



## CLI Reference Guide

# Metro Ethernet Switch Series

DGS-1210/ME

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**FCC Warning**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CE Mark Warning**

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

**Warnung!**

Dies ist ein Produkt der Klasse A. Im Wohnbereich kann dieses Produkt Funkstörungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

**Precaución!**

Este es un producto de Clase A. En un entorno doméstico, puede causar interferencias de radio, en cuyo caso, puede requerirse al usuario para que adopte las medidas adecuadas.

**Attention!**

Ceci est un produit de classe A. Dans un environnement domestique, ce produit pourrait causer DGS interférences radio, auquel cas l'utilisateur devrait prendre les mesures adéquates.

**Attenzione!**

Il presente prodotto appartiene alla classe A. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l'utente debba assumere provvedimenti adeguati.

**VCCI Warning**

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# INTRODUCTION

The DGS-1210-10/ME, DGS-1210-10P/ME, DGS-1210-12TS/ME, DGS-1210-20/ME, DGS-1210-28/ME, DGS-1210-28P/ME, DGS-1210-28MP/ME, DGS-1210-28X/ME, DGS-1210-28XS/ME, DGS-1210-52/ME, DGS-1210-52P/ME, DGS-1210-52MP/ME and DGS-1210-52MPP/ME are L2 Managed Metro Ethernet switches. They consist of 8/16/24/48 10/100/1000Mbps ports plus 4 dedicated SFP ports.

The Switch can be managed through the Switch's serial port, Telnet, or the Web-based management agent. The Command Line Interface (CLI) can be used to configure and manage the Switch via the serial port or Telnet interfaces.

This manual provides a reference for all of the commands contained in the CLI. Configuration and management of the Switch via the Web-based management agent is discussed in the Manual. For detailed information on installing hardware please refer also to the Manual.

## Accessing the Switch via the Serial Port:

The Switch's serial port's default settings are as follows:

- VT-100 compatible
- Baud rate 9600bps
- 8 data bits
- No parity
- One stop bit
- No flow control

A computer running a terminal emulation program capable of emulating a VT-100 terminal and a serial port configured as above then connected to the Switch's serial port via an RJ-45 cable.

With the serial port properly connected to a management computer, the following screen should be visible. If this screen does not appear, try pressing Ctrl+r to refresh the console screen.

```
DGS-1210-52MP/ME Gigabit Ethernet Switch
Command Line Interface
Firmware: Build 7.03.006
Copyright(C) 2012 D-Link Corporation. All rights reserved.
UserName:
Password:
DGS-1210-52MP/ME:5# █
```

Figure 1-1 Initial CLI screen

There is no initial username or password. Just press the Enter key twice to display the CLI input cursor – DGS-1210-28MP/ME:5#. This is the command line where all commands are input.

## Setting the Switch's IP Address:

Each Switch must be assigned its own IP Address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). The Switch's default IP address is 10.90.90.90. You can change the default Switch IP address to meet the specification of your networking address scheme.

The Switch is also assigned a unique MAC address by the factory. This MAC address cannot be changed, but can be found on the initial boot console screen – shown below.

```

DGS-1210-52MP/ME Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 7.03.006
Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
Model_Name: DGS-1210-52MP/ME

Uncompressing Kernel Image ... OK

Loading Runtime Image .....
Starting kernel ...

100%

MAC Address : 80-26-89-3D-D0-60
H/W Version : Rev.B1
F/W Version : 7.03.006
.....

```

Figure 1-2 Boot Screen

The Switch's MAC address can also be found in the Web management program on the Switch Information (Basic Settings) window in the Configuration folder.

The IP address for the Switch must be set before it can be managed with the Web-based manager. The Switch IP address can be automatically set using BOOTP or DHCP protocols, in which case the actual address assigned to the Switch must be known.

The IP address may be set using the Command Line Interface (CLI) over the console serial port as follows: Starting at the command line prompt, enter the command **config ipif System ipaddress xxx.xxx.xxx.xxx/yyy.yyy.yyy.yyy**. Where the x's represent the IP address to be assigned to the IP interface named System and the y's represent the corresponding subnet mask.

Alternatively, users can enter **config ipif System ipaddress xxx.xxx.xxx.xxx/z**. Where the x's represent the IP address to be assigned to the IP interface named System and the z represents the corresponding number of subnets in CIDR notation.

The IP interface named System on the Switch can be assigned an IP address and subnet mask which can then be used to connect a management station to the Switch's Telnet or Web-based management agent.

```

DGS-1210-52MP/ME:5# config ipif System ipaddress 10.90.90.91/8
Command: config ipif System ipaddress 10.90.90.91/8

Success.
DGS-1210-52MP/ME:5#

```

Figure 1-3 Assigning an IP Address

In the above example, the Switch was assigned an IP address of 10.90.90.91 with a subnet mask of 255.0.0.0. The system message Success indicates that the command was executed successfully. The Switch can now be configured and managed via Telnet, SNMP MIB browser and the CLI or via the Web-based management agent using the above IP address to connect to the Switch.

## USING THE CONSOLE CLI

The Switch supports a console management interface that allows the user to connect to the Switch's management agent via a serial port and a terminal or a computer running a terminal emulation program. The console can also be used over the network using the TCP/IP Telnet protocol. The console program can be used to configure the Switch to use a SNMP-based network management software over the network.

This chapter describes how to use the console interface to access the Switch, change its settings, and monitor its operation.



**NOTE:** Switch configuration settings are saved to non-volatile RAM using the save command. The current configuration will then be retained in the Switch's NV-RAM, and reloaded when the Switch is rebooted. If the Switch is rebooted without using the save command, the last configuration saved to NV-RAM is loaded.

### Connecting to the Switch

The console interface is used by connecting the Switch to a VT100-compatible terminal or a computer running an ordinary terminal emulator program (for example, the HyperTerminal program included with the Windows operating system) using an RJ-45 serial cable. Your terminal parameters will need to be set to:

- VT-100 compatible
- Baud rate 9600bps
- 8 data bits
- No parity
- One stop bit
- No flow control

The same functions may also be accessed over a Telnet interface. Once an IP address for the Switch has been set, a Telnet program can be used (in VT-100 compatible terminal mode) to access and control the Switch. All of the screens are identical, whether accessed from the console port or from a Telnet interface.

After the Switch reboots and you have to logged in, the console looks like this:

```
DGS-1210-52MP/ME Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 7.03.006
Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
Password:
DGS-1210-52MP/ME:5#
```

Figure 2-1 Initial Console Screen after Logging In

Commands are entered at the command prompt, DGS-1210-28MP/ME:5#

There are a number of helpful features included in the CLI. Entering the ? command displays a list of all of the top-level commands.

```

DGS-1210-52MP/ME:5# ?
Command: ?

?
NO_RX_PACKET_DUMP
NO_TX_PACKET_DUMP
RX_PACKET_DUMP port
TX_PACKET_DUMP port
cable diagnostic port
cfm lock md
clean cfm pkt_cnt
clear address_binding dhcp_snoop binding_entry ports
clear arptable
clear counters
clear ethernet_oam ports
clear fdb

```

Figure 2-2 The ? Command

When entering a command without its required parameters, the CLI displays the prompt: command: config account message and the options listed below.

```

DGS-1210-52MP/ME:5# config ipif
Command: config ipif

Next possible completions:
<ipif_name 12>

DGS-1210-52MP/ME:5# config vlan
Command: config vlan

Next possible completions:
<vlan_name 32>          vlanid

```

Figure 2-3 Example Command Parameter Help

In this case, the command config account was entered with the parameter <username>. The CLI will then prompt to enter the <username> with the message, command: config account. Every command in the CLI has this feature, and complex commands have several layers of parameter prompting.

In addition, after typing any given command plus one space, users can see all of the next possible sub-commands, in sequential order, by pressing the ? key.

To re-enter the previous command at the command prompt, press the up arrow cursor key. The previous command appears at the command prompt.

```

DGS-1210-52MP/ME:5# show vlan
Command: show vlan

VID                : 1          VLAN NAME          : default
VLAN Type          : Static
VLAN Advertisement : Disabled
Member Ports       : 1-52
Tagged Ports       :
Untagged Ports     : 1-52
Forbidden Ports    :

Total Entries      : 1

```

Figure 2-4 Using the Up Arrow to Re-enter a Command

In the above example, the command config account was entered without the required parameter <username>, the CLI returned the command: config account prompt. The up arrow cursor control key was pressed to re-enter the previous command (config account) at the command prompt. Now the appropriate username can be entered and the config account command re-executed.

All commands in the CLI function in this way. In addition, the syntax of the help prompts are the same as presented in this manual. Angle brackets < > indicate a numerical value or character string. The < > can also indicate a word with a number for character allowed.

If a command is entered that is unrecognized by the CLI, the top-level commands are displayed under the Available commands: prompt.

```
DGS-1210-28MP/ME:5# asd
Available commands:
?                cable                clear                config
create           debug                delete               disable
download         enable               erps                 login
logout           ping                 ping6                reboot
reload           reset                save                 show
smtp             telnet               top                  traceroute
traceroute6      upload

DGS-1210-28MP/ME:5#
```

Figure 2-5 Available Commands

The top-level commands consist of commands such as show or config. Most of these commands require one or more parameters to narrow the top-level command. This is equivalent to show what? or config what? Where the what? is the next parameter.

For example, entering the show command with no additional parameters, the CLI will then display all of the possible next parameters.

```
Command: show

Next possible completions:
802.1p                802.1x                EEE_mode              aaa
access_profile        account                 accounting             address_binding
arpentry              asymmetric_vlan        authen                 authen_enable
authen_login          authen_policy          autoconfig             autoimage
bandwidth_control     boot_file              bpdu_protection        command
command_history       community_encryption   config
cos                   cpu                    cpu_access_profile    cpu_protect
ddm                   ddp                    dhcp_local_relay       dhcp_relay
dhcp_server           dhcpv6_relay           dos_prevention         dscp_mapping
dot1v_protocol_group duld
environment           erps                   error                  ethernet_oam
fdb                   filter                 firmware               flash
flood_fdb             flow_meter             gratuitous_arp          greeting_message
gvrp                  hol_prevention         igmp                   igmp_snooping
ipif                  iproute                ipv6                    jumbo_frame
l2protocol_tunnel     lacp                   limited_multicast_addr
link_aggregation      lldp                   log                     log_save_timing
log_software_module  loopdetect             mac_based_access_control
mac_based_access_control_local
mac_based_vlan        mac_notification
mac_protection        max_mcast_group        mcast_filter_profile

CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

Figure 2-6 Next possible completions: Show Command

In the above example, all of the possible next parameters for the show command are displayed. At the next command prompt in the example, the up arrow was used to re-enter the show command, followed by the account parameter. The CLI then displays the user accounts configured on the Switch.

## COMMAND SYNTAX

The following symbols are used to describe how command entries are made and values and arguments are specified in this manual. The online help contained in the CLI and available through the console interface uses the same syntax.



**NOTE:** All commands are case-sensitive. Be sure to disable Caps Lock or any other unwanted function that changes text case.

<b>&lt;angle brackets&gt;</b>	
Purpose	Encloses a variable or value that must be specified.
Syntax	<b>create account [admin   operator   power-user [user] &lt;username 15&gt;</b>
Description	In the above syntax example, supply a username in the <username 15> space. Do not type the angle brackets.
Example Command	create account admin newadmin1

<b>[square brackets]</b>	
Purpose	Encloses a required value or set of required arguments. One value or argument can be specified.
Syntax	<b>create account [admin   operator   power-user [user] &lt;username 15&gt;</b>
Description	In the above syntax example, specify <b>admin</b> , <b>oper</b> or a <b>user</b> level account to be created. Do not type the square brackets.
Example Command	create account user newuser1

<b>  vertical bar</b>	
Purpose	Separates two or more mutually exclusive items in a list, one of which must be entered.
Syntax	<b>create account [admin   operator   power-user [user] &lt;username 15&gt;</b>
Description	In the above syntax example, specify <b>admin</b> , <b>oper</b> , or <b>user</b> . Do not type the vertical bar.
Example Command	create account user newuser1

All commands are case-sensitive. Be sure to disable Caps Lock or any other unwanted function that changes text case.

<b>{braces}</b>	
Purpose	Encloses an optional value or set of optional arguments.
Syntax	reset {[config   system]} {force_agree}
Description	Execute "reset" will return the switch to its factory default setting.
Example command	reset Are you sure you want to proceed with the system reset except IP address, log and user account?(y/n) (Y/N)[N] N

<b>Line Editing Key Usage</b>	
Delete	Deletes the character under the cursor and then shifts the remaining characters in the line to the left.
Backspace	Deletes the character to the left of the cursor and then shifts the remaining characters in the line to the left.
Insert or Ctrl+R	Toggle on and off. When toggled on, inserts text and shifts previous text to the right.
Left Arrow	Moves the cursor to the left.
Right Arrow	Moves the cursor to the right.
Up Arrow	Repeats the previously entered command. Each time the up arrow is pressed, the command previous to that displayed appears. This way it is possible to review the command history for the current session. Use the down arrow to progress sequentially forward through the command history list.
Down Arrow	The down arrow displays the next command in the command history entered in the current session. This displays each command sequentially as it was entered. Use the up arrow to review previous commands.
Tab	Shifts the cursor to the next field to the left.

<b>Multiple Page Display Control Keys</b>	
Space	Displays the next page.
CTRL+c	Stops the display of remaining pages when multiple pages are to be displayed.
ESC	Stops the display of remaining pages when multiple pages are to be displayed.
n	Displays the next page.
p	Displays the previous page.
q	Stops the display of remaining pages when multiple pages are to be displayed.
r	Refreshes the pages currently displayed.
a	Displays the remaining pages without pausing between pages.
Enter	Displays the next line or table entry.



## BASIC SWITCH COMMANDS

The Basic Switch commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable password encryption	
disable password encryption	
create account	[admin   operator   power-user   user] <username 15>
config account	<username 15>
show account	
delete account	<username 15>
reset account	
show session	
show switch	
show environment	
show device_status	
config power psu	battery capacity <integer 0-65535>
show power	[psu battery capacity   remaining time]
enable jumbo_frame	
disable jumbo_frame	
show jumbo_frame	
show serial_port	
config serial_port	{baud_rate [9600   19200   38400   115200]   auto_logout [never   2_minutes   5_minutes   10_minutes   15_minutes]}
config bootrom password	<string 20>
enable clipaging	
disable clipaging	
enable web	{<tcp_port_number 1-65535>}
disable web	
enable autoconfig	
disable autoconfig	
config autoconfig	timeout <value 1-65535>
show autoconfig	

Command	Parameter
enable autobackup	
disable autobackup	
config autobackup path	{tftp <ipaddr> <path_filename (64)>   ftp <ftp_url (256)> <path_filename (64)>}
config autobackup mode	{save_config   time_period   all }
config autobackup time_schedule	{interval <value(1-525600)>   periodic <time (5)> {mon   tue   wed   thu   fri   sat   sun   all }}
show autoconfig	
save	{[config config_id <value 1-2>   log]}
reboot	
reset	{[config   system   account   password {<user_name 15>}]} {force_agree}
reload config config_id	<value 1-2>
logout	
ping	<ipaddr> {times <value 1-255>   timeout <sec 1-99>   size <short 0-2080>}
ping6	<ipv6_addr> {frequency <sec 0-86400>   size <value 1-1522>   source_ip <ipv6_addr>   timeout <sec 1-99>   times <value 1-255>}
traceroute	<ip_addr> {min-ttl <short 1-99>   max-ttl <short 1-99>   port <value 30000-64900>   timeout <sec 1-60>   probe <value 1-9>}
traceroute6	<ipv6_addr> {min-ttl <short 1-99>   max-ttl <short 1-99>   port <value 30000-64900>   timeout <sec 1-60>   probe <value 1-9>}
show cpu port	
reset cpu port	
enable telnet	
disable telnet	
config time_range	<range_name 20> [[hours start_time <start_time 32> end_time <end_time 32> weekdays <daylist 32> date from_day year <start_year 2009-2037> month <start_mth 1-12> date <start_date 1-31> to_day year <end_year 2009-2037> month <end_mth 1-12> date <end_date 1-31>]   delete]
show time_range	{<range_name 20>}
show tech support	
clear tech support	

Each command is listed in detail, as follows:

### enable password encryption

Purpose	Used to enable password encryption on a user account
Syntax	<b>enable password encryption</b>
Description	The user account configuration information will be stored in the configuration file, and can be applied to the system at a time in the future. If the password encryption is enabled, the password will be in

	encrypted form. If password encryption is disabled and the user specifies the password in encrypted form, or if the password has been converted to encrypted form by the last enabled password encryption command, the password will still be in encrypted form. It can not revert back to plain text.
Parameters	None.
Restrictions	Only Administrator level users can issue this command.

Example usage:

To enable password encryption on the Switch:

```

DGS-1210-28MP/ME:5# enable password encryption
Command: enable password encryption

Success.

