```
exit
```

Example

```
D60-044-90 (config)# exit
D60-044-90#
```

4-1.10 hostname

To set system's network name.

Syntax

hostname <system_network_name>

Parameter

system_network_name	System network name (1-32 words)
----------------------------	----------------------------------

Example

```
D60-044-90 (config)# hostname D60-044-90
D60-044-90 (config)#
```

4-1.11 interface

Select an interface to configure.

Syntax

interface GigabitEthernet <port_number>

interface LAG <lag_id>

interface range GigabitEthernet <port_list>

interface range LAG <lag_list>

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_number>	Port number
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_id>	LAG id

range	Interface range command		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
		back-pressure	Enable back-pressure
		custom	Custom Module configuration
		description	Interface specific description
		dos	DoS information
		do	To run exec commands in current mode
		duplex	Configure duplex operation
		eee	EEE configuration
		end	End current mode and change to enable mode
		exit	Exit from current mode
		flowcontrol	Configure flow-control mode
		ip	IP information
		lACP	LACP Configuration
		lag	Link Aggregation Group Configuration
		lldp	LLDP interface subcommands
		mac	MAC configuration
		no	Negate command
		port-security	Port Security
		power	Power-over-Ethernet Configuration
		protected	Configure an interface to be a protected port
		qos	QoS configuration
		rate-limit	Rate limit configuration of the specified incoming traffic
		shutdown	Shutdown the selected interface
		spanning-tree	Spanning-tree configuration
		speed	Configure speed operation
storm-control		Storm control configuration	
switchport	Set switching mode characteristics		
LAG	IEEE 802.3 Link Aggregation interface		
	<lag_list>	LAG List X-Y,Z	
	back-pressure	Enable back-pressure	
	description	Interface specific description	

			dos	DoS information
			do	To run exec commands in current mode
			duplex	Configure duplex operation
			end	End current mode and change to enable mode
			exit	Exit from current mode
			flowcontrol	Configure flow-control mode
			ip	IP information
			mac	MAC configuration
			no	Negate command
			protected	Configure an interface to be a protected port
			qos	QoS configuration
			shutdown	Shutdown the selected interface
			spanning-tree	Spanning-tree configuration
			speed	Configure speed operation
			switchport	Set switching mode characteristics

Example

```
D60-044-90 (config)# interface GigabitEthernet 1
D60-044-90 (config-if)#
```

4-1.11.1 back-pressure

Back-pressure configuration.

Syntax

back-pressure

no back-pressure

Example

```
D60-044-90 (config-if)# back-pressure
D60-044-90 (config-if)# no back-pressure
D60-044-90 (config-if)#
```

4-1.11.2 custom

Per port custom module configuration

Syntax

custom enable

no custom enable

Parameter

custom enable	Enable per port custom function
no custom enable	Disable per port custom function

Example

```
D60-044-90 (config-if) # custom enable
D60-044-90 (config-if) # no custom enable
D60-044-90 (config-if) #
```

4-1.11.3 description

Interface specific description

Syntax

description <WORD>

no description

Parameter

WORD	Description string (1-63 words)
-------------	---------------------------------

Example

```
D60-044-90 (config-if) # description desc_word
D60-044-90 (config-if) # no description
D60-044-90 (config-if) #
```

4-1.11.4 dos

Per port DoS-related function configuration

Syntax

dos

no dos

Parameter

dos	Enable per port DoS function
no dos	Disable per port DoS function

Example

```
D60-044-90 (config-if) # dos
D60-044-90 (config-if) # no dos
D60-044-90 (config-if) #
```

4-1.11.5 do

To run exec commands in current mode

Syntax

do <sequence>

Parameter

sequence	Exec Command
-----------------	--------------

Example

```

D60-044-90(config-if)# do show info
System Name      : D60-044-90
System Location  :
System Contact   :
MAC Address      : 68:8D:B6:00:00:00
IP Address       : 192.168.11.199
Subnet Mask      : 255.255.255.0
Loader Version   : 2.0.0.1
Loader Date      : Jan 11 2022 - 13:46:46
Firmware Version : 2.0.1.3_vk
Firmware Date    : Jan 11 2022 - 13:52:13
System Object ID : 1.3.6.1.4.1.27282.3.2.10
System Up Time   : 0 days, 0 hours, 40 mins, 3 secs
D60-044-90(config-if)#

```

4-1.11.6 duplex

Per Port duplex configuration

Syntax

Duplex {<auto>|<full>|<half>}

Parameter

auto	Enable auto duplex configuration
full	Force full duplex operation
half	Force half duplex operation

Example

```

D60-044-90(config-if)# duplex auto
D60-044-90(config-if)#

```

4-1.11.7 eee

Per port EEE configuration

Syntax

eee

no eee

Parameter

eee	Enable per port EEE function
no eee	Disable per port EEE function

Example

```
D60-044-90(config-if)# eee
D60-044-90(config-if)# no eee
D60-044-90(config-if)#
```

4-1.11.8 end

End current mode and change to enable mode

Syntax

end

Example

```
D60-044-90(config-if)# end
D60-044-90#
```

4-1.11.9 exit

Exit from current mode

Syntax

exit

Example

```
D60-044-90 (config-if) # exit
D60-044-90 (config) #
```

4-1.11.10 flowcontrol

Per port flow control configuration

Syntax

flowcontrol {<auto>|<off>|<on>}

Parameter

auto	Enable per port auto mode flow control
off	Disable per port flow control function
on	Force on per port flow control function

Example

```
D60-044-90 (config-if) # flowcontrol auto
D60-044-90 (config-if) #
```

4-1.11.11 ip

Per port IP information.

Syntax

ip igmp filter <1-128>

ip igmp max-groups <0-256>

ip igmp max-groups action {<deny>|<replace>}

Parameter

filter	IPv4 filter	
	<1-128>	IPv4 filter profile index
max-groups	IGMP snooping max group number 0~256	

	deny	IGMP max-group action deny
	replace	IGMP max-group action replace

Example

```
D60-044-90(config-if)# ip igmp filter 1
D60-044-90(config-if)#
```

4-1.11.12 lacp

Per port LACP-related function configuration

Syntax

lacp priority <1-65535>

lacp timeout {<fast>|<slow>}

no lacp priority

no lacp timeout

Parameter

priority	IEEE 802.3 link aggregation port priority	
	<1-65535>	Port-priority value
timeout	IEEE 802.3 link aggregation port timeout	
	fast	Long timeout value
	slow	Short timeout value

Example

```
D60-044-90(config-if)# lacp timeout slow
D60-044-90(config-if)#
```

4-1.11.13 lag

Per port link aggregation group configuration.

Syntax

lag <lag-id> lacp {<active>|<passive>}

lag <lag-id> mode static

no lag

Parameter

<lag-id>	configure port as LAG <lag-id> member port		
	mode	Set LAG mode	
		static	Enable Static Only
	lacp	LACP Configuration	
		active	active mode
		passive	passive mode

Example

```
D60-044-90(config-if)# lag 1 lacp active
D60-044-90(config-if)#
```

4-1.11.14 lldp

Per port LLDP function configuration

Syntax

lldp rx

lldp tlv-select {<TLV>|pvid {<enable>|<disable>}}vlan-name {add <VLAN-LIST>|remove <VLAN-LIST>}}

lldp tx

no lldp rx

no tlv-select

no tlv-select pvid

no lldp tx

Parameter

rx	Enable LLDP reception on interface
-----------	------------------------------------

tlv-select	Selection of LLDP TLVs to send			
	TLV	LLDP optional TLV, pick from: port-desc, sys-name, sys-desc, sys-cap, mac-phy, lag, max-frame-size, management-addr		
	pvid	disable	Disable Tx optional-TLV 802.1 PVID	
		enable	Enable Tx optional-TLV 802.1 PVID	
	vlan-name	Add/remove VLAN for advertise		
		add	<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095
remove		<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095	
tx	Enable LLDP transmission on interface			

Example

```
D60-044-90(config-if)# lldp tx
D60-044-90(config-if)#
```

4-1.11.15 mac

Per port mac address table configuration

Syntax

mac address-table learn {<auto>|<disable>|<secure>}

Parameter

auto	Learning is done automatically
disable	No learning
secure	Only static MAC entries are learned, all other frames are dropped.