DGS-1210-28MP/ME:5#
    
```

<b>disable password encryption</b>	
Purpose	Used to disable password encryption on a user account.
Syntax	<b>disable password encryption</b>
Description	The user account configuration information will be stored in the configuration file, and can be applied to the system at a time in the future. If the password encryption is enabled, the password will be in encrypted form. If password encryption is disabled and the user specifies the password in encrypted form, or if the password has been converted to encrypted form by the last enabled password encryption command, the password will still be in encrypted form. It can not revert back to plain text.
Parameters	None.
Restrictions	Only Administrat level users can issue this command.

Example usage:

To disable password encryption on the Switch:

```

DGS-1210-28MP/ME:5# disable password encryption
Command: disable password encryption

Success.

DGS-1210-28MP/ME:5#
    
```

<b>create account</b>	
Purpose	To create user accounts.
Syntax	<b>create account [admin   operator   power-user   user]</b>

	<b>&lt;username 15&gt;</b>
Description	The <b>create account</b> command creates an administrator, operator, or user account that consists of a username and an optional password. Up to 31 accounts can be created. You can enter username and Enter. In this case, the system prompts for the account's password, which may be between 0 and 15 characters. Alternatively, you can enter the username and password on the same line.
Parameters	<i>admin</i> – Name of the administrator account. <i>operator</i> – Specify an operator level account. <i>power-user</i> – Specify a power-user level account. <i>user</i> – Specify a user account with read-only permissions. <i>&lt;username 15&gt;</i> – The account username may be between 1 and 15 characters. <i>password &lt;password_string&gt; {encrypted}</i> - the account password can be included, and (optionally) can be encrypted.
Restrictions	Only Administrator level users can issue this command. Usernames can be between 1 and 15 characters. Passwords can be between 0 and 15 characters.



**NOTE:** You are not required to enter a User Name. However, if you do not enter a User Name, you cannot perform the following actions:

Create a monitor or operator (level 1 or level 14) users until an administrator user (level 15) is defined.

Delete the last administrator user if there are monitor and/or operator users defined.

Example usage:

To create an administrator-level user account with the username 'dlink':

```
DGS-1210-28MP/ME:5# create account admin dlink
Command: create account admin dlink

Enter a case-sensitive new password:*****
Enter the new password again for confirmation:*****

Success.

DGS-1210-28MP/ME:5#
```

## config account

Purpose	To change the password for an existing user account.
Syntax	<b>config account &lt;username 15&gt;</b>
Description	The <b>config account</b> command changes the password for a user account that has been created using the <b>create account</b> command. The system prompts for the account's new password, which may be between 0 and 15 characters.
Parameters	<i>&lt;username 15&gt;</i> – the account username.

Restrictions	Only Administrator-level users can issue this command.
--------------	--

Example usage:

To configure the user password of 'dlink' account:

```
DGS-1210-28MP/ME:5# config account dlink
Enter a old password:****

Enter a case-sensitive new password:*****
Enter the new password again for confirmation:*****

Success.

DGS-1210-28MP/ME:5#
```

## show account

Purpose	To display information about all user accounts on the Switch.
Syntax	<b>show account</b>
Description	The <b>show account</b> command displays all account usernames and their access levels created on the Switch. Up to 31 user accounts can exist on the Switch at one time.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To display the account which have been created:

```
DGS-1210-28MP/ME:5# show account
Command: show account

Username      Access Level
-----
dlink         Admin

Total Entries : 1

DGS-1210-28MP/ME:5#
```

## delete account

Purpose	To delete an existing user account.
Syntax	<b>delete account &lt;username 15&gt;</b>
Description	The <b>delete account</b> command deletes a user account that has been created using the <b>create account</b> command.
Parameters	<username 15> – the account username.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete the user account 'System':

```
DGS-1210-28MP/ME:5# delete account System
Command: delete account System

Success.

DGS-1210-28MP/ME:5#
```

<b>reset account</b>	
Purpose	To deletes all the previously created accounts.
Syntax	<b>reset account</b>
Description	The <b>reset account</b> command deletes all the previously created accounts.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To deletes all the previously created accounts:

```
DGS-1210-28MP/ME:5# reset account
Command: reset account

Are you sure to proceed with clean account?(y/n)y
Success.

DGS-1210-28MP/ME:5#
```

<b>show session</b>	
Purpose	To display information about currently logged-in users.
Syntax	<b>show session</b>
Description	The <b>show session</b> command displays a list of all the users that are logged-in at the time the command is issued. The information incluDGS the session ID (0 for the first logged-in user, 1 for the next logged-in user, etc.), the Protocol used to connect to the Switch, the user's IP address, the user's access Level (1=user, 15=admin), and the account name on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the way users logged in:

ID	Live Time	From	Level	Name
0	00:01:32	Serial Port	5	anonymous
<b>Total Entries: 1</b>				

**CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh**

## show switch

Purpose	To display information about the Switch.
Syntax	<b>show switch</b>
Description	The <b>show switch</b> command displays information about the Switch settings, including Device Type, MAC Address, IP configuration, Hardware/Software version, System information, and Switch Network configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display the Switch information:

```
DGS-1210-52MP/ME:5# show switch
Command: show switch

Device Type           : DGS-1210-52MP/ME
MAC Address           : 80-26-89-3D-D0-60
IP Address            : 192.168.100.118 (DHCP)
VLAN Name             : default
Subnet Mask           : 255.255.255.0
Default Gateway       : 192.168.100.1
System Boot Version   : 1.01.033
System Firmware Version : 7.04.003
System Hardware Version : B1
System Serial Number  : S37D2H3000701
System Name           :
System Location       :
System up time        : 1 days, 1 hrs, 24 min, 12 secs
System Contact        :
System Time           : 15/02/2023 18:02:38
RTC Time              : 15/02/2023 18:02:38
STP                   : Disabled
GVRP                  : Disabled
IGMP Snooping        : Disabled
VLAN Trunk            : Disabled
802.1X Status         : Disabled
Telnet                : Enabled (TCP 23)
Web                   : Enabled (TCP 80)
RMON                  : Disabled
SSH                   : Disabled
Syslog Global State   : Disabled
SSL                   : Disabled
```

```

CLI Paging           : Enabled
Password Encryption State : Disabled
I2C SFP Device ErrorCount : 0
I2C Other Device ErrorCount : 0
DGS-1210-52MP/ME:5#

```

## show environment

Purpose	To display the device fan status and internal temperature status.
Syntax	<b>show environment</b>
Description	The <b>show environment</b> command displays the fan status and internal temperature status. (Only DGS-1210-28P/ME, DGS-1210-28MP/ME, DGS-1210-28X/ME, DGS-1210-28XS/ME, DGS-1210-52/ME, DGS-1210-52P/ME, DGS-1210-52MP/ME and DGS-1210-52MPP/ME support to show the current temperature.)
Parameters	None.
Restrictions	None.

Example usage:

To display the Switch environment:

```

DGS-1210-28MP/ME:5# show environment
Command: show environment

Fan           : OK
Current Temperature(Celsius) : 35

DGS-1210-28MP/ME:5#

```



**NOTE:** Only the following models support **show environment** command: DGS-1210-28P/ME, DGS-1210-28MP/ME, DGS-1210-28X/ME, DGS-1210-28XS/ME, DGS-1210-52/ME, DGS-1210-52P/ME, DGS-1210-52MP/ME and DGS-1210-52MPP/ME.

## show device\_status

Purpose	To display the device internal and external power status.
Syntax	<b>show device_status</b>
Description	The <b>show device_status</b> command displays the device internal and external power status which according to different mapping definitions.
Parameters	None.
Restrictions	None.

Example usage:

To display the Switch internal and external power status:

```

DGS-1210-28/ME:5# show device_status
Command: show device_status

```



**Internal Power(Main): Working**  
**External Power(Backup): Disconnected**

**DGS-1210-28/ME:5#**



**NOTE:** Only the following models **Do Not** support **show device\_status** command: DGS-1210-10P/ME, DGS-1210-28P/ME, DGS-1210-28MP/ME, DGS-1210-52P/ME, DGS-1210/52MP/ME and DGS-1210-52MPP/ME.

For only DGS-1210-12TS/ME and DGS-1210-28X/ME, the internal power and RPS status were shown according to two mapping definitions below:

Mapping Status	Internal Status	Power	RPS Status
Internal Power Unknow & RPS Power On	-		Working
RPS No Power	Working		Disconnected

When the devices are using the specific PSU without charger function, the internal power and RPS status were shown according to different mapping definitions below (Only for DGS-1210-10/ME, DGS-1210-20/ME, DGS-1210-28/ME, DGS-1210-28XS/ME and DGS-1210-52/ME):

Mapping Status	Internal Status	Power	RPS Status
RPS Power On	Disconnected		Working
Internal Power & RPS Power On	Working		Working
RPS No Power	Working		Disconnected

When the devices are using the specific PSU (P/N SU54-21124-000S) with charger function, the internal power and external power (battery) status were shown according to different mapping definitions below (Only for DGS-1210-10/ME, DGS-1210-20/ME, DGS-1210-28/ME and DGS-1210-52/ME):

Mapping Status	Internal Status	Power	External Power Status (Battery)
No LEI Power Supply	Other		Other
Battery Discharge Current OCP > 4.3A±0.1A	Disconnected		Over Current
No AC In Use, Discharge, Battery Voltage < 11.6V±0.2V	Disconnected		Low Voltage
No AC In Use, Discharge, Battery Voltage > 11.6V±0.2V	Disconnected		Working
Battery Is Not Installed	Working		Disconnected
AC In Use, Charging, Battery Voltage > 12.8V±0.2V	Working		Connected
Battery Charging Current OCP > 1.0A±0.1A	Over Current		Fail
AC In Use, Charging, Battery Voltage < 12.8V±0.2V	Working		Low Voltage



**NOTE:** For the specific PSU (P/N SU54-21124-000S), it is optional 54W AC to DC Power Supply Unit (PSU) with external lead-acid battery support that can be used as a redundant power supply, or to connect an external 12V DC lead-acid battery to charge the switch. The minimum required voltage for the lead-acid

battery is 12V DC, with a minimum capacity of 2 AH (Only for DGS-1210-10/ME, DGS-1210-20/ME, DGS-1210-28/ME and DGS-1210-52/ME).

## config power psu

Purpose	To configure the capacity of external Lead-acid battery.
Syntax	<b>config power psu battery capacity &lt;integer 0-65535&gt;</b>
Description	The feature allow user to specify the capacity of external lead-acid battery.
Parameters	<integer 0-65535> - Specify the battery capacity in range 0-65535. Measure unit is "mAh"
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To configure the capacity of external Lead-acid battery:

```
DGS-1210-28/ME:5# config power psu battery capacity 3000
Command: config power psu battery capacity 3000
```

Success.

## show power

Purpose	To display the capacity of external Lead-acid battery configured or the remaining time by using lead-acid battery.
Syntax	<b>show power [psu battery capacity   remaining time]</b>
Description	To display the capacity of external Lead-acid battery configured or the remaining time by using lead-acid battery. The remaining time follows the following formula to obtain the result: (the value of psu battery capacity) / (1.3 Ah) * 60 minutes
Parameters	None
Restrictions	None

Example usage:

To display the capacity of external Lead-acid battery configured:

```
DGS-1210-28/ME:5# show power psu battery capacity
Command: show power psu battery capacity
```

```
PSU Max Battery Capacity: 3000 mAh
```

Success.

```
DGS-1210-28/ME:5#
```

To display the remaining time of external Lead-acid battery:

```
DGS-1210-28/ME:5# show power psu battery capacity
Command: show power psu battery capacity
```

```
PSU Max Battery Capacity: 3000 mAh
```

**Success.**  
**DGS-1210-28/ME:5# show power remaining time**  
**Command: show power remaining time**

**Power Supply Remaining Time: 138 minutes**

**Success.**  
**DGS-1210-28/ME:5#**



**NOTE:** The result of remaining time is only for reference. This switch does NOT able to obtain the real-time lead-acid battery capacity and power consumption of the device.

## enable jumbo\_frame

Purpose	To enable jumbo frames on the device.
Syntax	<b>enable jumbo_frame</b>
Description	The <b>enable jumbo_frame</b> command enables jumbo frames on the device.
Parameters	None.
Restrictions	Only Administrator or operate-level users can issue this command. Jumbo frames will be enabled after save and restart.

Example usage:

To enable jumbo frames:

**DGS-1210-28/ME:5# enable jumbo\_frame**  
**Command: enable jumbo\_frame.**

**Success.**  
**DES-1210-28/ME:5#**

## disable jumbo\_frame

Purpose	To disable jumbo frames on the device.
Syntax	<b>disable jumbo_frame</b>
Description	The <b>disable jumbo_frame</b> command disables jumbo frames on the device.
Parameters	None.
Restrictions	Only Administrator or operate-level users can issue this command. Jumbo frames will be disabled after save and restart.

Example usage:

To disable jumbo\_frames:

**DGS-1210-28/ME:5# disable jumbo\_frame**

**Command: disable jumbo\_frame**

**Success.**

**DES-1210-52/ME:5#**

## show jumbo\_frame

Purpose	To display the jumbo frame configuration.
Syntax	<b>show jumbo_frame</b>
Description	The <b>show jumbo_frame</b> command displays the jumbo frame configuration.
Parameters	None.
Restrictions	None.

Example usage:

To show the jumbo\_frames configuration status on the device:

**DGS-1210-28MP/ME:5# show jumbo\_frame**

**Command: show jumbo\_frame**

**Jumbo frame is enable.**

**Success.**

**DGS-1210-28MP/ME:5#**

## show serial\_port

Purpose	Used to display the current serial port settings.
Syntax	<b>show serial_port</b>
Description	The <b>show serial_port</b> command displays the current serial port settings.
Parameters	None.
Restrictions	None.

Example usage:

To display the serial port settings:

**DGS-1210-28MP/ME:5# show serial\_port**

**Command: show serial\_port**

**Baud Rate : 9600**  
**Data Bits : 8**  
**Parity Bits : None**  
**Stop Bits : 1**  
**Auto-Logout : 10 minutes**

**DGS-1210-28MP/ME:5#**

## config serial\_port

Purpose	Used to configure the serial port.
Syntax	<b>config serial_port {baud_rate [9600   19200   38400   115200]   auto_logout [never   2_minutes   5_minutes   10_minutes   15_minutes]}</b>
Description	The <b>config serial_port</b> command is used to configure the serial port's baud rate and auto logout settings.
Parameters	<p><i>baud_rate [9600   19200   38400   115200]</i> – The serial bit rate that will be used to communicate with the management host. There are four options: 9600, 19200, 38400 and 115200. Factory default setting is 115200.</p> <p><i>never</i> – No time limit on the length of time the console can be open with no user input.</p> <p><i>2_minutes</i> – The console will log out the current user if there is no user input for 2 minutes.</p> <p><i>5_minutes</i> – The console will log out the current user if there is no user input for 5 minutes.</p> <p><i>10_minutes</i> – The console will log out the current user if there is no user input for 10 minutes.</p> <p><i>15_minutes</i> – The console will log out the current user if there is no user input for 15 minutes.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the serial port baud rate:

```
DGS-1210-28MP/ME:5# config serial_port baud_rate 115200
Command: config serial_port baud_rate 115200

Please change your baud rate to 115200 for new baud rate !!
Success.