Example

```
D60-044-90(config-if)# mac address-table learn secure
D60-044-90(config-if)#
```

4-1.11.16 no

Negate command

Table : configure – no Commands

Command	Function
back-pressure	Enable back-pressure
custom	Custom Module configuration
description	Interface specific description
dos	DoS information
eee	EEE configuration
flowcontrol	Configure flow-control mode
ip	IP information
lACP	LACP Configuration
Lag	Link Aggregation Group Configuration
lldp	Lldp configuration
port-security	Port Security
power	Power-over-Ethernet Configuration
protected	Configure an interface to be a protected port
qos	QoS configuration
rate-limit	Rate limit configuration of the specified incoming traffic
shutdown	Shutdown the selected interface
spanning-tree	Spanning-tree configuration
storm-control	Storm control configuration
switchport	Set switching mode characteristics

4-1.11.17 port-security

Per port port-security function configuration.

Syntax

```
port-security {<cr>|<address-limit>|<mac-address>|<violation>}
```

```
no port-security {<cr>|<address-limit>|<mac-address>|<violation>}
```

Parameter

address-limit	MAC address limitation
mac_address	Sticky MAC address
violation	Action to be taken when limitation is reached

Example

```
D60-044-90 (config-if) # port-security
D60-044-90 (config-if) #
```

4-1.11.18 power

Per port power over ethernet (PoE) configuration.

Syntax

```
power inline auto
```

```
power inline auto-check {<action>|<interval>|<ip>|<reboot-max>|<reboot-time>|<retry>|<start-time>}
```

```
power inline delay initial {<cr>|<0-300>}
```

```
power inline bt
```

```
power inline poh
```

```
power inline force
```

```
power inline limit <0-30000>
```

```
power inline never
```

```
power inline priority {<critical>|<high>|<low>}
```

power inline schedule <schedule_profile_number>

no power inline {<delay>|<limit>|<schedule>}

Parameter

auto	Turns on the device discovery protocol and applies power to the device.	
auto_check	Auto check function	
	action	ilpower port auto check action
	interval	ilpower port auto check interval
	ip	ilpower port auto check ip
	reboot-max	ilpower port auto check maximum reboot times
	reboot-time	ilpower port auto check reboot time
	retry	ilpower port auto check retry times
delay	initial	Initial power enable
	<0-300>	Specifies the port power delay time in seconds
force	The switch port will power up the linked PD without any detect/negotiate mechanism	
bt	BT Mode	
poh	POH Mode	
limit	The port limit of the interface from the point of view of inline power management	
	<0-30000>	Specify the port limit in milliwatt
never	Turns off the device discovery protocol and stops supplying power to the device	
priority	ilpower port priority	
	critical	Specifies that the powered device operation is critical
	high	Specifies that the powered device operation is high
	low	Specifies that the powered device operation is low
schedule	Schedule Profile Configuration	
	<1-10>	Schedule Profile number

Example

```
D60-044-90(config-if)# power inline schedule 1
D60-044-90(config-if)#
```

4-1.11.19 protected

Per port protected function configuration.

Syntax

protected

no protected

Example

```
D60-044-90 (config-if) # protected
D60-044-90 (config-if) #
```

4-1.11.20 qos

Per port QoS-related configuration

Syntax

qos {<cos>|<queue>|<remark>|<schedule>|<trust>}

Parameter

cos	Configure the default CoS value for a port. Use the no form of the command to return to the default setting.
queue	Queue configuration
remark	Configure remarking state of each port
schedule	QoS scheduling algorithm
trust	Configure each port to trust state while the system is in basic mode. Use the no form of the command to disable trust state on each port

Example

```
D60-044-90 (config-if) # qos schedule wfq
D60-044-90 (config-if) #
```

4-1.11.21 rate-limit

Per port rate limit configuration

Syntax

rate-limit egress <16-1000000>

rate-limit egress queue <queue_id> <16-1000000>

rate-limit ingress <16-1000000>

no rate-limit egress queue <queue_id>

no rate-limit ingress

Parameter

egress	Rate limit args egress configuration			
	<16-1000000>	The average traffic rate in Kbps, must be a multiple of 16		
	queue	queue configuration		
		<queue_id>	queue id	
<16-1000000>			The average traffic rate in Kbps, must be a multiple of 16	
ingress	Rate limit args ingress configuration			
	<16-1000000>	The average traffic rate in Kbps, must be a multiple of 16		

Example

```
D60-044-90(config-if)# rate-limit ingress 16000
D60-044-90(config-if)#
```

4-1.11.22 shutdown

Shutdown the selected interface

Syntax

shutdown

no shutdown

Parameter

shutdown	shutdown the interface
no shutdown	turn on the interface

Example

```
D60-044-90 (config-if) # shutdown
D60-044-90 (config-if) #
```

4-1.11.23 spanning-tree

Per port spanning tree configuration

Syntax

spanning-tree

spanning-tree bpdu-filter

spanning-tree bpdu-guard

spanning-tree cost <0-200000000>

spanning-tree edge

spanning-tree link-type {<point-to-point>|<shared>}

spanning-tree mcheck

spanning-tree mst <0-15> **cost** <0-200000000>

spanning-tree mst <0-15> **port-priority** <0-240>

spanning-tree port-priority <0-240>

Parameter

bpdu-filter	Sets the BPDU-Filter for specified port	
bpdu-guard	Sets the BPDU-Guard for specified port	
cost	Change an interface's spanning tree path cost	
	<0-200000000>	The value of external path cost (0 = Auto)
edge	Sets the edge-port for specified port	

link-type	Specify a link type for spanning tree protocol use		
	<point-to-point>	Consider the interface as point-to-point	
	<shared>	Consider the interface as shared	
mcheck	Set the mcheck for specified port to migrate		
mst	Sets spanning-tree parameters of instance		
	<0-15>	Instance ID (0~15)	
	cost	Sets the internal path cost for specified instance	
		<0-200000000>	The value of internal path cost (0 = Auto)
	port-priority	Sets the priority for specified instance	
<0-240>		Priority (0~240)	
port-priority	Sets the priority for specified instance		
	<0-240>	Priority (0~240)	

Example

```
D60-044-90(config-if)# spanning-tree link-type point-to-point
D60-044-90(config-if)#
```

4-1.11.24 speed

Per port speed configuration

Syntax

```
speed {10|100|1000|auto}
```

Parameter

Example

```
D60-044-90(config-if)# speed 1000
D60-044-90(config-if)#
```

4-1.11.25 storm-control

Per port storm-control configuration

Syntax

storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

no storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

Parameter

action	Storm control action after exceed threshold
broadcast	Broadcast storm control
unknown-multicast	Unknown-multicast storm control
unknown-unicast	Unknown-unicast storm control

Example

```
D60-044-90 (config-if) # storm-control  
D60-044-90 (config-if) #
```

4-1.11.26 switchport

Set per port switching mode characteristics.

Syntax

switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

no switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

Parameter

access	Vlan aware port
default-vlan	Default VLAN
forbidden	Forbidden VLAN
hybrid	Configure switchport in hybrid mode
mode	VLAN mode
trunk	Vlan aware port

Example

```
D60-044-90(config-if)# switchport mode access
D60-044-90(config-if)#
```

4-1.12 ip

Internet Protocol.

Syntax

ip address <ipv4_addr> {<cr>|mask <ipv4_mask>}

ip default-gateway <ipv4_addr>

ip dhcp

ip dhcp server

ip dhcp server dhcp-range <pool_start_ipv4_addr> <pool_end_ipv4_addr>

ip dhcp server lease-time <0-864000000>

ip dns <ipv4_addr>

ip http

ip http port <1-65535>

ip http session-timeout <0-65535>

ip https

ip https port <1-65535>

ip https session-timeout <0-65535>

ip igmp profile <1-128>

ip igmp snooping {<cr>|<forward-method>|<report-suppression>|<unknown-multicast>|<version>|<vlan>}

Parameter

address	IPv4 Address		
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)	
		mask	A.B.C.D

default-gateway	Set default gateway IP address				
	A.B.C.D	Default gateway IP address			
dhcp	DHCP configuration				
	server	dhcp server configuration			
		dhcp-range	IPv4 range		
			A.B.C.D	IPv4 start address	A.B.C.D
		lease-time	lease time		
<0-864000000>	0-864000000 seconds (0: infinite)				
dns	DNS				
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)			
http	HTTP server configuration				
	port	Configure port			
		<1-65535>	port number		
	session-timeout	Session timeout configuration			
<0-65535>		Timeout after specified minutes (0 means no timeout)			
https	HTTPS server configuration				
	port	Configure port			
		<1-65535>	port number		
	session-timeout	Session timeout configuration			
<0-65535>		Timeout after specified minutes (0 means no timeout)			
igmp	IGMP Configuration				
	profile	IGMP profile			
		<1-128>	Profile index		
	snooping	IGMP Snooping Configuration			
		forward-method	Forward method		
			dip	DIP method	
			mac	MAC method	
		report-suppression	IGMP v1/v2 report suppression		
		unknown-multicast	Unknown multicast		
			action	Action on receiving unknown multicast packets	
				drop	Drop the packets
	flood			Flood the packets	
	router-port	Forward to router ports			
version	IGMP Snooping Operation Version				
	2	IGMP Operation Version is v2			
	3	IGMP Operation Version is v3			
vlan	VLAN configuration				

		VLAN-LIST	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094	
			forbidden-port	IPv4 forbidden port configuration
			forbidden-router-port	Forbidden mrouter port configuration
			immediate-leave	IGMP snooping immediate-leave function
			last-member-query-count	Last Member Query Count
			last-member-query-interval	Last Member Query Interval
			querier	IGMP snooping querier function
			query-interval	Query Interval
			response-time	Response Time
			robustness-variable	Robustness Variable
			router	IGMP snooping router
			static-group	Static group configuration
			static-port	IPv4 static port configuration
			static-router-port	Static mrouter port configuration
ssh	SSH daemon configuration			
	port	Configure port		
		<1-65535>	port number	
telnet	Telnet daemon configuration			
	port	Configure port		
		<1-65535>	port number	

Example

```
D60-044-90(config)# ip address 192.168.11.1
D60-044-90(config)# ip dhcp server dhcp-range 192.168.11.100 192.168.11.200
D60-044-90(config)# ip dhcp server
D60-044-90(config)# ip dns_address 8.8.8.8
D60-044-90(config)#
```

4-1.13 ipv6

IPv6 configuration commands.

Syntax

Ipv6

ipv6 address <ipv6_address> prefix <0-128>

ipv6 default-gateway <ipv6_address>

ipv6 dhcp

Parameter

address	Set IPv6 address and prefix		
	<ipv6_addr>	prefix	prefix length
			<0-128> length value
autoconfig	Enable ipv6 auto-configuration		
default-gateway	Set IPv6 gateway		
	<ipv6_addr>	IPv6 gateway	
dhcp	Set IPv6 DHCP Client		

Example

```
D60-044-90(config)# ipv6 address FC00:: prefix 8
D60-044-90(config)#
```

4-1.14 jumbo-frame

Jumbo frame configuration.

Syntax

jumbo-frame {<cr>|<1518-10000>}

Example

```
D60-044-90(config)# jumbo-frame
D60-044-90(config)#
```

4-1.15 lacp

Lacp system configuration.

Syntax

lacp sys-priority <1-65535>

Parameter

sys-priority	LACP priority for the system	
	<1-65535>	Priority value

Example

```
D60-044-90 (config)# lacp sys-priority 1
D60-044-90 (config)#
```

4-1.16 lag

Link aggregation group configuration.

Syntax

lacp load-balance {<src-dst-mac>|<src-dst-mac-ip>}

Parameter

load-balance	Configure load balancing policy of the trunk	
	src-dst-mac	LAG load balancing is based on source and destination MAC address
	src-dst-mac-ip	LAG load balancing is based on source and destination of MAC and IP address

Example

```
D60-044-90 (config)# lag load-balance src-dst-mac
D60-044-90 (config)#
```

4-1.17 line

To identify a specific line for configuration.

Syntax

line {<console>|<ssh>|<telnet>}

Parameter

console	Console terminal line
ssh	Virtual terminal for secured remote console access (SSH)
telnet	Virtual terminal for remote console access (Telnet)

Example

```
D60-044-90(config)# line console
D60-044-90(config)#
```

4-1.18 lldp

LLDP configuration.

Syntax

lldp holdtime-multiplier <2-10>

lldp lldpdu {<filtering>|<bridging>|<flooding>}

lldp reinit-delay <1-10>

lldp tx-delay <1-8192>

lldp tx-interval <5-32767>

Parameter

holdtime-multiplier	Configuration of multiplier used for calculating the LLDP discovery packet hold time	
	<2-10>	Multiplier used for calculating the LLDP discovery packet hold time

lldpdu	Configure the action on LLDPDU upon disabled LLDP	
	bridging	Bridging LLDP PDU to VLAN member ports
	filtering	Drop LLDP PDU
	flooding	Flooding LLDP PDU to all ports (VLAN unaware)
reinit-delay	Delay (in sec) for LLDP initialization on any interface	
	<1-10>	Specify the delay (in secs) for LLDP to initialize
tx-delay	Delay between successive LLDP frame transmission	
	<1-8192>	LLDP Tx-delay time in seconds
tx-interval	Specify the rate at which LLDP packets are sent (in sec)	
	<5-32768>	Rate at which LLDP packets are sent (in sec)

Example

```
D60-044-90(config)# lldp holdtime-multiplier 5
D60-044-90(config)# lldp tx-delay 1
D60-044-90(config)# lldp tx-interval 5
D60-044-90(config)#
```

4-1.19 logging

Log Configuration.

Syntax

logging {<cr>|<buffered>|<console>|<file>} severity <0-7>

logging host

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7> facility <local0-local7>

logging class (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

Parameter

buffered / console / file	Buffered logging / Console logging / File logging			
	severity	Specify logging level		
		<0-7>	Minimum severity <0-7> (EMEGR-DEBUG)	
host	Remote syslog host			
	<ipv4_addr> / Hostname / <ipv6_addr>	Valid IP v4 Address / Host name / Valid IP v6 Address		
		facility	Specify facility parameter for syslog messages	
		port	Remote server port, default 514	
		severity	Specify logging level	
class	Logging event class setting			
	auth-failed	Set logging authentication failure event		
	cold-start	Set logging bootup cold start-up event		
	di	Set logging DI event		
	do	Set logging DO event		
	linkUpDown	Set logging link up and down event		
	poe-Fail	Set logging PoE failure event		
	poe-OnOff	Set logging PoE on/off event		
	warm-start	Set logging bootup warm start-up event		

Example

```
D60-044-90(config)# logging host 10.10.10.1 facility local7
D60-044-90(config)# logging console severity 5
D60-044-90(config)#
```

4-1.20 loop-prevention

Loop prevention configuration.

Syntax

loop-prevention

Example

```
D60-044-90 (config) # loop-prevention
D60-044-90 (config) #
```

4-1.21 mac

MAC address table configuration.

Syntax

```
mac address-table {<aging>|<aging-time>|<static>}
```

Parameter

aging	aging state	
aging-time	aging time of the address table	
	<10-630>	Aging-time range in seconds indicating how long an entry remain in mac address table
static	Static MAC address	

Example

```
D60-044-90 (config) # mac address-table aging
D60-044-90 (config) #
```

4-1.22 management vlan

Management VLAN configuration.

Syntax

```
management-vlan vlan <1-4094>
```

Parameter

<1-4094>	VLAN ID
----------	---------

Example

```
D60-044-90 (config)# management-vlan vlan 1
D60-044-90 (config)#
```

4-1.23 mirror

Mirror configuration.