DGS-1210-28MP/ME:5#
```

## config bootrom password

Purpose	Used to configure the password when booting ROM.
Syntax	<b>config bootrom password &lt;string 20&gt;</b>
Description	The <b>config bootrom password</b> command is used to configure the password when booting ROM.
Parameters	<i>&lt;string 20&gt;</i> - Specifies the password.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the boot ROM password:

```
DGS-1210-28MP/ME:5# config bootrom password 1234
Command: config bootrom password 1234
```

**Success.**  
**DGS-1210-28MP/ME:5#**

## enable clipaging

Purpose	Used to pause the scrolling of the console screen when a command displays more than one page.
Syntax	<b>enable clipaging</b>
Description	The <b>enable clipaging</b> command is used when issuing a command which causes the console screen to rapidly scroll through several pages. This command will cause the console to pause at the end of each page. The default setting is enabled.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable pausing of the screen display when the show command output reaches the end of the page:

```
DGS-1210-28MP/ME:5# enable clipaging
Command: enable clipaging

Success.
DGS-1210-28MP/ME:5#
```

## disable clipaging

Purpose	Used to disable the pausing of the console screen scrolling at the end of each page when a command displays more than one screen of information.
Syntax	<b>disable clipaging</b>
Description	The <b>disable clipaging</b> command is used to disable the pausing of the console screen at the end of each page when a command would display more than one screen of information.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable pausing of the screen display when the show command output reaches the end of the page:

```
DGS-1210-28MP/ME:5# disable clipaging
Command: disable clipaging

Success.
DGS-1210-28MP/ME:5#
```

## enable web

Purpose	To enable the HTTP-based management software on the Switch.
Syntax	<b>enable web {&lt;tcp_port_number 1-65535&gt;}</b>

Description	The <b>enable web</b> command enables the Web-based management software on the Switch. The user can specify the TCP port number the Switch uses to listen for Telnet requests.
Parameters	<tcp_port_number 1-65535> – The TCP port number. TCP ports are numbered between 1 and 65535. The ‘well-known’ port for the Web-based management software is 80.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable HTTP and configure the TCP port number to listen for Telnet requests:

<b>DGS-1210-28MP/ME:5# enable web 80</b>
<b>Command: enable web 80</b>
<b>Note: SSL will be disabled if web is enabled.</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## disable web

Purpose	To disable the HTTP-based management software on the Switch.
Syntax	<b>disable web</b>
Description	The <b>disable web</b> command disables the Web-based management software on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable HTTP-based management software on the Switch:

<b>DGS-1210-28MP/ME:5# disable web</b>
<b>Command: disable web</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## enable autoconfig

Purpose	Used to activate the auto configuration function for the Switch. This will load a previously saved configuration file for current use.
Syntax	<b>enable autoconfig</b>
Description	When autoconfig is enabled on the Switch, the DHCP reply will contain a configuration file and path name. It will then request the file from the TFTP server specified in the reply. When autoconfig is enabled, the ipif settings will automatically become DHCP client.
Parameters	None.
Restrictions	When autoconfig is enabled, the Switch becomes a DHCP client automatically (same as: config ipif System dhcp). The DHCP server must have the TFTP server IP address and configuration file name, and be configured to deliver this information in the data field of the

DHCP reply packet. The TFTP server must be running and have the requested configuration file in its base directory when the request is received from the Switch. Consult the DHCP server and TFTP server software instructions for information on loading a configuration file.

If the Switch is unable to complete the auto configuration process the previously saved local configuration file present in Switch memory will be loaded.

Only Administrator or operator-level users can issue this command.

Example usage:

To enable auto configuration on the Switch:

```
DGS-1210-28MP/ME:5# enable autoconfig
```

**Command: enable autoconfig**

**Success.**

```
DGS-1210-28MP/ME:5#
```

## disable autoconfig

Purpose	Use this to deactivate auto configuration from DHCP.
Syntax	<b>disable autoconfig</b>
Description	The <b>disable autoconfig</b> command is used to instruct the Switch not to accept auto configuration instruction from the DHCP server. This does not change the IP settings of the Switch. The ipif settings will continue as DHCP client until changed with the config ipif command.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To stop the auto configuration function:

```
DGS-1210-28MP/ME:5# disable autoconfig
```

**Command: disable autoconfig**

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config autoconfig

Purpose	Use to configure the auto configuration timeout time from DHCP.
Syntax	<b>config autoconfig timeout &lt;value 1-65535&gt;</b>
Description	The <b>config autoconfig</b> command is used to the auto configuration timeout time from DHCP.
Parameters	<i>timeout &lt;value 1-65535&gt;</i> - Specifies the timeout time. And the value is from 1 to 65535 seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:



To configure the auto configuration timeout time to 100 seconds:

```
DGS-1210-28MP/ME:5# config autoconfig timeout 100
Command: config autoconfig timeout 100
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show autoconfig

Purpose	Used to display the current autoconfig status of the Switch.
Syntax	<b>show autoconfig</b>
Description	The <b>show autoconfig</b> command is used to list the current status of the auto configuration function.
Parameters	None.
Restrictions	None.

Example usage:

To display the autoconfig status:

```
DGS-1210-28MP/ME:5# show autoconfig
Command: show autoconfig
```

**Autoconfig State : Enabled**

**Timeout : 50 sec**

```
DGS-1210-28MP/ME:5#
```

## enable autobackup

Purpose	Used to activate the automatic configuration backup function for the Switch. This feature helps to backup configure by multiple trigger methods.
Syntax	<b>enable autobackup</b>
Description	When autobackup is enabled on the Switch, the switch will automatic backup the config file to specied destination.
Parameters	None.
Restrictions	None

Example usage:

To enable auto backup on the Switch:

```
DGS-1210-52MP/ME:5# enable autobackup
Command: enable autobackup
```

**Success.**

```
DGS-1210-52MP/ME:5#
```

## disable autobackup

Purpose	Use this to deactivate autobackup.
Syntax	<b>disable autobackup</b>
Description	The <b>disable autobackup</b> command is used turn off auto backup feature on switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To stop the auto configuration function:

```
DGS-1210-28MP/ME:5# disable autobackup
```

```
Command: disable autobackup
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config autobackup path

Purpose	Use to configure the autobackup configuration file destination.
Syntax	<b>config autobackup path {tftp &lt;ipaddr&gt; &lt;path_filename (64)&gt;   ftp &lt;ftp_url (256)&gt; &lt;path_filename (64)&gt;}</b>
Description	The <b>config autobackup</b> command is used to specify the destination for config file to sotred.
Parameters	<i>tftp &lt;ipaddr&gt; &lt;path_filename (64)&gt;</i> - Specifies the transmit protocol as TFTP. <i>ftp &lt;ftp_url (256)&gt; &lt;path_filename (64)&gt;</i> - Specifies the transmit protocol as FTP
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure TFTP server 192.168.100.100 and file name "test.cfg" for autobackup destination:

```
DGS-1210-52MP/ME:5# config autobackup path tftp 192.168.100.100 test.cfg
```

```
Command: config autobackup path tftp 192.168.100.100 test.cfg
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

## config autobackup mode

Purpose	Use to configure the method to trigger autobackup execution.
Syntax	<b>config autoconfig mode {save_config   time_period   all }</b>
Description	The <b>config autobackup</b> can be triggered by executing save config, particular time period or both.
Parameters	<i>save_config</i> – Execute backup process when user issue command "save config"

	<i>time_period</i> – Execute backup process by particular time period.
	<i>all</i> – Execute backup process by both conditions listed above
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the auto backup in save config mode:

```
DGS-1210-52MP/ME:5# config autobackup mode save_config
Command: config autobackup mode save_config
```

Success.

```
DGS-1210-52MP/ME:5#
```

## config autobackup time\_schedule

Purpose	Use to configure to specify particular time schedule of autobackup.
Syntax	<b>config autobackup time_schedule {interval &lt;value(1-525600)&gt;   periodic &lt;time hh:mm&gt; {mon   tue   wed   thu   fri   sat   sun   all } }</b>
Description	The <b>config autoconfig</b> command is used to the auto configuration timeout time from DHCP.
Parameters	<i>interval &lt;value 1-525600&gt;</i> - Specifies the interval to execute autobackup. Range from 1 minute to 525600 minutes. <i>periodic &lt;time hh:mm&gt; {mon   tue   wed   thu   fri   sat   sun   all } }</i> – Specifies the particular time to execute the backup
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the autobackup at 18:00 everyday:

```
DGS-1210-52MP/ME:5# config autobackup time_schedule periodic 18:00 all
Command: config autobackup time_schedule periodic 18:00 all
```

Success.

```
DGS-1210-52MP/ME:5#
```

## show autoconfig

Purpose	Used to display the current autobackup status of the Switch.
Syntax	<b>show autobackup</b>
Description	The <b>show autobackup</b> command is used to list the current status of the autobackup function.
Parameters	None.
Restrictions	None.

Example usage:

To display the autobackup status:

```
DGS-1210-52MP/ME:5# show autobackup
```

**Command: show autobackup****Autobackup Settings**

```

-----
State      : enable
Path       : tftp://192.168.100.100/test.cfg
Mode       : Save configuration
Time schedule : 18:00 all

```

```
DGS-1210-52MP/ME:5#
```

**save**

Purpose	To save changes in the Switch's configuration to non-volatile RAM.
Syntax	<b>save {[config config_id &lt;value 1-2&gt;   log]}</b>
Description	The <b>save</b> command used to enter the current switch configuration into non-volatile RAM. The saved switch configuration will be loaded into the Switch's memory each time the Switch is restarted.
Parameters	<p><i>config</i> – Used to save the current configuration to a file.</p> <p><i>config_id &lt;value 1-2&gt;</i> - Specifies which cfg file ID. if cfg ID is not specified, it refers to the boot_up CFG file.</p> <p><i>log</i> – Used to save the current log to a file. The log file cannot be deleted.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To save the Switch's current configuration to non-volatile RAM:

```

DGS-1210-28MP/ME:5# save
Command: save

Building configuration ...
[OK]
DGS-1210-28MP/ME:5#

```

**reboot**

Purpose	To reboot the Switch. If the Switch is a member of a stack, it may be rebooted individually, without affecting the other members of the stack.
Syntax	<b>reboot {force_agree}</b>
Description	The <b>reboot</b> command restarts the Switch.
Parameters	<i>{force_agree}</i> - When <i>force_agree</i> is specified, the reboot command will be executed immediately without further confirmation.
Restrictions	Only Administrator -level users can issue this command.

Example usage:

To restart the Switch:

```

DGS-1210-28MP/ME:5# reboot
Command: reboot

Are you sure you want to proceed with the system reboot?(y/n)y
% Please wait, the switch is rebooting...

DGS-1210-28MP/ME Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 7.01.B030
Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
Model_Name: DGS-1210-28MP/ME

Uncompressing Kernel Image ... OK

Loading Runtime Image .....
Starting kernel ...

100%

MAC Address : 00-06-06-05-04-05
H/W Version : Rev.B1
F/W Version : 7.01.B030

.....

Configuration init .....

DGS-1210-28MP/ME Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 7.01.B030
Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
    
```

<b>reset</b>	
Purpose	To reset the Switch to the factory default settings.
Syntax	<b>reset</b> {[config   system   account   password {<user_name 15>}}] {force_agree}
Description	The <b>reset</b> command restores the Switch's configuration to the default settings assigned from the factory. Execution of the <b>reset</b> command through the CLI retains the unit's current stack

	membership number.
Parameters	<p><i>config</i> - If the keyword 'config' is specified, all of the factory default settings are restored on the Switch including the IP address, user accounts, and the switch history log. The Switch will not save or reboot.</p> <p><i>system</i> - If the keyword 'system' is specified all of the factory default settings are restored on the Switch. The Switch will save and reboot after the settings are changed to default. Rebooting will clear all entries in the Forwarding Data Base.</p> <p><i>account</i> - If the keyword 'account is specified, all of the factory default account settings are restored on the Switch.</p> <p><i>password</i> - If the keyword 'password is specified, all of the factory default password settings are restored on the Switch.</p> <p><i>{force_agree}</i> - When force_agree is specified, the reset command will be executed immediately without further confirmation.</p> <p>If no parameter is specified, the Switch's current IP address, user accounts, and the switch history log are not changed. All other parameters are restored to the factory default settings. The Switch will not save or reboot.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To restore all of the Switch's parameters to their default values:

```
DGS-1210-28MP/ME:5# reset system
Command: reset system

Are you sure you want to proceed with the system reset?(y/n)y
% Success.
DGS-1210-28MP/ME:5# System will Reboot....
```

<b>reload config config_id</b>	
Purpose	To reload the configuration to the Switch.
Syntax	<b>reload config config_id &lt;value 1-2&gt;</b>
Description	The <b>reload config config_id</b> command reloads the configuration to the Switch.
Parameters	<value 1-2> - Specifies the configuration id.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To reload all of the Switch's configuration:

```

DGS-1210-28MP/ME:5# reload config config_id 1
Command: reload config config_id 1

Are you sure you want to reload the config?(y/n)y
% Reload config 1 successfully.

Are you sure you want to proceed with the system reboot?(y/n)n
DGS-1210-28MP/ME:5# reload config config_id 1
Command: reload config config_id 1

Are you sure you want to reload the config?(y/n)y
% Reload config 1 successfully.

Are you sure you want to proceed with the system reboot?(y/n)y
% Please wait, the switch is rebooting...
DGS-1210-28MP/ME:5# System will Reboot....

```

## logout

Purpose	To log out a user from the Switch's console.
Syntax	<b>Logout</b>
Description	The <b>logout</b> command terminates the current user's session on the Switch's console.
Parameters	None.
Restrictions	None.

Example usage:

To terminate the current user's console session:

```
DGS-1210-28MP/ME:5# logout
```

## top

Purpose	To display the CPU and memory information on the Switch.
Syntax	<b>top</b>
Description	The <b>top</b> command is used to display the CPU and memory information on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the CPU and memory information on the Switch:

```

Mem: 91188K used, 19752K free, 0K shrd, 6152K buff, 22476K cached
CPU: 0% usr 0% sys 0% nic 45% idle 0% io 0% irq 55% sirq
Load average: 2.01 1.40 0.62 2/109 418
PID PPID USER STAT VSZ %VSZ %CPU COMMAND

```

```

258 251 root S 210m 194% 0% TMR#
  1  0 root S 1212 1% 0% init
251  1 root S 1204 1% 0% {rcS} /bin/sh /etc/init.d/rcS
417 258 root S 1200 1% 0% /bin/sh -c /usr/bin/top -n1 > /mnt/top
418 417 root R 1200 1% 0% /usr/bin/top -n1
181  2 root SW  0 0% 0% [spi1]
204  2 root SW  0 0% 0% [mtdblock3]
 81  2 root SW  0 0% 0% [kswapd0]
257  2 root SWN  0 0% 0% [jffs2_gcd_mtd7]
  6  2 root SW  0 0% 0% [kworker/u:0]
  5  2 root SW<  0 0% 0% [kworker/0:0H]
  9  2 root SW<  0 0% 0% [khelper]
 55  2 root SW<  0 0% 0% [kblockd]
 10  2 root SW  0 0% 0% [kdevtmpfs]
 11  2 root SW  0 0% 0% [kworker/u:1]
  8  2 root SW  0 0% 0% [migration/0]
  4  2 root SW  0 0% 0% [kworker/0:0]
194  2 root SW  0 0% 0% [mtdblock1]
  2  0 root SW  0 0% 0% [kthreadd]
53  2

```

## ping

Purpose	To test the connectivity between network devices.
Syntax	<b>ping &lt;ipaddr&gt; {times &lt;value 1-255&gt;   timeout &lt;sec 1-99&gt;   size &lt;short 0-2080&gt;}</b>
Description	The <b>ping</b> command sends Internet Control Message Protocol (ICMP) echo messages to a remote IP address. The remote IP address then 'echos' or returns the message. This is used to confirm connectivity between the Switch and the remote device.
Parameters	<p><i>&lt;ipaddr&gt;</i> - The IP address of the host.</p> <p><i>times &lt;value 1-255&gt;</i> - The number of individual ICMP echo messages to be sent. The maximum value is 255. The default is 4.</p> <p><i>timeout &lt;sec 1-99&gt;</i> - The time-out period while waiting for a response from the remote device. A value of 1 to 99 seconds can be specified. The default is 1 second.</p> <p><i>size &lt;short 0-2080&gt;</i> - Specify the size of the test packet. A value of 0 to 2080 can be specified.</p>
Restrictions	None.