Syntax

mirror session <1-4> source interface GigabitEthernet <port_id> {<both>|<tx>|<rx>}

mirror session <1-4> source interface LAG <lag_id> {<both>|<tx>|<rx>}

mirror session <1-4> destination interface GigabitEthernet <port_id> {<cr>|<allow-ingress>}

Parameter

session	Mirror Session configuration		
	<1-4>	Session ID (e.g. 1-4) configuraton	
	destination	Mirror destination configuration	
	source	Mirror Source configuration	

Example

```
D60-044-90 (config)# mirror session 1 destination interface GigabitEthernet 1
allow-ingress
D60-044-90 (config)#
```

4-1.24 no

Negate command

Table : configure – no Commands

Command	Function
clock	Manage the system clock
custom	Custom Module configuration
dido	Digital I/O Configuration
dos	DoS information
errdisable	Error Disable
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration
smtp	SMTP Configuration
snmp	SNMP information
spanning-tree	Spanning-tree configuration
username	Local User
vlan	VLAN configuration

4-1.25 ntp

Configure NTP.

Syntax

ntp host {<ip_address>|<hostname>} port <1-65535>

Parameter

ip_address	Valid IP v4 address
hostname	Host name

Example

```
D60-044-90(config)# ntp host 118.163.81.61 port 123
D60-044-90(config)#
```

4-1.26 port-security

Port security configuration.

Syntax

port-security

port-security rate-limit <1-600>

Parameter

rate-limit	Rate limiter to protect the CPU against excessive load	
	<1-600>	Rate in packet per second (pps)

Example

```
D60-044-90(config)# port-security rate-limit 300
D60-044-90(config)#
```

4-1.27 power

Power over Ethernet (PoE) configuration.

Syntax

power inline auto-check

power inline force-mode {<disable>|<enable>}

power inline limit-mode {<class>|<port>}

power inline schedule <1-10> name <profile_name>

power inline schedule <1-10> weekday <1-7> {<start>|<end>} hour <0-23> minute <0-59>

Parameter

auto-check	The auto refresh function of the interface from the point of view of inline power management	
force-mode	PoE power force mode of the rtk system	
	disable	The power force mode disable
	enable	The power force mode enable
limit-mode	PoE power limit mode of the system	
	class	The power limit of a port is fixed regardless of the class of the discovered PD
	port	The power limit of a port is based on the class of the PD as detected during the classification process
schedule	Schedule Profile Configuration	

Example

```
D60-044-90(config)# power inline limit-mode class
D60-044-90(config)#
```

4-1.28 qos

Quality of Service.

Syntax

qos

qos map {<cos-queue>|<dscp-queue>|<precedence-queue>|<queue-cos>|<queue-dscp>|
<queue-precedence>}

qos queue strict-priority-num <0-8>

qos queue weight <1-8>

qos trust {<cos>|<cos-dscp>|<dscp>|<precedence>}

Parameter

map	Configure the QoS maps	
	cos-queue	Map assigned CoS values to select an egress queue. Use the command no form to return to the default values.
	dscp-queue	Modify the DSCP to queue map.
	precedence-queue	Modify the IP Precedence to queue map.
	queue-cos	Modify the queue to CoS map.
	queue-dscp	Modify the queue to DSCP map.
	queue-precedence	Modify the queue to ip precedence map.
queue	Queue configuration	
	strict-priority-num	Configure the number of strict priority queues
	weight	Configure weights to egress queues. Use no form to return to default values
trust	Configure the global trust mode . Use the no form to return untrusted state.	
	cos	Specify trust mode cos.
	cos-dscp	Specify trust mode Cos-DSCP.
	dscp	Specify trust mode DSCP.
	precedence	Specify trust mode precedence

Example

```
D60-044-90(config)# qos
D60-044-90(config)#
```

4-1.29 smtp

Simple Mail Transfer Protocol(SMTP) configuration.

Syntax

smtp

smtp class (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

smtp {<email_1>|<email_2>|<email_3>|<email_4>|<email_5>|<email_6>|<mail-server>|<password>|<return-path>|<sender>|<username>} WORD<0-48>

Parameter

email_1	Set SMTP email 1 address	WORD<0-48>
email_2	Set SMTP email 2 address	
email_3	Set SMTP email 3 address	
email_4	Set SMTP email 4 address	
email_5	Set SMTP email 5 address	
email_6	Set SMTP email 6 address	
mail-server	Set SMTP mail server address	
password	Set SMTP password	
return-path	Set SMTP return address	
sender	Set SMTP sender address	
username	Set SMTP user name	
class	SMTP event class setting	
	auth-failed	Set SMTP authentication failure event
	cold-start	Set SMTP bootup cold start-up event
	di	Set SMTP DI event
	do	Set SMTP DO event
	linkUpDown	Set SMTP link up and down event
	poe-Fail	Set SMTP PoE failure event
	poe-OnOff	Set SMTP PoE on/off event
	warm-start	Set SMTP bootup warm start-up event

Example

```
D60-044-90 (config)# smtp class auth-failed
D60-044-90 (config)#
```

4-1.30 snmp

SNMP server's configuration.

Syntax

snmp

snmp community <community_string> (address|group|ro|rw)

snmp engineid ENGINEID

snmp engineid default

snmp engineid remote {<A.B.C.D>|<HOSTNAME>|<X::X::X>}

snmp group NAME version (1|2c|3) noauth read-view NAME write-view NAME

snmp host {<ipv4_addr>|<hostname>|<ipv6_addr>}

snmp trap (auth-failed|cold-start|di|do|linkUpDown|poe-Fail|poe-OnOff|warm-start)

snmp user USER_NAME group GROUP_NAME auth (md5|sha) AUTHPASSWD priv (aes|des) PRIVPASSWD (ro|rw)

snmp view VIEW_NAME subtree Subtree_OID viewtype (excluded|included)

Parameter

community	Set community or security name string		
	<community_string>	Community name (maximum length is 20 characters)	
		ro	Set community access read_only
		rw	Set community access read_write
host	Trap or inform host		
engineid	SNMP engine id setting		
group	Set access group string		
user	Set user Settings		
view	Set view string		
trap	SNMP class trap setting		
	auth	Set snmp authentication failure trap	
	cold-start	Set snmp bootup cold start-up trap	
	linkUpDown	Set snmp link up and down trap	
	warm-start	Set snmp bootup warm start-up trap	
	di	Set SNMP DI event trap	
	do	Set SNMP DO event trap	
	poe-Fail	Set SNMP PoE Failure event trap	

	poe-OnOff	Set SNMP PoE On/Off event trap
--	-----------	--------------------------------

Example

```
D60-044-90 (config)# snmp
D60-044-90 (config)# snmp community private rw
D60-044-90 (config)#
```

4-1.31 spanning-tree

Spanning Tree protocol.

Table : configure –spanning-tree Commands

Command	Function
mst configuration	Enter MST configuration submode

Syntax

spanning-tree

spanning-tree bpdu (filtering|flooding)

spanning-tree forward-delay <4-30>

spanning-tree hello-time <1-10>

spanning-tree max-hops <1-40>

spanning-tree maximum-age <6-40>

spanning-tree mode (stp|rstp|mstp)

spanning-tree mst <0-15> priority <0-61440>

spanning-tree pathcost method (long|short)

spanning-tree priority <0-61440>

spanning-tree tx-hold-count <1-10>

Parameter

bpdu	Configure default bpdu action.
filtering	BPDU packets are filtered on STP-disable ports.
flooding	BPDU packets are flooding to all ports when STP-disable.
forward-delay	Configure forward-delay parameter.
<4-30>	Forward-delay time in seconds.
hello-time	Configure hello-time parameter.
<1-10>	Configure hello time in seconds.
max-hops	Configure MSTP bridge max hop count.
<1-40>	Configure maximum number of hops.
maximum-age	Configure the age time for receiving control packet from root switch.
<6-40>	Age time of control packet from root switch.
mode	Spanning tree protocol type
mst	MSTP bridge instance
<0-15>	MST instance ID , 0 is for CIST (0..15)
priority	Priority of the instance
spanning-tree	Enable spanning-tree protocol.
tx-hold-count	Configure tx-hold-count in seconds.
<1-10>	Tx-hold counts.

Example

```
D60-044-90 (config) # spanning-tree mode stp
D60-044-90 (config) #
```

4-1.31.1 mst configuration

STP bridge instance configuration submenu.