Example usage:

To ping the IP address 10.6.150.34 three times:

```
DGS-1210-28MP/ME:5# ping 10.6.150.34 times 3
```

```
Command: ping 10.6.150.34 times 3
```

```
Reply Not Received From : 10.6.150.34, Timeout : 5 secs
```

```
Reply Not Received From : 10.6.150.34, Timeout : 5 secs
```

```
Reply Not Received From : 10.6.150.34, Timeout : 5 secs
```



## --- 10.6.150.34 Ping Statistics ---

3 Packets Transmitted, 0 Packets Received, 100% Packets Loss

DGS-1210-28MP/ME:5#

**ping6**

Purpose	To test the IPv6 connectivity between network devices.
Syntax	<b>ping6</b> <ipv6_addr> {frequency <sec 0-86400>   size <value 1-1522>   source_ip <ipv6_addr>   timeout <sec 1-99>   times <value 1-255>}
Description	The <b>ping6</b> command sends IPv6 Internet Control Message Protocol (ICMP) echo messages to a remote IPv6 address. The remote IPv6 address will then “echo” or return the message. This is used to confirm the IPv6 connectivity between the switch and the remote device.
Parameters	<p>&lt;ipv6_addr&gt; - The IPv6 address of the host.</p> <p>frequency &lt;sec 0-86400&gt; - The number of seconds to wait before repeating a ping test as defined by the value of this parameter.</p> <p>A single ping test consists of a series of ping probes. The number of probes is determined by the value of the parameter times. After a single test completes the number of seconds as defined by the value of frequency must elapse before the next ping test is started.</p> <p>A value of 0 for this parameter implies that the test as defined by the corresponding entry will not be repeated.</p> <p>size &lt;short 1-1522&gt; - Specify the size of the test packet. A value of 1 to 6000 can be specified.</p> <p>source_ip &lt;ipv6_addr &gt; - Specify the source IPv6 address of the ping packets. If specified this parameter, this IPv6 address will be used as the packets’ source IPv6 address that ping6 sends to the remote host.</p> <p>timeout &lt;sec 1-99&gt; - The time-out period while waiting for a response from the remote device. A value of 1 to 99 seconds can be specified. The default is 1 second.</p> <p>times &lt;value 1-255&gt; - The number of individual ICMP echo messages to be sent. The maximum value is 255. The default is 4.</p>
Restrictions	None.

Example usage:

To ping the IPv6 address to “3000::1” four times:

**DGS-1210-28MP/ME:5# ping6 3000::1 times 4****Command: ping6 3000::1 times 4****Reply From : 3000::1, bytes=200, time<10ms****Reply From : 3000::1, bytes=200, time<10ms****Reply From : 3000::1, bytes=200, time<10ms****Reply From : 3000::1, bytes=200, time<10ms**

--- 3000::1 Ping Statistics ---

4 Packets Transmitted, 4 Packets Received, 0% Packets Loss

DGS-1210-28MP/ME:5#

**traceroute**

Purpose	The traceroute User EXEC mode command discovers routes that packets actually take when traveling to their destination.
Syntax	<b>traceroute &lt;ip_addr&gt; {min-ttl &lt;short 1-99&gt;   max-ttl &lt;short 1-99&gt;   port &lt;value 30000-64900&gt;   timeout &lt;sec 1-60&gt;   probe &lt;value 1-9&gt;}</b>
Description	The <b>traceroute</b> command discovers routes that packets actually take when traveling to their destination.
Parameters	<p><i>&lt;ip_addr&gt;</i> - Specifies the IP address of the destination host.</p> <p><i>min-ttl</i> - Specify the minimum time to live value of the trace route request.</p> <p><i>&lt;short 1-99&gt;</i> - Specify the minimum time to live value of the trace route request.</p> <p><i>max-ttl</i> - Specify the maximum time to live value of the trace route request.</p> <p><i>&lt;short 1-99&gt;</i> - Specify the maximum time to live value of the trace route request.</p> <p><i>port</i> - Specify the port number.</p> <p><i>&lt;value 30000-64900&gt;</i> - - Specify the port number. The value range is from 30000 to 64900. The default is 33435.</p> <p><i>timeout</i> - Specify the timeout period while waiting for a response from the destination.</p> <p><i>&lt;sec 1-60&gt;</i> - Specify the timeout period while waiting for a response from the remote device.</p> <p><i>probe</i> - Specify the number of probes.</p> <p><i>&lt;value 1-9&gt;</i> - Specify the number of probes. The range is from 1 to 9. If unspecified, the default value is 1.</p>
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To trace route IP 10.90.90.92 with max-ttl is 10:

```

DGS-1210-28MP/ME:5# traceroute 10.90.90.92 max-ttl 10
Command: traceroute 10.90.90.92 max-ttl 10

Tracing Route to 10.90.90.92 with 10 hops max and 1 byte packets
[!N - Network Unreachable !H - Host Unreachable !P - Protocol Unreachable]
 1  0.0.0.0          *          *          *
 2  0.0.0.0          *          *          *
 3  0.0.0.0          *          *          *
 4  0.0.0.0          *          *          *
 5  0.0.0.0          *          *          *
 6  0.0.0.0          *          *          *
 7  0.0.0.0          *          *          *
 8  0.0.0.0          *          *          *
 9  0.0.0.0          *          *          *
10  0.0.0.0          *          *          *
DGS-1210-28MP/ME:5#

```

**traceroute6**

Purpose	The traceroute User EXEC mode command discovers routes that packets actually take when traveling to their destination.
Syntax	<b>traceroute6 &lt;ipv6_addr&gt; {min-ttl &lt;short 1-99&gt;   max-ttl &lt;short 1-99&gt;   port &lt;value 30000-64900&gt;   timeout &lt;sec 1-60&gt;   probe &lt;value 1-9&gt;}</b>
Description	The <b>traceroute6</b> command discovers routes that packets actually take when traveling to their destination.
Parameters	<p><i>&lt;ipv6_addr&gt;</i> - Specifies the IPv6 address of the destination host.</p> <p><i>min-ttl</i> - Specify the minimum time to live value of the trace route request.</p> <p><i>&lt;short 1-99&gt;</i> - Specify the minimum time to live value of the trace route request.</p> <p><i>max-ttl</i> - Specify the maximum time to live value of the trace route request.</p> <p><i>&lt;short 1-99&gt;</i> - Specify the maximum time to live value of the trace route request.</p> <p><i>port</i> - Specify the port number.</p> <p><i>&lt;value 30000-64900&gt;</i> - - Specify the port number. The value range is from 30000 to 64900. The default is 33435.</p> <p><i>timeout</i> - Specify the timeout period while waiting for a response from the destination.</p> <p><i>&lt;sec 1-60&gt;</i> - Specify the timeout period while waiting for a response from the remote device.</p> <p><i>probe</i> - Specify the number of probes.</p> <p><i>&lt;value 1-9&gt;</i> - Specify the number of probes. The range is from 1 to 9. If unspecified, the default value is 1</p>
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To trace route IPv6 3000::2 with max-ttl is 8:

```
DGS-1210-28MP/ME:5# traceroute6 3000::2 max-ttl 8
Command: traceroute6 3000::2 max-ttl 8

Tracing Route to 3000::2 with 8 hops max and 1 byte packets
[!N - Network Unreachable !H - Host Unreachable !P - Protocol Unreachable]
 1  ::                *      *      *
 2  ::                *      *      *
 3  ::                *      *      *
 4  ::                *      *      *
 5  ::                *      *      *
 6  ::                *      *      *
 7  ::                *      *      *
 8  ::                *      *      *
DGS-1210-28MP/ME:5#
```

**show cpu port**

Purpose	To display the CPU port information.
Syntax	<b>show cpu port</b>
Description	The <b>show cpu port</b> command displays the CPU port information.
Parameters	None.
Restrictions	Only Administrator users can issue this command.

Example usage:

To display the CPU port information:

```
DGS-1210-28MP/ME:5# show cpu port
Command: show cpu port
```

Type	Total	Diff
ARP	0	
DHCP	0	
DHCPv6	0	
GVRP	0	
ICMP	0	
ICMPv6	0	
IGMP	0	
LACP	0	
LLDP	0	
PPPoE	0	
Reserved Multicast	0	
STP	0	
TELNET	0	
UDP	0	

```
DGS-1210-28MP/ME:5#
```

**reset cpu port**

Purpose	To reset the CPU port information.
Syntax	<b>reset cpu port</b>
Description	The <b>reset cpu port</b> command resets the CPU port information.
Parameters	None.
Restrictions	Only Administrator users can issue this command.

Example usage:

To reset the CPU port information:

```
DGS-1210-28MP/ME:5# reset cpu port
Command: reset cpu port
```

```
Success.
```

**DGS-1210-28MP/ME:5#**

## enable telnet

Purpose	To enable the telnet.
Syntax	<b>enable telnet</b>
Description	The <b>enable telnet</b> command enables telnet.
Parameters	None.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To enable telnet:

**DGS-1210-28MP/ME:5# enable telnet**  
**Command: enable telnet**

**Success.**

**DGS-1210-28MP/ME:5#**

## disable telnet

Purpose	To disable telnet.
Syntax	<b>disable telnet</b>
Description	The <b>disable telnet</b> command disables telnet.
Parameters	None.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To disable telnet:

**DGS-1210-28MP/ME:5# disable telnet**  
**Command: disable telnet**

**Success.**

**DGS-1210-28MP/ME:5#**

## telnet

Purpose	To telnet another device.
Syntax	<b>telnet &lt;ipaddr&gt; [-l &lt;string&gt;]</b>
Description	The <b>telnet</b> command is used to telnet another device.
Parameters	None.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To telnet another device which IP is 10.90.90.91:

```
DGS-1210-28MP/ME:5# telnet 10.90.90.91
Command: telnet 10.90.90.91
```

## config telnet

Purpose	To configure the telnet timeout settings.
Syntax	<b>config telnet { login_idle_timeout &lt;30-180&gt;   contimeout &lt;sec (120-600)&gt;}</b>
Description	The <b>config telnet</b> command configures telnet timeout.
Parameters	<p><i>contimeout &lt;sec 120-600&gt;</i> - Specifies the connection timeout. The value may be between 120 and 600 seconds. The default is 300 seconds.</p> <p><i>Login_idle_timeout &lt;sec (30-180)&gt;</i> - This setting an idle timeout interval in seconds (default 30). After this interval has passed, the idle user will be automatically logged out.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the telnet:

```
DGS-1210-28MP/ME:5# config telnet contimeout 120
Command: config telnet contimeout 120
```

```
Success.
DGS-1210-28MP/ME:5#
```

## show telnet

Purpose	show telnet timeout settings.
Syntax	<b>show telnet</b>
Description	The <b>show telnet</b> command to display telnet timeout.
Parameters	None
Restrictions	None

Example usage:

To configure the telnet:

```
DGS-1210-28MP/ME:5# show telnet
Command: show telnet
```

```
Telnet Idle Timeout      : 30
Telnet Connection Timeout : 300
DGS-1210-28MP/ME:5#
```

## config time\_range

Purpose	To configure the time range on the Switch.
---------	--

Syntax	<b>config time_range</b> <range_name 20> [[hours start_time <start_time 32> end_time <end_time 32> weekdays <daylist 32> date from_day year <start_year 2011-2029> month <start_mth 1-12> date <start_date 1-31> to_day year <end_year 2011-2029> month <end_mth 1-12> date <end_date 1-31>]   delete]
Description	The <b>config time_range</b> command defines time ranges for access lists. If the end time is earlier than the start time, the end time will move to the following day
Parameters	<p>&lt;range_name 20&gt; – Specifies the time range name. The range of characters is 1 - 20.</p> <p>start_time &lt;start_time 32&gt; – defines the time on which the time range will start to be active.</p> <p>end_time &lt;end_time 32 &gt;– defines the time on which the time range will stop to be active.</p> <p>weekdays &lt;daylist 32&gt; – defines the days of the week on which the time range will be active.</p> <p>&lt;start_year 2009-2037 &gt; – Specifies the time range start year.</p> <p>&lt;start_mth 1-12&gt; – Specifies the time range start month.</p> <p>&lt;start_date 1-31&gt; – Specifies the time range start date.</p> <p>&lt;end_year 2009-2037 &gt; – Specifies the time range end year.</p> <p>&lt;end_mth 1-12&gt; – Specifies the time range end month.</p> <p>&lt;end_date 1-31&gt; – Specifies the time range end date.</p> <p>delete – Delete the time range settings.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the time range on the Switch:

```
DGS-1210-28MP/ME:5# config time_range timr1 hours start_time 12:00 end_time 00:00
date from_day year 2016 month 7 date 19 to_day year 2017 month 7 date 30
Command: config time_range timr1 hours start_time 12:00 end_time 00:00 date
from_day year 2016 month 7 date 19 to_day year 2017 month 7 date 30
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show time\_range

Purpose	To display the currently configured access profiles on the Switch.
Syntax	<b>show time_range</b> {<range_name 20>}
Description	The <b>show time_range</b> command displays the time range configuration.
Parameters	<range_name 20> – Specifies the time range name to be displayed.
Restrictions	None.

Example usage:

To display time range settings on the Switch:

```
DGS-1210-28MP/ME:5# show time_range
Command: show time_range

Time Range Information
-----
Range Name       : timr1
Weekdays        :
Start Time       : 12:00
End Time         : 00:00
From Day         : 2016/07/19
To Day           : 2017/07/30

DGS-1210-28MP/ME:5#
```

## show tech support

Purpose	To display system and configuration information. to provide to the Technical Assistance Center when reporting a problem, use the show tech-support command.
Syntax	<b>show tech support</b>
Description	<p>The <b>show tech support</b> command displays system and configuration information to provide to the Technical Assistance Center when reporting a problem.</p> <p>By default, this command displays the output for technical-support-related show commands. Use keywords to specify the type of information to be displayed. If you do not specify any parameters, the system displays all configuration and memory data.</p> <p>The <b>show tech support</b> command may time out if the configuration file output takes longer to display than the configured session timeout time. If this happens, enter a set logout <i>timeout</i> value of 0 to disable automatic disconnection of idle sessions or enter a longer <i>timeout</i> value.</p> <p>The <b>show tech support</b> command output is continuous; it does not display one screen at a time. To interrupt the output, press Esc.</p>
Parameters	None.
Restrictions	None.

Example usage:

To display technical support information on the Switch:

```
DGS-1210-28MP/ME:5# show tech support

Command: show tech support

- Stacktrace Log -

No stacktrace information.

- System Info. -

Device Type           : DGS-1210-28MP/ME
```



```

MAC Address           : 00-06-06-05-04-05
IP Address            : 10.90.90.90 (Manual)
VLAN Name             : default
Subnet Mask           : 255.0.0.0
Default Gateway       : 0.0.0.0
System Boot Version   : 1.01.033
System Firmware Version : 7.01.B030
System Hardware Version : B1
System Serial Number  : QBDGS12102800
System Name           :
System Location       :
System up time        : 0 days, 0 hrs, 5 min, 40 secs
System Contact        :
System Time           : 18/07/2016 10:52:48
RTC Time              : 18/07/2016 10:52:48
STP                   : Disabled
GVRP                  : Disabled
IGMP Snooping        : Disabled
VLAN Trunk            : Disabled
802.1X Status        : Disabled
Telnet                : Enabled (TCP 23)
Web                   : Enabled (TCP 80)
RMON                  : Disabled
SSH                   : Disabled
Syslog Global State   : Disabled
SSL                   : Disabled
CLI Paging            : Enabled
Password Encryption State : Disabled

```

- Memory Info. -

	total	used	free	shared	buffers
Mem:	257288	95712	161576	0	6564
Swap:	0	0	0		
Total:	257288	95712	161576		

- I2C Info. -

I2C Device	ErrorCount
SFP	0
Other	0

DGS-1210-28MP/ME:5#

**clear tech support**

Purpose	To clear system and configuration information.
Syntax	<b>clear tech support</b>
Description	The <b>clear tech support</b> command is used to clear system and configuration information.
Parameters	None.
Restrictions	None.

Example usage:

To clear technical support information on the Switch:

```
DGS-1210-28MP/ME:5# clear tech support
```

```
Command: clear tech support
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## DHCP AUTOIMAGE COMMANDS

The DHCP Autoimage commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable autoimage	
disable autoimage	
show autoimage	

Each command is listed in detail, as follows:

### enable autoimage

Purpose	To enable the DHCP automatic image function on the Switch.
Syntax	<b>enable autoimage</b>
Description	The <b>enable autoimage</b> command is used to enable the DHCP automatic image function on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To enable the DHCP automatic image function on the Switch:

```
DGS-1210-28MP/ME:5# enable autoimage
Command: enable autoimage
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### disable autoimage

Purpose	To disable the DHCP automatic image function on the Switch.
Syntax	<b>disable autoimage</b>
Description	The <b>disable autoimage</b> command is used to disable the DHCP automatic image function on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To disable the DHCP automatic image function on the Switch:

```
DGS-1210-28MP/ME:5# disable autoimage
```

**Command: disable autoimage**

**Success.**

**DGS-1210-28MP/ME:5#**

## show autoimage

Purpose	To display the DHCP automatic image function on the Switch.
Syntax	<b>show autoimage</b>
Description	The <b>disable autoimage</b> command is used to display the DHCP automatic image function on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the DHCP automatic image information on the Switch:

**DGS-1210-28MP/ME:5# show autoimage**

**Command: show autoimage**

**Autoimage State: Enabled**

**DGS-1210-28MP/ME:5#**

## SMTP SERVER COMMANDS

The SMTP Server commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable smtp	
disable smtp	
config smtp	[self_mail_addr <mail_addr 64>   server [<ipaddr>   <ipv6addr>]   server_port <tcp_port_number 1-65535>] [{add mail_receiver <mail_addr 64>  delete mail_receiver <index 1-8>}]
show smtp	
smtp sent_testmsg	

Each command is listed in detail, as follows:

<b>enable smtp</b>	
Purpose	To enable the SMTP server feature on the Switch.
Syntax	<b>enable smtp</b>
Description	The <b>enable smtp</b> command enables the SMTP server feature on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To enable SMTP feature on the Switch:

```
DGS-1210-28MP/ME:5# enable smtp
Command: enable smtp

Success.
DGS-1210-28MP/ME:5#
```

<b>disable smtp</b>	
Purpose	To disable the SMTP server feature on the Switch.
Syntax	<b>disable smtp</b>
Description	The <b>disable smtp</b> command disables the SMTP server feature on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To disable STMP feature on the Switch:

```
DGS-1210-28MP/ME:5# disable smtp
Command: disable smtp

Success.
DGS-1210-28MP/ME:5#
```

## config smtp

Purpose	To configure the fields to set up the SMTP server for the switch, along with setting e-mail addresses to which switch log files can be sent when a problem arises on the Switch.
Syntax	<b>config smtp</b> [ <i>self_mail_addr</i> <mail_addr 64>   <b>server</b> [<ipaddr>   <ipv6addr>]   <b>server_port</b> <tcp_port_number 1-65535>] [{ <b>add mail_receiver</b> <mail_addr 64>  <b>delete mail_receiver</b> <index 1-8>}]
Description	The <b>config smtp</b> command is used to configure the fields to set up the SMTP server for the switch, along with setting e-mail addresses to which switch log files can be sent when a problem arises on the Switch.
Parameters	<p><i>self_mail_addr</i> &lt;mail_addr 64&gt; – Specifies the e-mail address from which mail messages will be sent. Only one self mail address can be configured on the Switch.</p> <p><b>server</b> [&lt;ipaddr&gt;   &lt;ipv6addr&gt;] – Specifies the IPv4 or IPv6 address of the SMTP server. This will be the device that sends out the mail for user. For example, 10.90.90.99.</p> <p>&lt;tcp_port_number 1-65535&gt; – Specifies the port number that the Switch will connect with on the SMTP server. The range is between 1 and 65535.</p> <p><b>add mail_receiver</b> &lt;mail_addr 64&gt; – Specifies a list of e-mail addresses so recipients can receive e-mail messages regarding Switch functions. Up to 8 e-mail address can be added per Switch.</p> <p><b>delete mail_receiver</b> &lt;index 1-8&gt; – Specifies the e-mail address index to be deleted.</p>
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To config SMTP with self mail address 'dlink@mail.com.tw' on the Switch:

```
DGS-1210-28MP/ME:5# config smtp self_mail_addr dlink@mail.com.tw
Command: config smtp self_mail_addr dlink@mail.com.tw

Success.
DGS-1210-28MP/ME:5#
```

## show smtp

Purpose	To display the SMTP server settings on the Switch.
---------	--

Syntax	<b>show smtp</b>
Description	The <b>show smtp</b> command displays the SMTP server settings on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display SMTP information on the Switch:

```

DGS-1210-28MP/ME:5# show smtp
Command: show smtp

smtp status : Enable
smtp server address : 0.0.0.0
smtp server port : 25
self mail address : dlink@mail.com.tw

Index          Mail Receiver Address
-----          -
1
2
3
4
5
6
7
8

DGS-1210-28MP/ME:5#
    
```

<b>smtp sent_testmsg</b>	
Purpose	To send test messages to all mail recipients configured on the Switch.
Syntax	<b>smtp sent_testmsg</b>
Description	The <b>smtp sent_testmsg</b> command is used to send test messages to all mail recipients configured on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To send SMTP test message to all mail receivers:

```

DGS-1210-28MP/ME:5# smtp sent_testmsg
Command: smtp sent_testmsg

Subject: This is a SMTP test
Content: Hello everybody!!
    
```

**Sending mail, please wait...**

**Success.**

**DGS-1210-28MP/ME:5#**



## MODIFY BANNER AND PROMPT COMMANDS

The Modify Banner and Prompt commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config command_prompt	[<string 64>   default   username]
config greeting_message	{default}
show greeting_message	

Each command is listed in detail, as follows:

<b>config command_prompt</b>	
Purpose	To configure the command prompt.
Syntax	<b>config command_prompt [&lt;string 64&gt;   default   username]</b>
Description	The <b>config command_prompt</b> command configures the command prompt.
Parameters	<p><i>&lt;string 64&gt;</i> – The command prompt can be changed by entering a new name of no more that 32 characters.</p> <p><i>default</i> – The command prompt will reset to factory default command prompt. Default = the name of the Switch model, for example “DGS-1210-28”.</p> <p><i>username</i> – The command prompt will be changed to the login username.</p>
Restrictions	<p>Only Administrator and Operator-level users can issue this command. Other restrictions include:</p> <p>If the “reset” command is executed, the modified command prompt will remain modified. However, the “reset config/reset system” command will reset the command prompt to the original factory banner.</p>

Example usage:

To modify the command prompt to “AtYourService”:

```
DGS-1210-28MP/ME:5# config command_prompt AtYourService
Command: config command_prompt AtYourService

Success.

AtYourService:5#
```

**config greeting\_message**

Purpose	Used to configure the login banner (greeting message).
Syntax	<b>config greeting_message {default}</b>
Description	The <b>config greeting_message</b> command to modify the login banner (greeting message).
Parameters	<p><i>default</i> – If the user enters default to the modify banner command, then the banner will be reset to the original factory banner. To open the Banner Editor, click Enter after typing the config greeting_message command. Type the information to be displayed on the banner by using the commands described on the Banner Editor:</p> <p>Quit without save: Ctrl+C            Save and quit: Ctrl+W            Move cursor: Left/Right/Up/Down            Delete line: Ctrl+D            Erase all setting: Ctrl+X            Reload original setting: Ctrl+L</p>
Restrictions	<p>Only Administrator and Operator-level users can issue this command. Other restrictions include:</p> <p>If the “reset” command is executed, the modified banner will remain modified. However, the “reset config/reset system” command will reset the modified banner to the original factory banner. The capacity of the banner is 6*80. 6 Lines and 80 characters per line.</p> <p>Ctrl+W will only save the modified banner in the DRAM. Users need to type the “save config/save all” command to save it into Flash.</p>

Example usage:

```

DGS-1210-28MP/ME:5# config greeting_message
Command: config greeting_message

Greeting Messages Editor
=====
                DGS-1210-28MP/ME Gigabit Ethernet Switch
                Command Line Interface

                Firmware: Build 7.01.B030
                Copyright(C) 2012 D-Link Corporation. All rights reserved.
=====

<Function Key>      <Control Key>
Ctrl+C  Quit without save  left/right/
Ctrl+W  Save and quit      up/down  Move cursor
                               Ctrl+D    Delete line
                               Ctrl+X    Erase all setting
                               Ctrl+L    Reload original setting

```

**show greeting\_message**

Purpose	Used to view the currently configured greeting message configured on the Switch.
Syntax	<b>show greeting_message</b>
Description	The <b>show greeting_message</b> command is used to view the currently configured greeting message on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the currently configured greeting message:

```
DGS-1210-28MP/ME:5# show greeting_message
Command: show greeting_message

DGS-1210-28MP/ME Gigabit Ethernet Switch
Command Line Interface

Firmware: Build 7.01.B030
Copyright(C) 2012 D-Link Corporation. All rights reserved.

DGS-1210-28MP/ME:5#
```

## DLINK DISCOVER PROTOCOL COMMANDS

The D-Link Discover Protocol commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable ddp	
disable ddp	
config ddp report state	[enable   disable]
config ddp report timer	[30   60   90   120]
config ddp ports	[all   <portlist>] state [enable   disable]
show ddp	

Each command is listed in detail, as follows:

### enable ddp

Purpose	To enable the D-Link discover protocol function.
Syntax	<b>enable ddp</b>
Description	The <b>enable ddp</b> command is used to enable the D-Link discover protocol function.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the D-Link discover protocol function:

```
DGS-1210-28MP/ME:5# enable ddp
Command: enable ddp
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

### disable ddp

Purpose	To disable the D-Link discover protocol function.
Syntax	<b>disable ddp</b>
Description	The <b>disable ddp</b> command is used to disable the D-Link discover protocol function.
Parameters	None.

Restrictions	Only administrator or operate-level users can issue this command.
--------------	---

Example usage:

To disable the D-Link discover protocol function:

```
DGS-1210-28MP/ME:5# disable ddp
```

**Command: disable ddp**

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config ddp report state

Purpose	To enable or disable the D-Link discover protocol packet report function.
Syntax	<b>config ddp report state [enable   disable]</b>
Description	The <b>config ddp report state</b> command is used to enable or disable the D-Link discover protocol packet report function.
Parameters	<i>[enable   disable]</i> – Specifies to enable or disable the D-Link discover protocol packet report function.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the D-Link discover protocol packet report function:

```
DGS-1210-28MP/ME:5# config ddp report state enable
```

**Command: config ddp report state enable**

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config ddp report timer

Purpose	To configure the D-Link discover protocol packet report timer.
Syntax	<b>config ddp report timer [30   60   90   120]</b>
Description	The <b>config ddp report timer</b> command is used to configure the D-Link discover protocol packet report timer.
Parameters	<i>[30   60   90   120]</i> - Specifies the report timer of D-Link Discover Protocol in seconds.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the D-Link discover protocol packet report timer:

```
DGS-1210-28MP/ME:5# config ddp report timer 30
```

```
Command: config ddp report timer 30
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config ddp ports

Purpose	To configure the ports of D-Link discover protocol packet report state.
Syntax	<b>config ddp ports [all   &lt;portlist&gt;] state [enable   disable]</b>
Description	The <b>config ddp ports</b> command is used configure the D-Link discover protocol packet report port state.
Parameters	<i>[all   &lt;portlist&gt;]</i> - Specifies the ports of D-Link Discover Protocol state to be enabled or disabled.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the ports 6-8 of D-Link discover protocol state:

```
DGS-1210-28MP/ME:5# config ddp ports 6-8 state enable
```

```
Command: config ddp ports 6-8 state enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show ddp

Purpose	To display the ports of D-Link discover protocol packet information.
Syntax	<b>show ddp</b>
Description	The <b>show ddp</b> command is used to display the ports of D-Link discover protocol packet information.
Parameters	None.
Restrictions	None.

Example usage:

To display the D-Link discover protocol state:

**DGS-1210-28MP/ME:5# show ddp**

**Command: show ddp**

**DDP System Information**

**DDP Global state : Enable**  
**DDP Report Timer Period : Disable**

**DDP Port State**

**Port State**

---- -----

**1 Disable**  
**2 Disable**  
**3 Disable**  
**4 Disable**  
**5 Disable**  
**6 Enable**  
**7 Enable**  
**8 Enable**  
**9 Disable**  
**10 Disable**  
**11 Disable**  
**12 Disable**

**CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL**

## SWITCH PORT COMMANDS

The Switch Port commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config ports	[all   <portlist>] [auto_downgrade {enable   disable}   mdix {cross   normal   auto}   clear_description   description <desc 32>   flow_control {enable   disable}   learning {enable   disable}   state {enable   disable}   speed {auto   10G_full   1000_full   100_full   100_half   10_full   10_half}]
config ports	[all   <portlist>] capability_advertised [1000_full   100_full   100_half   10_full   10_half   10G_full] {[1000_full   100_full   100_half   10_full   10_half]}
show ports	{<portlist>   all} {[description   err_disabled]}
show ports	{<portlist>   all} [auto_negotiation   media_type   linkup_time]
show ports	{<portlist>   all} configuration [all   [{802.1x} {access_profile} {address_binding} {bandwidth_multicast_address} {dhcp_local_relay} {dhcp_relay} {limited_multicast_address} {link_aggregation} {loopdetect} {port_security} {ports} {pppoe_circuit_id_insertion} {stp} {traffic_control} {traffic_segmentation} {vlan}]]
delete ports	[<portlist>   all] {medium_type [copper   fiber]} description

Each command is listed in detail, as follows:

config ports	
Purpose	To configure the Switch's Ethernet port settings.
Syntax	<b>config ports</b> [all   <portlist>] [auto_downgrade {enable   disable}   mdix {cross   normal   auto}   clear_description   description <desc 32>   flow_control {enable   disable}   learning {enable   disable}   state {enable   disable}   speed {auto   10G_full   1000_full   100_full   100_half   10_full   10_half}]
Description	The <b>config ports</b> command configures the Switch's Ethernet port settings. Only the ports listed in the <portlist> are affected.
Parameters	<p>&lt;portlist&gt; – A port or range of ports to be configured.</p> <p>all – Configures all ports on the Switch.</p> <p>mdix [cross   normal   auto] – Specifies the MDIX setting of the port. The MDIX setting can be auto, normal or cross.</p> <p>If set to normal state, the port in MDIX mode, can be connected to PC NIC using a straight cable. If set to cross state, the port in mdi mode, can be connected to a port (in mdix mode) on another switch through a straight cable.</p> <p>clear_description – Clear the description of selected port.</p> <p>description &lt;desc 64&gt; – Enter and alphanumeric string of no more that 64 characters to describe a selected port interface.</p> <p>flow_control [enable] – Enables flow control for the specified ports.</p> <p>flow_control [disable] – Disables flow control for the specified ports.</p>



*learning [enable | disable] c* Enables or disables the MAC address learning on the specified range of ports.