Syntax

spanning-tree mst configuration

instance <0-15> vlan <vlan_list>

name <word32>

revision <0-65535>

Parameter

mst configuration	Enter MST configuration submode.
Instance	Sets spanning-tree parameters of instances.
<0-15>	MST instance ID , 0 is for CIST (0..15)
vlan	Add the MSTI-to-VLAN mapping.
<vlan_list>	List of VLAN numbers, 1~4094.
name	Name keyword
<word32>	Name of the bridge (word32)
revision	Set revision level.
<0-65535>	Revision level (0..65535)

Example

```
D60-044-90 (config)# spanning-tree mst 7 vlan 10
D60-044-90 (config)#
```

4-1.32 system

Set the system information configuration.

Syntax

system contact <word255>

system location <word255>

system name <word32>

Parameter

contact	Set host contact	
	<word255>	contact string (word255)
location	Set host location	
	<word255>	location string (word255)
name	Set host name	
	<word32>	name string (word32)

Example

```
D60-044-90 (config)# system contact "Contact here"  
D60-044-90 (config)#
```

4-1.33 username

Enable telnet server.

Syntax

```
username WORD<0-32> {<encrypted>|<password>} <PASSWORD>
```

Example

```
D60-044-90 (config)# username "user_1" password "pwd_1"  
D60-044-90 (config)#
```

4-1.34 vlan

VLAN configuration.

Syntax

```
vlan <vlan_list>
```

Parameter

<vlan_list>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094
-------------	---

Example

```
D60-044-90(config)# vlan 3,6-8
D60-044-90(config)#
```

Copy from source to destination.

Syntax

```
copy backup-config {<running-config>|<startup-config>|<tftp://server/path-to-file>}
```

```
copy flash:image {<flash:image>|<tftp://server/path-to-file>}
```

```
copy running-config {< backup-config>|<startup-config>|<tftp://server/path-to-file>}
```

```
copy startup-config {<running-config>|<backup-config>|<tftp://server/path-to-file>}
```

```
copy tftp://server/path-to-file {<backup-config>|<flash:image>|<running-config>|<startup-config>|<tftp://server/path-to-file>}
```

Parameter

backup-config	Backup configuration.
flash:image	Copy from flash: file system
running-config	Running configuration
startup-config	Startup configuration
tftp://server/path-to-file	Copy from tftp: file system

Example

```
D60-044-90# copy tftp://192.168.137.100/vmlinux.bix flash://image
Downloading file. Please wait...
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Correct FW[D60-044-90_v1.2.3.7] for model[D60-044-90]
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Upgrade firmware success. Do you want to reboot now? (y/n)y
```

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
power	power-over-ethernet configuration
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Delete a file from the flash file system.

Syntax

```
delete {<backup-config>|<flash:image>|<startup-config>|<system>}
```

Parameter

backup-config	Backup configuration.	
flash:image	Delete a file from the flash file system	
startup-config	Startup configuration	
system	Run time firmware image	
	image0	Runtime image 0
	image1	Runtime image 1

Example

```
D60-044-90# delete flash://startup-config
Delete flash://startup-config [y/n] y
*Dec 04 2020 11:10:35: %SYSTEM-5: System restore to default
Do you want to reload the system to take effect? [y/n]
```

Turn off privileged mode command.

Syntax

disable

Example

```
D60-044-90# disable
```

End current mode and change to enable mode.

Syntax

end

Example

```
D60-044-90# end
```

Exit current mode and back to previous mode.

Syntax

exit

Parameter

Example

```
D60-044-90# exit
```

Turn off debug mode.

Syntax

no debug {<acl>|<igmp>|<l2>|<lag>|<lldp>|<platform>|<power>|<psecure>|<spanning-tree>|<time>|<vlan>}

Parameter

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Example

```
D60-044-90# no debug l2
```

Send ICMP ECHO_REQUEST to network hosts

Syntax

```
ping {<ipv4_addr>|<HOSTNAME>|<ipv6_addr>} {<cr>|<count>} <1-65535>
```

Parameter

<ipv4_addr>	Valid ipv4 address.
HOSTNAME	Host name
<ipv6_addr>	Valid ipv6 address.

Example

```
D60-044-90# ping 1.1.1.1 count 2
PING 1.1.1.1 (1.1.1.1): 56 data bytes
64 bytes from 1.1.1.1: icmp_seq=0 ttl=54 time=20.0 ms
64 bytes from 1.1.1.1: icmp_seq=1 ttl=54 time=10.0 ms

--- 1.1.1.1 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 10.0/15.0/20.0 ms
D60-044-90#
```

Halt and perform a warm restart.

Syntax

reboot

Example

```
D60-044-90# reboot
*Dec 04 2020 14:11:15: %SYSTEM-4: System reboot
```

Restore to default.

Syntax

restore-defaults

restore-defaults keep ip

Parameter

keep	Keep configuration options	
	ip	IP Configuration

Example

```
D60-044-90# restore-defaults
*Dec 04 2020 14:12:25: %SYSTEM-5: System restore to default
System: restore factory defaults. Do you want to reboot now? (y/n)y
Rebooting now...
```

Save running configuration to flash.

Syntax

save

Example

```
D60-044-90# save
```

Table : SHOW Commands

Command	Function
backup-config	Backup configuration
bootvar	Show boot attributes
cable-dia	Cable Diagnostics
clock	Display the time and date from the system clock
cpu	Displays information about the system CPU utilization
custom	Custom Module configuration
debugging	Debugging information
dido	Display Digital I/O Configuration
dos	DoS information
errdisable	Error Disable
fiber-transceiver	Fiber ports diagnostics
flash	Flash Operations
history	List the last several history commands
info	Basic information
interfaces	Interface status and configuration
ip	IP information
ipv6	IPv6 information
lACP	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	LLDP information
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
memory	Memory statistics
mirror	Mirror configuration
ntp	Simple Network Time Protocol (NTP) information
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration

running-config	Running configuration
smtp	SMTP information
snmp	SNMP information
spanning-tree	Show spanning tree information
startup-config	Startup configuration
storm-control	Storm control configuration
username	Local User
users	Display information about users
version	System hardware and software status
vlan	VLAN configuration

16-1 backup-config

Backup configuration

Syntax

```
show backup-config
```

Example

```
D60-044-90# show backup-config
```

16-2 bootvar

Boot attributes.

Syntax

```
show bootvar
```

Example

```

D60-044-90# show bootvar
Image Version          Date                Status          File Name
-----
0      D60-044-90_v2.0.1.3_vk 2022-01-11 13:52:13      Active*
1      D60-044-90_v2.0.1.3_vk 2022-01-11 13:52:13      Not active

"*" designates that the image was selected for the next boot
D60-044-90#

```

16-3 cable-diag

Cable Diagnostics.

Syntax

show cable-diag interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```

D60-044-90# show cable-diag interfaces GigabitEthernet 1
Port  | Speed | Local pair | Pair length | Pair status
-----+-----+-----+-----+-----
  g1l  | auto  |   Pair A  |    0.52    |   Open
        |       |   Pair B  |    0.50    |   Open
        |       |   Pair C  |    0.51    |   Open
        |       |   Pair D  |    0.51    |   Open
D60-044-90#

```

16-4 clock

The time and date from the system clock.

Syntax

```
show clock {<cr>|<detail>}
```

Parameter

detail	Show timezone and summertime configuration
---------------	--

Example

```
D60-044-90# show clock
2022-01-01 08:35:52
Time set manually
D60-044-90# show clock detail
2022-01-01 08:35:59
Time set manually
Time zone:
Acronym is
Offset is UTC+8
D60-044-90#
```

16-5 cpu

CPU information.

Syntax

```
show cpu input rate
```

```
show cpu utilization
```

Parameter

input	Show rate of input frames to CPU.	
	rate	Show rate of input frames to CPU
utilization	Displays information about the system CPU utilization	

Example

```
D60-044-90# show cpu input rate
Input Rate to CPU is 0 pps
D60-044-90# show cpu utilization
CPU utilization
-----
Current: 53%
D60-044-90#
```

16-6 custom

Custom Module configuration.

Syntax

show custom enable

show custom enable interface GigabitEthernet <port_list>

show custom enable interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
<lag_list>		LAG List X-Y,Z	

Example