*state [enable | disable]* – Enables or disables the specified range of ports.

*speed* – Sets the speed of a port or range of ports, with the addition of one of the following:

- *auto* – Enables auto-negotiation for the specified range of ports.
- *[10 | 100 | 1000 | 10G]* – Configures the speed in Mbps for the specified range of ports.
- *[half | full]* – Configures the specified range of ports as either full or half-duplex.

*auto\_downgrade [enable | disable]* – Specifies whether to automatically downgrade the advertised speed when a link cannot be established at the available speed. For example, in condition for both connection end points with 1000Base-T and auto-negotiation enabled, connected poor quality of Ethernet cable (pair 4 in open state for example). Auto downgrade feature helps to establish connection at 100\_Full duplex mode.

Restrictions

Only administrator or operate-level users can issue this command.

Example usage:

To configure the speed of ports 12-15 to be full duplex, learning, state and auto downgrade enabled:

```
DGS-1210-28MP/ME:5# config ports 12-15 mdix auto flow_control enable learning
enable state enable auto_downgrade enable
```

```
Command: config ports 12-15 mdix auto flow_control enable learning enable state
enable auto_downgrade enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

To demonstrate auto downgrade feature establish connection for port 1 and port 2 via open cables (pair 4):

```
DGS-1210-28/ME:5# cable diagnostic port 1
```

```
Command: cable diagnostic port 1
```

Perform Cable Diagnostics ...

Port	Type	Link Status	Test Result	Cable Length (M)
1	GE	Link Down	Pair1 OK Pair2 OK Pair3 OK Pair4 OPEN	- at 0 M

Success.

```
DGS-1210-28/ME:5# show ports 1-2
```

```
Command: show ports 1-2
```

Port Type	State /MDI	Settings Speed/Duplex/FlowCtrl	Connection Speed/Duplex/FlowCtrl	Address Learning	Auto Downgrade
1	Enabled Auto	Auto/Disabled	Link Down	Enabled	Disabled
2	Enabled Auto	Auto/Disabled	Link Down	Enabled	Disabled

**DGS-1210-28/ME:5# config ports 1 auto\_downgrade enable**  
**Command: config ports 1 auto\_downgrade enable**

**Success.**  
**DGS-1210-28/ME:5# show ports 1-2**  
**Command: show ports 1-2**

Port Type	State /MDI	Settings Speed/Duplex/FlowCtrl	Connection Speed/Duplex/FlowCtrl	Address Learning	Auto Downgrade
1	Enabled Auto	Auto/Disabled	100M/Full/Disabled	Enabled	Enabled
2	Enabled Auto	Auto/Disabled	100M/Full/Disabled	Enabled	Disabled

**DGS-1210-28/ME:5#**

## config ports

Purpose	To configure the Switch's Ethernet port settings.
Syntax	<b>config ports</b> [all   <portlist>] <b>capability_advertised</b> [1000_full   100_full   100_half   10_full   10_half   10G_full] {[1000_full   100_full   100_half   10_full   10_half]}
Description	The <b>config ports</b> command configures the Switch's Ethernet port settings. Only the ports listed in the <portlist> are affected.
Parameters	<p>&lt;portlist&gt; – A port or range of ports to be configured.</p> <p><i>all</i> – Configures all ports on the Switch.</p> <p><i>speed</i> – Sets the speed of a port or range of ports, with the addition of one of the following:</p> <ul style="list-style-type: none"> <li>[10   100   1000   10G] – Configures the speed in Mbps for the specified range of ports.</li> <li>[half   full] – Configures the specified range of ports as either full or half-duplex.</li> </ul>
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the speed of ports 8-11 to be 10G full Mbps:

```
DGS-1210-28MP/ME:5# config ports 8-11 capability_advertised 10G_full
Command: config ports 8-11 capability_advertised 10G_full
```

**Success**

```
DGS-1210-28MP/ME:5#
```

## show ports

Purpose	To display the current configuration of a range of ports.
Syntax	<b>show ports</b> {<portlist>   all} {[description   err_disabled]}
Description	The <b>show ports</b> command displays the current configuration of range of ports or all ports.
Parameters	<p>&lt;portlist&gt; – A port or range of ports whose settings are to be displayed.</p> <p><i>all</i> – Specifies all ports to be displayed.</p> <p><i>description</i> – To display description for specified ports.</p> <p><i>err_disabled</i> – To display err_disabled for specified ports.</p>
Restrictions	None.

Example usage:

To display the description of port 13 on the Switch:

```
DGS-1210-28MP/ME:5# show ports 13 description
Command: show ports 13 description
```

Port Type	State/MDI	Settings Speed/Duplex/FlowCtrl	Connection Speed/DuplexFlowCtrl	Address Learning	Auto Downgrade
1	Enabled	Auto/Disabled	Link Down	Enabled	Disabled
Desc:					

```
DGS-1210-28MP/ME:5#
```

## show ports

Purpose	To display the current configuration of a range of ports.
Syntax	<b>show ports</b> {<portlist>   all} [auto_negotiation   media_type   linkup_time]
Description	The <b>show ports</b> command displays the current configuration of range of ports or all ports.
Parameters	<p>&lt;portlist&gt; – A port or range of ports whose settings are to be displayed.</p> <p><i>all</i> – Specifies all ports to be displayed.</p> <p><i>auto_negotiation</i> – Specifies to display the port auto-negotiation information.</p>

	<i>media_type</i> – Specifies to display the media type of the port.
	<i>linkup_time</i> – Specifies to display the linkup time information of specified ports.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To display the auto negotiation capability of port 1~3 on the Switch:

<b>DGS-1210-28MP/ME:5# show ports 1-3 auto_negotiation</b>	
<b>Command: show ports 1-3 auto_negotiation</b>	
<b>Port</b>	<b>Capability</b>
-----	-----
01	10_half,10_full,100_half,100_full,1000_full
02	10_half,10_full,100_half,100_full,1000_full
03	10_half,10_full,100_half,100_full,1000_full
<b>DGS-1210-28MP/ME:5#</b>	

<b>show ports</b>	
Purpose	To display the current configuration of a range of ports.
Syntax	<b>show ports</b> <portlist>   all} configuration [all   [{802.1x} {access_profile} {address_binding} {bandwidth_multicast_address} {dhcp_local_relay} {dhcp_relay} {limited_multicast_address} {link_aggregation} {loopdetect} {port_security} {ports} {pppoe_circuit_id_insertion} {stp} {traffic_control} {traffic_segmentation} {vlan}]]
Description	The <b>show ports</b> command displays the current configuration of range of ports or all ports.
Parameters	<portlist> – A port or range of ports whose settings are to be displayed. all – Specifies all ports to be displayed. [all   [{802.1x} {access_profile} {address_binding} {bandwidth_multicast_address} {dhcp_local_relay} {dhcp_relay} {limited_multicast_address} {link_aggregation} {loopdetect} {port_security} {ports} {pppoe_circuit_id_insertion} {stp} {traffic_control} {traffic_segmentation} {vlan}]] – To display the specified configuration or all configuration for specified ports.
Restrictions	N/A.

Example usage:

To display the DHCP local relay status for port 3 on the Switch:

<b>DGS-1210-28MP/ME:5# show ports 3 configuration dhcp_local_relay loopdetect</b>	
<b>Command: show ports 3 configuration dhcp_local_relay loopdetect</b>	
<b>port:3</b>	-----

**Loopdetect Status: None**

**DHCP Local Relay:**

**DHCP/BOOTP Local Relay Status : disabled**

**DGS-1210-28MP/ME:5#**

## delete ports

Purpose	To delete the current information of ports.
Syntax	<b>delete ports [&lt;portlist&gt;   all] {medium_type [copper   fiber]} description</b>
Description	The <b>delete ports</b> command deletes the current information of a port or range of ports.
Parameters	<i>&lt;portlist&gt;   all</i> – Specifies a range of ports or all ports information to be deleted. <i>medium_type [copper   fiber]</i> – Specifies to delete the medium type of specified ports. <i>description</i> – Specifies to delete the description of specified ports.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete the description of ports 1-3:

**DGS-1210-28MP/ME:5# delete ports 1-3 description**

**Command: delete ports 1-3 description**

**DGS-1210-28MP/ME:5#**

## LOOPBACK DETECTION COMMANDS

The Loopback Detection commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable loopdetect	
disable loopdetect	
config loopdetect mode	[portbase   vlanbase]
config loopdetect ports	[<portlist>   all] state [enable   disable]
config loopdetect	interval_time <value 1-32767> lbd_recover_time [0   <value 60-1000000>]
show loopdetect	{ports [<portlist>   all]}

Each command is listed in detail, as follows:

### enable loopdetect

Purpose	To enable the loop back detection on the Switch.
Syntax	<b>enable loopdetect</b>
Description	The <b>enable loopdetect</b> command enables the loop back detection on the Switch.
Parameters	None.
Restrictions	Only administrator -level users can issue this command.

Example usage:

To enable the loopback detection feature on the Switch:

```
DGS-1210-28MP/ME:5# enable loopdetect
Command: enable loopdetect
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### disable loopdetect

Purpose	To disable the loop back detection on the Switch.
Syntax	<b>disable loopdetect</b>
Description	The <b>disable loopdetect</b> command disables the loop back detection on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the loopback detection feature on the Switch:

```
DGS-1210-28MP/ME:5# disable loopdetect
Command: disable loopdetect
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config loopdetect mode

Purpose	To configure the loop back detection mode to be portbase or vlanbase on the Switch.
Syntax	<b>config loopdetect mode [portbase   vlanbase]</b>
Description	The <b>config loopdetect mode</b> command configures loop back detection mode to be portbase or vlanbase on the Switch.
Parameters	<i>[portbase   vlanbase]</i> - Specifies the loopdetect mode to be portbase or vlanbase.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the loopback detection mode to be portbase on the Switch:

```
DGS-1210-28MP/ME:5# config loopdetect mode portbase
Command: config loopdetect mode portbase
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config loopdetect ports

Purpose	To configures the loop back detection to be enabled or disabled for the specific ports on the Switch.
Syntax	<b>config loopdetect ports [&lt;portlist&gt;   all] state [enable   disable]</b>
Description	The <b>config loopdetect ports</b> command configures the loop back detection to be enabled or disabled for the specific ports on the Switch.
Parameters	<i>&lt;portlist&gt;</i> - A port or range of ports to be configured. <i>all</i> - All ports settings are to be configured. <i>state [enabled   disabled]</i> - Specifies the loop back detection is enabled or disabled for the specified ports on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the loop back detection on the Switch:

```
DGS-1210-28MP/ME:5# config loopdetect ports 1-4 state enable
Command: config loopdetect ports 1-4 state enable
```

**Success.**  
**DGS-1210-28MP/ME:5#**

## config loopdetect

Purpose	To configure the loop back detection interval time and recover time on the Switch.
Syntax	<b>config loopdetect interval_time &lt;value 1-32767&gt; lbd_recover_time [0   &lt;value 60-100000&gt;]</b>
Description	The <b>config loopdetect</b> command configures the loop back detection interval time and recover time on the Switch.
Parameters	<i>interval_time &lt;value 1-32767&gt;</i> – Specifies the interval time of loop back detection. The range is between 1 and 32767 seconds. <i>lbd_recover_time [0   &lt;value 60-10000&gt;]</i> – Specifies the recover time of loop back detection on the switch. The range is between 60 and 10000 seconds.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the loop back detection with interval time 500 on the Switch:

```
DGS-1210-28MP/ME:5# config loopdetect interval_time 500
Command: config loopdetect interval_time 500

Success.
DGS-1210-28MP/ME:5#
```

## show loopdetect

Purpose	To display the loop back detection information on the Switch.
Syntax	<b>show loopdetect {ports [&lt;portlist&gt;   all]}</b>
Description	The <b>show loopdetect</b> command displays the loop back detection information on the Switch.
Parameters	<i>&lt;portlist&gt;</i> – A port or range of ports to be displayed. <i>all</i> – All ports settings are to be displayed.
Restrictions	None.

Example usage:

To display the loop back detection information on the Switch:

```
DGS-1210-28MP/ME:5# show loopdetect
Command: show loopdetect

Loopdetect Global Settings
-----
Loopdetect Status   : Enabled
Loopdetect Mode     : Port-Base
```



```
Loopdetect Interval : 2
Recover Time       : 60
DGS-1210-28MP/ME:5#
```

## DOS PREVENTION COMMANDS

The DoS Prevention commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config dos_prevention dos_type	[ {land_attack   blat_attack   smurf_attack   tcp_null_scan   tcp_xmascan   tcp_synfin   tcp_syn_srcport_less_1024}   all] {action drop}   state [enable   disable] ] }
show dos_prevention	{ land_attack   blat_attack   smurf_attack   tcp_null_scan   tcp_xmascan   tcp_synfin   tcp_syn_srcport_less_1024 }
enable dos_prevention trap_log	
disable dos_prevention trap_log	

Each command is listed in detail, as follows:

config dos_prevention dos_type	
Purpose	Used to discard the L3 control packets sent to CPU from specific ports.
Syntax	<b>config dos_prevention dos_type [ {land_attack   blat_attack   smurf_attack   tcp_null_scan   tcp_xmascan   tcp_synfin   tcp_syn_srcport_less_1024}   all] {action drop}   state [enable   disable] ] }</b>
Description	The <b>config dos_prevention dos_type</b> command is used to configure the prevention of DoS attacks, and include state and action. The packets matching will be used by the hardware. For a specific type of attack, the content of the packet, regardless of the receipt port or destination port, will be matched against a specific pattern.
Parameters	<p>The type of DoS attack. Possible values are as follows:  land_attack, blat_attack, smurf_attack, tcp_null_scan, tcp_xmascan  tcp_synfin and tcp_syn_srcport_less_1024.</p> <p>By default, prevention for all types of DoS are enabled except for tcp_syn_srcport_less_1024.</p> <p><i>action [drop   mirror]</i> - When enabling DoS prevention, the following actions can be taken.</p> <ul style="list-style-type: none"> <li>· <i>drop</i> – Drop the attack packets.</li> <li>· <i>mirror</i> – Mirror the packet to other port for further process.</li> </ul> <p><i>priority &lt;value (0-7)&gt;</i> – Change packet priority by the Switch from 0 to 7.</p> <p>If the priority is not specified, the original priority will be used.</p> <p><i>rx_rate [no_limit   &lt;value (64-1024000)&gt;]</i> – controls the rate of the received DoS attack packets. If not specified, the default action is</p>

	drop.
	<i>state [enable   disable]</i> - Enable or disable DoS prevention.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure a land attack and blat attack prevention:

```
DGS-1210-28MP/ME:5# config dos_prevention dos_type blat_attack action drop
Command: config dos_prevention dos_type blat_attack action drop
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show dos\_prevention

Purpose	Used to display DoS prevention information.
Syntax	<b>show dos_prevention { land_attack   blat_attack   smurf_attack   tcp_null_scan   tcp_xmascan   tcp_synfin   tcp_syn_srcport_less_1024 }</b>
Description	The <b>show dos_prevention</b> command is used to display DoS prevention information, including the type of DoS attack, the prevention state, the corresponding action if the prevention is enabled, and the counter information of the DoS packet.
Parameters	The type of DoS attack. Possible values are as follows: land_attack, blat_attack, smurf_attack, tcp_null_scan, tcp_xmascan tcp_synfin and tcp_syn_srcport_less_1024.
Restrictions	None.

Example usage:

To display DoS prevention information:

```
DGS-1210-28MP/ME:5# show dos_prevention
Command: show dos_prevention

Trap/Log : Disabled
DosType           State   Action   Frame Counts
-----
Land Attack       Enabled Drop      -
Blat Attack       Enabled Drop      -
Tcp Null Scan     Disabled Drop      -
Tcp Xmascan       Disabled Drop      -
Tcp Synfin        Enabled Drop      -
Tcp Syn Srcport less 1024 Enabled Drop      -
Ping Death Attack Disabled Drop      -
Tcp Tiny Fragment Disabled Drop      -
```

To display DoS prevention information for Land Attack:

```
DGS-1210-28MP/ME:5# show dos_prevention land_attack
```

**Command: show dos\_prevention land\_attack**

**DoS Type** : Land Attack  
**State** : Enabled  
**Action** : Drop  
**Frame Counts** : -

**DGS-1210-28MP/ME:5#**

## enable dos\_prevention trap\_log

Purpose	Used to enable a DoS prevention trap/log.
Syntax	<b>enable dos_prevention trap_log</b>
Description	The <b>enable dos_prevention trap_log</b> command is used to send traps and logs when a DoS attack event occurs. The event will be logged only when the action is specified as drop.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable a DoS prevention trap/log:

**DGS-1210-28MP/ME:5# enable dos\_prevention trap\_log**

**Command: enable dos\_prevention trap\_log**

**Success.**

**DGS-1210-28MP/ME:5#**

## disable dos\_prevention trap\_log

Purpose	Used to disable a DoS prevention trap/log.
Syntax	<b>disable dos_prevention trap_log</b>
Description	The <b>disable dos_prevention trap_log</b> command is used to disable a DoS prevention trap/log.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To disable a DoS prevention trap/log:

**DGS-1210-28MP/ME:5# disable dos\_prevention trap\_log**

**Command: disable dos\_prevention trap\_log**

**Success.**

**DGS-1210-28MP/ME:5#**

## PPPOE CIRCUIT ID INSERTION COMMANDS

PPPoE Circuit ID Insertion is used to produce the unique subscriber mapping capability that is possible on ATM networks between ATM-DSL local loop and the PPPoE server. The PPPoE server will use the inserted Circuit Identifier sub-tag of the received packet to provide AAA services (Authentication, Authorization and Accounting). Through this method, Ethernet networks can be as the alternative of the ATM networks.

The PPPoE Circuit ID Insertion commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config pppoe circuit_id_insertion state	[enable   disable]
config pppoe circuit_id_insertion ports	<portlist> [ circuit_id [ mac   ip   udf <string 32>   vendor2   vendor3 <string 32> ]   state [enable   disable ] ]
show pppoe circuit_id_insertion	
show pppoe circuit_id_insertion ports	{<portlist>}

Each command is listed in detail, as follows:

config pppoe circuit_id_insertion state	
Purpose	Used to enable or disable the PPPoE circuit identifier insertion.
Syntax	<b>config pppoe circuit_id_insertion state [enable   disable]</b>
Description	<p>When PPPoE circuit identifier insertion is enabled, the system will insert the circuit ID tag to the received PPPoE discover and request packet if the tag is absent, and remove the circuit ID tag from the received PPPoE offer and session confirmation packet.</p> <p>The inserted circuit ID contains the following information:</p> <ul style="list-style-type: none"> <li>• Client MAC address</li> <li>• Device ID</li> <li>• Port number</li> </ul> <p>By default, the Switch IP address is used as the device ID to encode the circuit ID option.</p>
Parameters	<i>[enable   disable]</i> – Enables or disable PPPoE circuit ID insertion globally. The function is disabled by default.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To globally enable PPPoE circuit identifier insertion:

```
DGS-1210-28MP/ME:5# config pppoe circuit_id_insertion state enable
Command: config pppoe circuit_id_insertion state enable
```

**Success.**

**DGS-1210-28MP/ME:5#**

## config pppoe circuit\_id\_insertion ports

Purpose	Used to enable and disable PPPoE circuit identifier insertion on a per port basis and specify how to encode the circuit ID option.
Syntax	<b>config pppoe circuit_id_insertion ports &lt;portlist&gt; [ circuit_id [ mac   ip   udf &lt;string 32&gt;   vendor2   vendor3 &lt;string 32&gt; ] ] state [enable   disable ] ]</b>
Description	When the port's state and the global state are enabled, the system will insert the Circuit ID TAG to the received PPPoE discovery initiation and request packet if the TAG is absent, and remove the Circuit ID tag, inserted by the system, from the received PPPoE offer and session confirmation packet.
Parameters	<p><i>&lt;portlist&gt;</i> – Specifies a list of ports to be configured.</p> <p>The default settings are enabled for ID insertion per port, but disabled globally.</p> <p><i>circuit_id</i> – Configures the device ID used for encoding of the circuit ID option.</p> <p><i>mac</i> – Specifies that the Switch MAC address be used to encode the circuit ID option.</p> <p><i>ip</i> – Specifies that the Switch IP address be used to encode the circuit ID option.</p> <p><i>udf</i> – A user defined string to be used to encode the circuit ID option. The maximum length is 32.</p> <p><i>vendor 2</i> –The incoming port number of PPPoE client packet will be used to encode the circuit ID option. The port number should start with the character “p” and the number “0” should be inserted before the port number if the port number is less than 10.</p> <p><i>vendor 3</i> –A user-defined string for the circuit ID option.</p> <p><i>&lt;user-defined&gt;</i> - Enter the user-defined string with the maximum of 32 characters.</p> <p><i>state</i> – Specify to enable or disable PPPoE circuit ID insertion for the ports listed.</p>
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable port 1~5 PPPoE circuit ID insertion function and use Host MAC:

**DGS-1210-28MP/ME:5# config pppoe circuit\_id\_insertion ports 1-5 circuit\_id mac state enable**

**Command: config pppoe circuit\_id\_insertion ports 1-5 circuit\_id mac state enable**

**Success.**

**DGS-1210-28MP/ME:5#**

## show pppoe circuit\_id\_insertion

Purpose	Used to display the PPPoE circuit identifier insertion status for the Switch.
Syntax	<b>show pppoe circuit_id_insertion</b>
Description	The <b>show pppoe circuit_id_insertion</b> command is used to display the global state configuration of the PPPoE circuit ID insertion function.
Parameters	None.
Restrictions	None.

Example usage:

To view the global PPPoE ID insertion state:

```
DGS-1210-28MP/ME:5# show pppoe circuit_id_insertion
```

```
Command: show pppoe circuit_id_insertion
```

```
Status: Enabled
```

```
DGS-1210-28MP/ME:5#
```

## show pppoe circuit\_id\_insertion ports

Purpose	Used to display the PPPoE ID insertion configuration on a per port basis.
Syntax	<b>show pppoe circuit_id_insertion ports {&lt;portlist&gt;}</b>
Description	The <b>show pppoe circuit_id_insertion ports</b> command allows the user to view the configuration of PPPoE ID insertion for each port.
Parameters	<portlist> -Specifies which ports to display. If no ports are specified, all ports configuration will be listed.
Restrictions	None.

Example usage:

To view the PPPoE circuit ID configuration for ports 1 to 3:

```
DGS-1210-28MP/ME:5# show pppoe circuit_id_insertion ports 1-3
```

```
Command: show pppoe circuit_id_insertion ports 1-3
```

```
Port State   PPPoE Tags
-----
1   Enabled Circuit ID : UDF String (343)
      Remote ID : Default

2   Enabled Circuit ID : UDF String (343)
      Remote ID : Default

3   Enabled Circuit ID : UDF String (343)
      Remote ID : Default
```

```
DGS-1210-28MP/ME:5#
```

## DHCP SERVER SCREENING COMMANDS

The DHCP server screening commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Due to this function allow you not only to restrict all DHCP Server packets but also to receive any specified DHCP server packet by any specified DHCP client, it is useful when one or more than one DHCP servers are present on the network and both provide DHCP services to different distinct groups of clients.

When DHCP Server Screening function is enabled, all DHCP Server packets will be filtered from a specific port. Also, you are allowed to create entries for specific Server IP address and Client MAC address binding by port-based. Be aware that the DHCP Server Screening function must be enabled first. Once all settings are done, all DHCP Server packets will be filtered from a specific port except those that meet the Server IP Address and Client MAC Address binding.

Command	Parameter
config filter dhcp_server	[add permit server_ip <ipaddr> { client_mac <macaddr>} ports [ <portlist>   all ]   delete permit server_ip <ipaddr> { client_mac <macaddr> } {ports <portlist> state [ enable   disable]}
config filter dhcp_server	illegal_server_log_suppress_duration [1min   5min   30min]
config filter dhcp_server log	state [enable   disable]
show filter dhcp_server	
show dhcp_server screening	
config filter dhcpv6 ports	<portlist> state [disable   enable]
config filter dhcpv6_server ports	<portlist> state {disable   enable}
config filter dhcpv6_server log	state [disable   enable]
create filter dhcpv6_server permit_entry	create filter dhcpv6_server permit_entry <ipv6addr> ports [ <portlist>   all]
delete filter dhcpv6_server permit_entry	<ipv6addr>
show filter dhcpv6_server	
show filter dhcpv6	
config filter icmpv6_ra_all_node ports	<portlist> state [disable   enable]
config filter icmpv6_ra_all_node log	state [disable   enable]



Command	Parameter
create filter icmpv6_ra_all_node permit_server	<ipv6addr> ports { <portlist>   all}
delete filter icmpv6_ra_all_node permit_server	<ipv6addr>
show filter icmpv6_ra_all_node	
config filter icmpv6_ns_na ports	<portlist> state [disable   enable]
show filter icmpv6_ns_na	

Each command is listed in detail, as follows:

<b>config filter dhcp_server</b>	
Purpose	DHCP server packets except those that have been IP/client MAC bound will be filtered. This command is used to configure the state of the function for filtering of DHCP server packet and to add/delete the DHCP server/client binding entry.
Syntax	<b>config filter dhcp_server [add permit server_ip &lt;ipaddr&gt; { client_mac &lt;macaddr&gt;} ports [ &lt;portlist&gt;   all ]   delete permit server_ip &lt;ipaddr&gt; { client_mac &lt;macaddr&gt; } {ports &lt;portlist&gt; state [ enable   disable]}</b>
Description	The <b>config filter dhcp_server</b> command has two purposes: To filter all DHCP server packets on the specified port(s) and to allow some DHCP server packets to forwarded if they are on the pre-defined server IP address/MAC address binding list. Thus the DHCP server can be restricted to service a specified DHCP client. This is useful when there are two or more DHCP servers present on f network.
Parameters	<i>&lt;ipaddr&gt;</i> – The IP address of the DHCP server to be filtered. <i>client_mac &lt;macaddr&gt;</i> – The MAC address of the DHCP client. <i>ports &lt;portlist&gt;</i> – The port number to which the DHCP filter will be applied. <i>state</i> – To enable or disable the DHCP filter state.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To add an entry from the DHCP server/client filter list in the Switch's database:

```
DGS-1210-28MP/ME:5# config filter dhcp_server add permit server_ip 10.1.1.1
client_mac 00-00-00-00-00-01 ports all
Command: config filter dhcp_server add permit server_ip 10.1.1.1 client_mac 00-00-
00-00-00-01 ports all

Success.
DGS-1210-28MP/ME:5#
```

**config filter dhcp\_server**

Purpose	To configure the illegal server log suppress duration.
Syntax	<b>config filter dhcp_server illegal_server_log_suppress_duration [1min   5min   30min]</b>
Description	The DHCP server filtering function filters any illegal DHCP server packets. The DHCP server who sends the illegal packets will be logged. This command is used to suppress the logging of DHCP servers who continue to send illegal DHCP packets. The same illegal DHCP server IP address that is detected will be logged only once regardless of how many illegal packets are sent.
Parameters	<i>[1min   5min   30min]</i> – The IP address of the DHCP server to be filtered.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the illegal server log suppress duration time to 30 minutes:

```
DGS-1210-28MP/ME:5#          config          filter          dhcp_server
illegal_server_log_suppress_duration 30min
Command: config filter dhcp_server illegal_server_log_suppress_duration 30min

Success.

DGS-1210-28MP/ME:5#
```

**config filter dhcp\_server log**

Purpose	Used to enable or disable the log for a DHCP server filter event.
Syntax	<b>config filter dhcp_server log state [enable   disable]</b>
Description	The <b>config filter dhcp_server log</b> is used to enable or disable the log for a DHCP server filter event.
Parameters	<i>state [enable   disable]</i> – Specifies to enable or disable the log for a DHCP server filter event.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the log for a DHCP server filter event:

```
DGS-1210-28MP/ME:5# config filter dhcpv6_server log state enable
Command: config filter dhcpv6_server log state enable

Success.

DGS-1210-28MP/ME:5#
```

**show filter dhcp\_server**

Purpose	Used to display current DHCP server/client filter list created on the switch.
---------	---

Syntax	<b>show filter dhcp_server</b>
Description	The <b>show filter dhcp_server</b> command is used to display DHCP server/client filter list created on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the DHCP server filter list created on the switch:

```
DGS-1210-28MP/ME:5# show filter dhcp_server
Command: show filter dhcp_server

Enabled ports :
Illegal Server Log Suppress Duration : 5 Minutes

DGS-1210-28MP/ME:5#
```

<b>show dhcp_server screening</b>	
Purpose	Used to display current DHCP server screening information on the switch.
Syntax	<b>show dhcp_server screening</b>
Description	The <b>show dhcp_server screening</b> command is used to display current DHCP server screening information on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the DHCP server screening information on the switch:

```
DGS-1210-28/ME:5# show dhcp_server screening
Command: show dhcp_server screening

Illegal Server Log Suppress Duration : 5 Minutes

DHCP server screening :

Port Admin state
----
1 disabled
2 disabled
3 disabled
4 disabled
5 disabled
6 disabled
7 disabled
8 disabled
9 disabled
10 disabled
```

```

11 disabled
12 disabled
13 disabled
14 disabled
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL

```

### config filter dhcpv6 ports

Purpose	Used to configure the state specified port(s) for DHCPv6 process.
Syntax	<b>config filter dhcpv6 ports &lt;portlist&gt; state [disable   enable]</b>
Description	The enabled port(s) restrict forwarding of DHCPv6 packets.
Parameters	<portlist> - Specifies the list of ports to be configured. state [disable   enable] – Specifies whether the port(s) filter DHCPv6 packet or not.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the filter DHCPv6 state to be enabled for ports 1:

```

DGS-1210-28/ME:5# config filter dhcpv6 ports 1 state enable
Command: config filter dhcpv6 ports 1 state enable

Success.
DGS-1210-28/ME:5#

```

### config filter dhcpv6\_server ports

Purpose	Used to configure the state of filter DHCPv6 server packets on the switch. The filter DHCPv6 server function is used to filter the DHCPv6 server packets on the specific port(s) and receive the trust packets from the specific source. This feature can be protected network usable when a malicious host sends the DHCPv6 server packets.
Syntax	<b>config filter dhcpv6_server ports &lt;portlist&gt; state [disable   enable]</b>
Description	The <b>config filter dhcpv6_server ports</b> command is used to configure the state of filter DHCPv6 server packets on the switch.
Parameters	<portlist> - Specifies the list of ports to be configured. state [disable   enable] – Specifies whether the port's filter DHCPv6 server function is enabled or disabled.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the filter DHCPv6 server state to be enabled for ports 1 to 8:

```

DGS-1210-28MP/ME:5# config filter dhcpv6_server ports 1-8 state enable
Command: config filter dhcpv6_server ports 1-8 state enable

Success.

```

```
DGS-1210-28MP/ME:5#
```

### config filter dhcpv6\_server log

Purpose	To enable or disable the Filter DHCPv6 server log state.
Syntax	<b>config filter dhcpv6_server log state [enable   disable]</b>
Description	The <b>config filter dhcpv6_server log</b> command is used to enable or disable the Filter DHCPv6 server log state.
Parameters	<i>state [enable   disable]</i> – Specify that the log for the Filter DHCPv6 server will be enabled or disabled.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the Filter DHCPv6 Server log state:

```
DGS-1210-28MP/ME:5# config filter dhcpv6_server log state enable
Command: config filter dhcpv6_server log state enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### create filter dhcpv6\_server permit\_entry

Purpose	Used to create a filter DHCPv6 server permit entry.
Syntax	<b>create filter dhcpv6_server permit_entry &lt;ipv6addr&gt; ports [&lt;portlist&gt;   all]</b>
Description	The <b>create filter dhcpv6_server permit_entry</b> command is used to create a filter DHCPv6 server permit entry.
Parameters	<i>&lt;ipv6addr&gt;</i> - Specifies the IPv6 address to be configured. <i>ports [&lt;portlist&gt;   all]</i> – Specifies the list of ports or all ports to be configured.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To create the filter DHCPv6 server permit entry of port 1 to 10 with IPv6 address 3000::5:

```
DGS-1210-28MP/ME:5# create filter dhcpv6_server permit_entry 3000::5 ports 1-10
Command: create filter dhcpv6_server permit_entry 3000::5 ports 1-10
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### delete filter dhcpv6\_server permit\_entry

Purpose	Used to delete a filter DHCPv6 server permit entry.
Syntax	<b>delete filter dhcpv6_server permit_entry &lt;ipv6addr&gt;</b>
Description	The <b>delete filter dhcpv6_server permit_entry</b> command is used to

	delete a filter DHCPv6 server permit entry.
Parameters	<ipv6addr> - Specifies the IPv6 address of filter DHCPv6 server permit entry to be deleted.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete permit entry from the filter DHCPv6 server forward list:

```
DGS-1210-28MP/ME:5# delete filter dhcpv6_server permit_entry 3000::5
Command: delete filter dhcpv6_server permit_entry 3000::5
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show filter dhcpv6\_server

Purpose	Used to display the filter DHCPv6 server information.
Syntax	<b>show filter dhcpv6_server</b>
Description	The <b>show filter dhcpv6_server</b> command is used to display the filter DHCPv6 server information.
Parameters	None.
Restrictions	None.