```
D60-044-90# show custom enable interfaces GigabitEthernet 3,6-8
  Port | Status
-----+-----
    gi3 | disabled
    gi6 | disabled
    gi7 | disabled
    gi8 | disabled
D60-044-90#
```

16-7 debugging

Debugging information.

Syntax

```
show debugging
```

Example

```
D60-044-90# show debugging
D60-044-90#
```

16-8 dido

Display Digital I/O Configuration.

Syntax

```
show dido
```

Example

```

D60-044-90# show dido
DIDO Check Interval: 2 seconds

DO Auto Recovery Mode: enable

-----+-----
DI      Event Description:
-----+-----

Normal |"normal_event"
Abnormal|"abnormal_event"

-----+-----+-----
DIDO | Direction | Value | Normal Mode
-----+-----+-----

DI |      IN |    1 |    high
DO |      OUT |    0 |    open

D60-044-90#

```

16-9 dos

DoS information.

Syntax

show dos

show dos interface GigabitEthernet <port_list>

show dos interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
D60-044-90# show dos
  Type                               | State (Length)
-----+-----
DMAC equal to SMAC                   | enabled
Land (DIP = SIP)                     | enabled
UDP Blat (DPORT = SPORT)             | enabled
TCP Blat (DPORT = SPORT)             | enabled
POD (Ping of Death)                  | enabled
IPv6 Min Fragment Size                | enabled (1240 Bytes)
ICMP Fragment Packets                 | enabled
IPv4 Ping Max Packet Size             | enabled (512 Bytes)
IPv6 Ping Max Packet Size             | enabled (512 Bytes)
Smurf Attack                           | enabled (Netmask Length: 0)
TCP Min Header Length                 | enabled (20 Bytes)
TCP Syn (SPORT < 1024)                | enabled
Null Scan Attack                       | enabled
X-Mas Scan Attack                     | enabled
TCP SYN-FIN Attack                    | enabled
TCP SYN-RST Attack                    | enabled
TCP Fragment (Offset = 1)             | enabled
D60-044-90#
```

16-10 errdisable

Error Disable.

Syntax

show errdisable recovery

Example

```

D60-044-90# show errdisable recovery
ErrDisable Reason      | Timer Status
-----+-----
          bpduguard | disabled
          selfloop  | disabled
    broadcast-flood | disabled
unknown-multicast-flood | disabled
          unicast-flood | disabled
              acl | disabled
    psecure-violation | disabled
      dhcp-rate-limit | disabled
          arp-inspection | disabled

Timer Interval : 300 seconds

Interfaces that will be enabled at the next timeout:

Port | Error Disable Reason      | Time Left
-----+-----+-----
D60-044-90#

```

16-11 fiber-transceiver

Fiber ports diagnostics.

Syntax

show fiber-transceiver interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```

D60-044-90# show fiber-transceiver interfaces GigabitEthernet 1-5
Port   | Temperature | Voltage   | Current   | Output power | Input power | OE-
Present | LOS
        | [C]         | [Volt]    | [mA]      | [mWatt]      | [mWatt]    |
|
=====
=====
gi1    |
gi2    |
gi3    |
gi4    |
gi5    |

Temp      - Internally measured transceiver temperature
Voltage   - Internally measured supply voltage
Current   - Measured TX bias current
Output Power - Measured TX output power in milliWatts
Input Power - Measured RX received power in milliWatts
OE-Present - SFP Presetn or Not Present
LOS       - Loss of signal
N/A - Not Available, N/S - Not Supported, W - Warning, E - Error

```

16-12 flash

Flash Operations.

Syntax

show flash

Example

```
D60-044-90# show flash
```

File Name	File Size	Modified
-----	-----	-----
startup-config	948	2022-01-01 00:08:49
ssl_cert	1277	2022-01-01 00:00:59
image0 (active)	10448078	2022-01-11 13:52:13
image1 (backup)	10448078	2022-01-11 13:52:13

```
D60-044-90#
```

16-13 history

Show CLI command history.

Syntax

```
show history
```

Example

```
D60-044-90# show history
Maximun History Count: 128
-----
1. conf
D60-044-90#
```

16-14 info

Basic information.

Syntax

```
show info
```

Example

```

D60-044-90# show info
System Name      : D60-044-90
System Location  :
System Contact   :
MAC Address      : 68:8D:B6:01:02:03
IP Address       : 192.168.11.59
Subnet Mask      : 255.255.255.0
Loader Version   : 2.0.0.1
Loader Date      : Sep 27 2022 - 14:14:01
Firmware Version : 2.03.04
Firmware Date    : Jan 10 2023 - 03:46:30
System Object ID : 1.3.6.1.4.1.58360.100.10
System Up Time   : 0 days, 2 hours, 5 mins, 50 secs
D60-044-90#

```

16-15 interface

Interface status and configuration.

Syntax

show interfaces GigabitEthernet <port_list> {<cr>|<protected>|<status>}

show interfaces LAG <lag_list> {<cr>|<protected>|<status>}

show interfaces switchport GigabitEthernet <port_list>

show interfaces switchport LAG <lag_list>

Parameter

interfaces	Interface status and configuration			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			protected	Configure an interface to be a protected port
			status	Port status information
LAG	IEEE 802.3 Link Aggregation interface			

		<lag_list>	LAG List X-Y,Z		
			protected	Configure an interface to be a protected port	
			status	Port status information	
	switchport	Set switching mode characteristics			
		GigabitEthernet	Gigabit ethernet interface to configure		
			<port_list>	Port List X-Y,Z	
		LAG	IEEE 802.3 Link Aggregation interface		
			<lag_list>	LAG List X-Y,Z	

Example

```
D60-044-90# show interfaces GigabitEthernet 2-3 status
Port Status      Duplex Speed  Type
gi2  notconnect  auto   auto   Copper
gi3  notconnect  auto   auto   Copper
D60-044-90#
```

16-16 ip

Internet Protocol.

Syntax

show ip

show ip dhcp {<cr>|<server>}

show ip http

show ip https

show ip igmp filter

show ip igmp filter interfaces GigabitEthernet <port_list>

show ip igmp filter interfaces LAG <lag_list>

show ip igmp max-group

show ip igmp max-group action {<cr>|interfaces GigabitEthernet <port_list>|interfaces LAG <lag_list>}

show ip igmp max-group interfaces GigabitEthernet <port_list>

show ip igmp max-group interfaces LAG <lag_list>

show ip igmp profile {<cr>|<1-128>}

show ip igmp snooping {<cr>|<forward-all>|<groups>|<querier>|<router>|<vlan>}

Parameter

dhcp	DHCP information		
	server	DHCP Server	
http	HTTP server configuration		
https	HTTPS server configuration		
igmp	Interface status and configuration		
	filter	IGMP port filter	
	max-group	IGMP port group limit num	
	profile	IGMP profile configuration	
	snooping	IGMP Snooping Configuration	
		<forward-all>	IPv4 forward all
		<groups>	IPv4 multicast groups
		<querier>	Querier information
<router>		IPv4 multicast routers	
<vlan>	VLAN configuration		

Example

```
D60-044-90# show ip dhcp server
DHCP Server State : disabled
Start IPv4 Address: 0.0.0.0
End   IPv4 Address: 0.0.0.0
Client Lease Time : 86400 seconds
D60-044-90#
```

16-17 ipv6

IPv6 configuration commands.

Syntax

show ipv6

Example

```
D60-044-90# show ipv6
##### Config #####
    State: enabled
    Auto Config: enabled
    DHCPv6: disabled
    Gateway: ::

##### Status #####
    IP Address: fe80::6a8d:b6ff:fe00:0/64
    Default Gateway: ::
D60-044-90#
```

16-18 lacp

Lacp configuration.

Syntax

show lacp

Example

```
D60-044-90# show lacp
```

```
Status: C - current, E - expired, D - defaulted
```

```
        a - attached, d - detached
```

```
State:  A - activity,      T - timeout(fast), G - aggregation
```

```
        S - synchronized, C - collecting,   D - distributing
```

```
        F - defaulted,    E - expired
```

```
LAG Port  Status          Sys ID          Port ID Sys Pri Port Pri Key      State
```

```
-----
```

```
--
```

16-19 lag

Link Aggregation Group Configuration.

Syntax

```
show lag
```

Example

```
D60-044-90# show lag
```

```
Load Balancing: src-dst-mac.
```

```
Group ID | Type | Ports
```

```
-----+-----+-----
```

```
1      | ----- |
```

```
2      | ----- |
```

```
3      | ----- |
```

```
4      | ----- |
```

```
5      | ----- |
```

```
6      | ----- |
```

```
7      | ----- |
```

```
8      | ----- |
```

```
D60-044-90#
```

16-20 line

A specific line for configuration.

Syntax

```
show line {<cr>|<console>|<ssh>|<telnet>}
```

Parameter

console	Access CLI from console
ssh	Access CLI from ssh
telnet	Access CLI from telnet

Example

```
D60-044-90# show line
Console =====
  Session Timeout : 10 (minutes)
  History Count   : 128
  Password Retry  : 3
  Silent Time     : 0 (seconds)
Telnet =====
  Telnet Server   : disabled (23)
  Session Timeout : 10 (minutes)
  History Count   : 128
  Password Retry  : 3
  Silent Time     : 0 (seconds)
SSH =====
  SSH Server      : disabled (22)
  Session Timeout : 0 (minutes)
  History Count   : 128
  Password Retry  : 0
  Silent Time     : 0 (seconds)
D60-044-90#
```

16-21 lldp

show lldp configuration.

Syntax

show lldp

show lldp interface GigabitEthernet <port_list>

show lldp interface GigabitEthernet <port_list> {<local-device>|<neighbor>|<statistics>|<tlvs-overloading>}

show lldp local-device

show lldp neighbor

show lldp statistics

Parameter

interfaces	Interface status and configuration			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			local-device	LLDP information that is advertised from a specific port
			neighbor	Information about neighboring devices discovered using Link Layer Discovery Protocol
			statistics	LLDP Statistics information
tlvs-overloading	LLDP TLVs overloading information			
local-device	LLDP information that is advertised from a specific port			
neighbor	Information about neighboring devices discovered using Link Layer Discovery Protocol			
statistics	LLDP Statistics information			

Example

```
D60-044-90# show lldp neighbor
```

```
Port | Device ID          | Port ID          | SysName          | Capabilities | TTL
----+-----+-----+-----+-----+
gi8  | 00:68:8D:B6:51:04 | 6                | H51-044-90-250  | Bridge      | 117
```

16-22 logging

Log Configuration.

Syntax

```
show logging
```

```
show logging {<buffered>|<file>|<event>}
```

Parameter

buffered	Buffered logging
file	File logging
event	Display syslog class of event enable or disable

Example

```

D60-044-90# show logging

Logging service is enabled

Console Logging: level notice
Buffer Logging : level notice
File Logging   : disabled

Buffer Logging
-----
*Jan 01 2000 00:00:31: SYSTEM-5: New console connection for user
admin, source async ACCEPTED
*Jan 01 2000 00:00:26: PORT-5: Interface GigabitEthernet10 link up
*Jan 01 2000 00:00:15: PORT-5: Interface GigabitEthernet9 link up
*Jan 01 2000 00:00:13: SYSTEM-5: Cold startup
D60-044-90#

```

16-23 loop-prevention

Show loop prevention

Syntax

show loop-prevention

show loop-prevention interfaces GigabitEthernet <port_list>

show loop-prevention interfaces LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
D60-044-90# show loop-prevention
Loop Prevention:                Disabled
Loop Prevention Tx Interval:    2
Loop Prevention Recovery Interval: 16
Loop Prevention switch_priority: 0x800000
Loop Prevention hop cnt max:    10
Loop Prevention is root:        True
Loop Prevention Root Port:      N/A

D60-044-90#
```

16-24 mac

Mac Address Table information.

Syntax

show mac address-table {<cr>|<aging-time>|<counters>|<dynamic>|<static>}

show mac address-table interface (GigabitEthernet <port_list> | LAG <lag_list>)

show mac address-table vlan <vlan_id>

show mac address-table vlan <vlan_id> interface (GigabitEthernet <port_list> | LAG <lag_list>)

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
<lag_list>		LAG List X-Y,Z	

Example

```

D60-044-90# show mac address-table
VID | MAC Address          | Type           | Ports
-----+-----+-----+-----
  1 | 68:8D:B6:00:00:00 | Management     | CPU
  1 | 00:33:33:33:33:33 | Dynamic        | gi15
  1 | 94:C6:91:FA:13:05 | Dynamic        | gi11
  1 | F0:2F:74:0A:D8:CC | Dynamic        | gi11

Total number of entries: 4
D60-044-90#

```

16-25 management-vlan

Management VLAN configuration.

Syntax

show management-vlan

Example

```

D60-044-90# show management-vlan
  Management VLAN-ID : default(1)
D60-044-90#

```

16-26 memory

Memory statistics

Syntax

show memory statistics

Parameter

statistics	Memory statistics
-------------------	-------------------

Example

```
D60-044-90# show memory statistics
      total (KB)   used (KB)   free (KB)   shared (KB)   buffer (KB)   cache (KB)
-----+-----+-----+-----+-----+-----
Mem:      125836     43608     82228         0         0         0
-/+ buffers/cache:      43608     82228
Swap:         0         0         0
D60-044-90#
```

16-27 mirror

Show mirror configuration

Syntax

show mirror

show mirror session > <1-4>

Example

```
D60-044-90# show mirror

Session 1 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 2 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 3 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 4 Configuration
Mirrored source   : Not Config
Destination port  : Not Config
D60-044-90#
```

16-28 ntp

Simple Network Time Protocol (NTP) information.

Syntax

```
show ntp
```

Example

```
D60-044-90# show ntp
NTP is Disabled
NTP Server address:
NTP Server port: 123
D60-044-90#
```

16-29 port-security

show port security.

Syntax

show port-security {<cr>|<address>|interface GigabitEthernet <port _list>}

Parameter

address	All port security related MAC addresses		
interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z	

Example

```
D60-044-90# show port-security
Port Security: Disabled
Rate Limit: 100 pps
D60-044-90#
```

16-30 power

Power over Ethernet (PoE) configuration.

Syntax

show power inline

show power inline consumption

show power inline consumption interface GigabitEthernet <port_list>

show power inline interface GigabitEthernet <port_list>

Parameter

inline	Inline Power			
	consumption	Power consumption		
		interfaces	Interface status and configuration	
			GigabitEthernet	Gigabit ethernet interface to configure
		<port_list>	Port List X-Y,Z	
	interfaces	Interface status and configuration		
		GigabitEthernet	Gigabit ethernet interface to configure	
<port_list>		Port List X-Y,Z		

Example

```
D60-044-90# show power inline interfaces GigabitEthernet 1
Port State Status      Priority Class  Max.Power (Admin) Device
              (mW)
-----
gil Auto  searching high      class0 30000 (30000)  N/A

Port Overload      Short Current  Power Denied  MPS Absent      Invalid Sig.
-----
gil 0              0              0              0              0

D60-044-90#
```

16-31 qos

Show Quality of Service configuration.

Syntax

show qos

show qos interface GigabitEthernet <port_list>

show qos interfaces LAG <lag_list>

show qos map {<cr>|<cos-queue>|<dscp-queue>|<precedence-queue>|

<queue-cos>|<queue-dscp>|<queue-precedence>}

show qos queueing

Parameter

interfaces	Interface status and configuration	
	GigabitEthernet	Gigabit ethernet interface to configure
		<port_list>
	LAG	IEEE 802.3 Link Aggregation interface
<lag_list>		LAG List X-Y,Z
map	Configure the QoS maps	
	cos-queue	CoS to Queue mapping
	dscp-queue	DSCP to Queue mapping
	precedence-queue	IP Precedence to Queue mapping
	queue-cos	Queue to CoS mapping
	queue-dscp	Queue to DSCP mapping
	queue-precedence	Queue to IP Precedence mapping
queueing	Display quality of service (QoS) queuing information	

Example

```
D60-044-90# show qos
QQoS Mode: basic
Basic trust: cos
D60-044-90#
```

16-32 running-config

Running configuration.

Syntax

show running-config

show running-config interface GigabitEthernet <port_list>

show running-config interface LAG <lag_list>

Example

```
D60-044-90# show running-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: AETEK PoE SW D60-044-90 Switch
! System Version: v2.0.1.3_vk
! System Name: D60-044-90
! System Up Time: 0 days, 5 hours, 40 mins, 32 secs !

!
!
system name "D60-044-90"
ip address 192.168.11.199 mask 255.255.255.0
ip default-gateway 192.168.11.1
username "admin" encrypted password
MjEyMzJmMjk3YTU3YTVhNzQzODk0YTB1NGE4MDFmYzM=
!
!
!
!
!
!
!
spanning-tree mst configuration
  name "68:8D:B6:00:00:00"
!
!
!
!
--More--
D60-044-90#
```

16-33 smtp

Display SMTP configurations.

Syntax

```
show smtp
```

show smtp event

Parameter

event	Display smtp class of event enable or disable
--------------	---

Example

```
D60-044-90# show smtp event
SMTP auth failed event : Enable
SMTP linkUpDown event  : Enable
SMTP cold-start event  : Enable
SMTP warm-start event  : Enable
SMTP D/I event         : Enable
SMTP D/O event         : Enable
SMTP PoE PD On/Off event: Enable
SMTP PoE PD Fault event : Enable
D60-044-90#
```

16-34 snmp

Display SNMP configurations.

Syntax

show snmp

show snmp {<community>|<engineid>|<group>|<host>|<trap>|<user>|<view>}

Parameter

community	Display snmp class of trap enable or disable
engineid	Display snmp class of trap enable or disable
group	Display snmp class of trap enable or disable
host	Display snmp class of trap enable or disable
trap	Display snmp class of trap enable or disable
user	Display snmp class of trap enable or disable

view	Display snmp class of trap enable or disable
-------------	--

Example

```
D60-044-90# show snmp
SNMP is disabled.
Community Name      Access Right
-----
Total Community Entries: 0
Server              Community Name  Notification Version  Notification Type
-----
Total Trap Entries: 0
D60-044-90#
```

16-35 spanning-tree

Show spanning tree protocol configuration.

Syntax

show spanning-tree

show spanning-tree brief

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>} statistics

show spanning-tree mst <0-15>

show spanning-tree mst <0-15> interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree mst configuration

Parameter

brief	Displays spanning-tree brief information
interfaces	Interface status and configuration

	GigabitEthernet	Gigabit ethernet interface to configure			
		<port_list>	Port List X-Y,Z		
	statistics		Statistics for specified ports		
	LAG	IEEE 802.3 Link Aggregation interface			
<lag_list>		LAG List X-Y,Z			
	statistics	Statistics for specified ports			
mst	Multiple spanning trees				
	<0-15>	Instance ID (0~15)			
		interfaces	Interface status and configuration		
			GigabitEthernet	Gigabit ethernet interface to configure	
				<port_list>	Port List X-Y,Z
			LAG	IEEE 802.3 Link Aggregation interface	
				<lag_list>	LAG List X-Y,Z
configuration	MST current region configuration				

Example

```

D60-044-90# show spanning-tree
Spanning tree enabled mode MSTP
Default port cost method: long
Gathering information .....
##### MST 0 Vlans Mapped:
CST Root ID   Priority   32768
              Address    00:68:8d:b6:51:08
              This switch is root for CST and IST master
              Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
              Max hops   20

Name         State   Prio.Nbr  Cost   Sts   Role EdgePort   Type
-----
##### MST 1 Vlans Mapped: 1-4094
Root ID      Priority   32768
              Address    00:68:8d:b6:51:08
              This switch is the regional Root

Interfaces
Name         State   Prio.Nbr  Cost   Sts   Role EdgePort   Type
-----
gi7         enabled  128.7    20000   Frw  Desg  No         P2P Intr
gi8         enabled  128.8    20000   Blk  Bckp  No         P2P Intr
D60-044-90# show spanning-tree mst 1 interfaces GigabitEthernet 2
MST Port Information
=====
Instance Type : MSTI (1)
-----
Port Identifier : 128/2
Internal Path-Cost : 0 /20000
-----
Regional Root Bridge : 0/00:00:00:00:00:00
Internal Root Cost : 0
Designated Bridge : 0/00:00:00:00:00:00
Internal Port Path Cost : 20000
Port Role : Disabled
Port State : Disabled
-----
D60-044-90#

```

16-36 startup-config

Startup configuration.

Syntax

show startup-config

Example

```
D60-044-90# show startup-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: AETEK PoE SW D60-044-90 Switch
! System Version: v2.03.04cu
! System Name: D60-044-90
! System Up Time: 0 days, 0 hours, 1 mins, 54 secs
!
!
!
system name "D60-044-90"
ip address 192.168.11.59 mask 255.255.255.0
ip default-gateway 192.168.11.254
ip dhcp server lease-time 0
username "admin" encrypted password OGM5NzY3N2U3Y2YyNWMwNzVkNWEwZjhjOTA3ZGFhY2E=
!
!
!
!
!
power inline force-mode disable
spanning-tree mst configuration
  name "68:8D:B6:00:00:00"
!
!
!
--More--
D60-044-90#
```

16-37 storm-control

show storm-control configuration.

Syntax

show storm-control

show storm-control interfaces GigabitEthernet <port_list>

Example

```
D60-044-90# show username
Priv  | Type |   User Name |           Password
-----+-----+-----+-----
admin | secret |   admin    | MjEyMzJmMjk3YTU3YTVhNzQzODk0YTB1NGE4MDFmYzM=
D60-044-90#
```

16-39 users

Information about users.

Syntax

show users

Example

```
D60-044-90# show users
Username      Protocol      Location
-----
admin         console       0.0.0.0
D60-044-90#
```

16-40 version

System hardware and software status.

Syntax

show version

Example

```

D60-044-90# show version
Loader Version   : 2.0.0.1
Loader Date      : Sep 27 2022 - 14:14:01
Firmware Version : 2.03.04
Firmware Date    : Jan 10 2023 - 03:46:30
D60-044-90#

```

16-41 vlan

VLAN information.

Syntax

show vlan

show vlan <VLAN-LIST>

show vlan <VLAN-LIST> interfaces GigabitEthernet <port_list> membership

show vlan <VLAN-LIST> interfaces LAG <lag_list> membership

show vlan dynamic

show vlan static

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
<lag_list>		LAG List X-Y,Z	
dynamic	Display dynamic entries		
static	Display static entries		

Example

```
D60-044-90# show vlan
```

```
VID | VLAN Name | Untagged Ports | Tagged Ports | Type  
-----+-----+-----+-----+-----  
1 | default | gi1-28,lag1-8 | --- | Default  
D60-044-90#
```

Setup SSL host keys.

Syntax

ssl

Parameter

Example

```
D60-044-90# ssl
Generating a RSA private key
.....+++++
.....+++++
writing new private key to '/mnt/ssh/ssl_key.pem_tmp'
-----
D60-044-90#
```

Terminal configuration.

Syntax

terminal length <0-24>

Parameter

length	Terminal length	
	<0-24>	Length value. 0 means no limit

Example

```
D60-044-90# terminal length 24
```

Trace route to network hosts.

Syntax

traceroute <hostname>

traceroute <hostname> max_hop <2-255>

Parameter

hostname	The IP address or hostname address to trace		
	max_hop	The number of maximum hop.(Default:30)	
		<2-255>	Maximum hop range

Example

```
D60-044-90# traceroute 1.1.1.1 max_hop 2
traceroute to 1.1.1.1 (1.1.1.1), 2 hops max, 38 byte packets
 1 192.168.11.1 (192.168.11.1) 0.000 ms 0.000 ms 0.000 ms
 2 10.135.91.1 (10.135.91.1) 0.000 ms 0.000 ms 0.000 ms
D60-044-90#
```