Example usage:

To display the DHCPv6 server information on the switch:

```
DGS-1210-28MP/ME:5# show filter dhcpv6_server
Command: show filter dhcpv6_server
```

**Enabled ports :**

**DHCPv6 Filter Syslog State : Enable**

**Permit DHCP Server/Client Table:**

Server IP Address	Ports
3000::5	1-10

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show filter dhcpv6

Purpose	Used to display the filter DHCPv6 information.
Syntax	<b>show filter dhcpv6</b>
Description	The <b>show filter dhcpv6</b> command is used to display the filter DHCPv6 information.
Parameters	None.
Restrictions	None.

Example usage:

To display the state of DHCPv6 filter in port basis:

```
DGS-1210-28/ME:5# show filter dhcpv6
```

```
Command: show filter dhcpv6
```

```
Enabled ports : 1
```

```
DGS-1210-28/ME:5#
```

## config filter icmpv6\_ra\_all\_node ports

Purpose	Used to configure the state of the filter ICMPv6 RA all-nodes packets on the Switch. The filter ICMPv6 RA all-nodes function is used to filter the ICMPv6 RA all-nodes packets on the specific port(s) and receive the trust packets from the specific source. This feature can be protected network usable when a malicious host sends ICMPv6 RA all-nodes packets.
Syntax	<b>config filter icmpv6_ra_all_node ports &lt;portlist&gt; state [disable   enable]</b>
Description	The <b>config filter icmpv6_ra_all_node ports</b> command is used to configure the state of the filter ICMPv6 RA all-nodes packets on the Switch.
Parameters	<i>&lt;portlist&gt;</i> - Enter the list of ports to be configured. <i>state [disable   enable]</i> – Specifies to enable or disable the port's filter ICMPv6 RA all-nodes packets function.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the filter ICMPv6 RA all-nodes state to be enabled for ports 1 to 8:

```
DGS-1210-28MP/ME:5# config filter icmpv6_ra_all_node ports 1-8 state enable
```

```
Command: config filter icmpv6_ra_all_node ports 1-8 state enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config filter icmpv6\_ra\_all\_node log

Purpose	Used to enable or disable the filter ICMPv6 RA all-nodes log state.
Syntax	<b>config filter icmpv6_ra_all_node log state [disable   enable]</b>
Description	The <b>config filter icmpv6_ra_all_node log</b> command is used to enable or disable the filter ICMPv6 RA all-nodes log state.
Parameters	<i>state [disable   enable]</i> – Specifies to enable or disable the filter ICMPv6 RA all-nodes log function.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the filter ICMPv6 RA all-nodes log state:

```
DGS-1210-28MP/ME:5# config filter icmpv6_ra_all_node log state enable
```

```
Command: config filter icmpv6_ra_all_node log state enable
```

**Success.**  
**DGS-1210-28MP/ME:5#**

### create filter icmpv6\_ra\_all\_node permit\_server

Purpose	Used to create a filter ICMPv6 RA all-nodes permit server.
Syntax	<b>create filter icmpv6_ra_all_node permit_server &lt;ipv6addr&gt; ports [&lt;portlist&gt;   all]</b>
Description	The <b>create filter icmpv6_ra_all_node permit_server</b> command is used to create a filter ICMPv6 RA all-nodes permit server.
Parameters	<i>&lt;ipv6addr&gt;</i> - Specifies the IPv6 address of permit server which will be created into the filter ICMPv6 RA all-nodes forward list. <i>ports [&lt;portlist&gt;   all]</i> – Specifies the list of ports or all ports to be created for the filter ICMPv6 RA all-nodes permit server.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To create a filter ICMPv6 RA all-nodes permit server on port 5:

```
DGS-1210-28MP/ME:5# create filter icmpv6_ra_all_node permit_server 3000::6 ports 5
Command: create filter icmpv6_ra_all_node permit_server 3000::6 ports 5

Success.
DGS-1210-28MP/ME:5#
```

### delete filter icmpv6\_ra\_all\_node permit\_server

Purpose	Used to delete a filter ICMPv6 RA all-nodes permit server.
Syntax	<b>delete filter icmpv6_ra_all_node permit_server &lt;ipv6addr&gt;</b>
Description	The <b>delete a filter ICMPv6 RA all-nodes permit server</b> command is used to delete a filter ICMPv6 RA all-nodes permit server.
Parameters	<i>&lt;ipv6addr&gt;</i> - Specifies the source IPv6 address of the permit server to be deleted.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete permit server from the filter ICMPv6 RA all-nodes forward list:

```
DGS-1210-28MP/ME:5# delete filter icmpv6_ra_all_node permit_server 3000::6
Command: delete filter icmpv6_ra_all_node permit_server 3000::6

Success.
DGS-1210-28MP/ME:5#
```



**show filter icmpv6\_ra\_all\_node**

Purpose	Used to display the filter ICMPv6 RA all-nodes information.
Syntax	<b>show filter icmpv6_ra_all_node</b>
Description	The <b>show filter icmpv6_ra_all_node</b> command is used to display the filter ICMPv6 RA all-nodes information.
Parameters	None.
Restrictions	None.

Example usage:

To display filter ICMPv6 RA all-nodes information:

```
DGS-1210-28MP/ME:5# show filter icmpv6_ra_all_node
```

```
Command: show filter icmpv6_ra_all_node
```

```
Enabled ports : 1-8
```

```
ICMPv6 RA Filter Syslog State : Enable
```

```
Permit ICMPv6 RA Server/Client Table:
```

Server IP Address	Ports
3000::6	5

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config filter icmpv6\_ns\_na ports**

Purpose	Used to configure the state of the filter ICMPv6 NS (Neighbor Solicitation) and NA (Neighbor Advertisement) all-nodes packets on the Switch. The filter ICMPv6 NS_NA function is used to filter the ICMPv6 NS and NA packets on the specific port(s).
Syntax	<b>config filter icmpv6_ns_na ports &lt;portlist&gt; state [disable   enable]</b>
Description	NS and NA packet does not allowed for the port(s) which enable icmp_ns_na feature.
Parameters	<i>port</i> – Specify the port(s) to be configured <i>&lt;portlist&gt;</i> - A port, or a range of ports <i>state</i> – Specify the of port(s) for filtering ICMPv6 NS and NA packets <i>enable</i> – Enable the filter <i>disable</i> – Disable the filter
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable filter ICMPv6 NS\_NA function on port 1-2:

```
DGS-1210-28/ME:5# config filter icmpv6_ns_na ports 1-2 state enable
```

```
Command: config filter icmpv6_ns_na ports 1-2 state enable
```

**Success.**

**DGS-1210-28/ME:5#**

## show filter icmpv6\_ns\_na ports

Purpose	This command is used to display the state for filtering ICMPv6 NS and NA packet in port basis.
Syntax	<b>show filter icmpv6_ns_na</b>
Description	This command is used to display the state for filtering ICMPv6 NS and NA packet in port basis.
Parameters	None
Restrictions	None

Example usage:

To display filter ICMPv6 NS\_NA function:

**DGS-1210-28/ME:5# show filter icmpv6\_ns\_na**

**Command: show filter icmpv6\_ns\_na**

**Enabled ports : 1-2**

**DGS-1210-28/ME:5#**

## IP-MAC-PORT BINDING COMMANDS

The IP network layer uses a four-byte address. The Ethernet link layer uses a six-byte MAC address. Binding these two address types together allows the transmission of data between the layers. The primary purpose of IP-MAC-port binding is to restrict the access to a switch to a number of authorized users. Only the authorized client can access the Switch's port by checking the pair of IP-MAC addresses with the pre-configured database. If an unauthorized user tries to access an IP-MAC-port binding enabled port, the system will block the access by dropping its packet. The maximum number of IP-MAC-port binding entries is dependant on chip capability (e.g. the ARP table size) and storage size of the device. For the Switch, the maximum value for the IP-MAC-port binding ARP mode is 500. The creation of authorized users can be manually configured by CLI or Web. The function is port-based, meaning a user can enable or disable the function on the individual port.

The IP-MAC-Port Binding commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table:

Command	Parameter
create address_binding ip_mac	[ipaddress <ipaddr>   ipv6address <ipv6addr>] mac_address <macaddr> ports [<portlist>   all]
config address_binding ip_mac ports	[<portlist>   all] {state [disable   enable]   ip_inspection [disable   enable]   arp_inspection [loose   strict]   allow_zeroip [enable   disable]   forward_dhcp pkt [enable   disable]}
config address_binding auto_scan	from_ip <ipaddr> to_ip <ipaddr>
config address_binding auto_scan ipv6address	from_ip <ipv6addr> to_ip <ipv6addr>
delete address_binding	[ip_mac [ipaddress <ipaddr>   ipv6address <ipv6addr>   mac_address <macaddr>   all]   blocked [all   vlan_name <string 32> mac_address <macaddr> port <port 1-28>]]
show address_binding	{[ip_mac [all   {ipaddress <ipaddr>   ipv6address <ipv6addr>   mac_address <macaddr>}]   blocked [all   vlan_name <string 32> mac_address <macaddr> port <portlist>]}
show address_binding auto_scan list	
enable address_binding dhcp_snoop	ports [<portlist>   all]
disable address_binding dhcp_snoop	ports [<portlist>   all]
config address_binding dhcp_snoop	{max_entry ports [<portlist>   all] limit [<int 1-10>   no_limit] {IPv6}}   {flush_on_port_down ports <portlist>   all} [enable   disable]}
show address_binding dhcp_snoop	[binding_entry   flust_status   max_entry   vlan_list] ports <portlist>
enable address_binding dhcp_pd_snoop	
disable	

Command	Parameter
address_binding dhcp_pd_snoop	
show address_binding dhcp_pd_snoop	{binding_entry   ports <portlist>}
config address_binding vlan	{<vidlist>} vlan_mode state [enable   disable]
enable address_binding roaming	
disable address_binding roaming	
show address_binding roaming	
clear address_binding dhcp_snoop binding_entry ports	[<portlist>   all] {all   ipv6}

Each command is listed in detail, as follows:

<b>create address_binding ip_mac</b>	
Purpose	Used to create an IP-MAC-port binding entry.
Syntax	<b>create address_binding ip_mac [ipaddress &lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;] mac_address &lt;macaddr&gt; ports [&lt;portlist&gt;   all]</b>
Description	The <b>create address_binding ip_mac ipaddress</b> command is used to create an IP-MAC-port binding entry.
Parameters	<p><i>ipaddress &lt;ipaddr&gt;</i> – The IPv4 address of the device where the IP-MAC-port binding is made.</p> <p><i>ipv6address &lt;ipv6addr&gt;</i> – The IPv4v6 address of the device where the IP-MAC-port binding is made.</p> <p><i>&lt;macaddr&gt;</i> – The MAC address of the device where the IP-MAC-port binding is made.</p> <p><i>[&lt;portlist&gt;   all]</i> – Specifies the ports to be configured for address binding.</p>
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To create address binding on the Switch:

```
DGS-1210-28MP/ME:5# create address_binding ip_mac ipaddress 10.90.90.93
mac_address 00-11-11-22-33-44 ports 6
Command: create address_binding ip_mac ipaddress 10.90.90.93 mac_address 00-
11-11-22-33-44 ports 6

Success.
DGS-1210-28MP/ME:5#
```

**config address\_binding ip\_mac ports**

Purpose	Used to configure an IP-MAC-port binding state to enable or disable for specified ports.
Syntax	<b>config address_binding ip_mac ports</b> [<portlist>   all] {state [disable   enable]   ip_inspection [disable   enable]   arp_inspection [loose   strict]   allow_zeroip [enable   disable]   forward_dhcppt [enable   disable]}
Description	The <b>config address_binding ip_mac ports</b> command is used to configure the IP-MAC-port binding state to enable or disable for specified ports.
Parameters	<portlist> – Specifies a port or range of ports. all – Specifies all ports on the switch. [enable   disable] – Enables or disables the specified range of ports for state, IP-inspection, allow_zeroip and forward_dhcppt. arp_inspection [loose   strict] – Specifies to check the ARP inspection to be loose or strict for the specified ports.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure address binding on the Switch:

```
DGS-1210-28MP/ME:5# config address_binding ip_mac ports 3 state disable
arp_inspection loose ip_inspection disable
Command: config address_binding ip_mac ports 3 state disable arp_inspection
loose ip_inspection disable

Success.
DGS-1210-28MP/ME:5#
```

**config address\_binding auto\_scan**

Purpose	Used to configure an IP-MAC-port binding auto scan for specified IP addresses.
Syntax	<b>config address_binding auto_scan from_ip &lt;ipaddr&gt; to_ip &lt;ipaddr&gt;</b>
Description	The <b>config address_binding auto_scan</b> command is used to configure the IP-MAC-port binding auto scan for specified IP addresses.
Parameters	<ipaddr> – Specifies a range of IP addresses for address binding auto scan on the Switch.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure address binding auto scan on the Switch:

```
DGS-1210-28MP/ME:5# config address_binding auto_scan from_ip 10.0.0.10 to_ip
10.0.0.12
Command: config address_binding auto_scan from_ip 10.0.0.10 to_ip 10.0.0.12

Success.
DGS-1210-28MP/ME:5#
```

**config address\_binding auto\_scan ipv6address**

Purpose	Used to configure an IP-MAC-port binding auto scan for specified IPv6 addresses.
Syntax	<b>config address_binding auto_scan ipv6address from_ip &lt;ipv6addr&gt; to_ip &lt;ipv6addr&gt;</b>
Description	The <b>config address_binding auto_scan</b> command is used to configure the IP-MAC-port binding auto scan for specified IPv6 addresses.
Parameters	<ipv6addr> – Specifies a range of IPv6 addresses for address binding auto scan on the Switch.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure address binding auto scan on the Switch:

```
DGS-1210-28MP/ME:5# config address_binding auto_scan ipv6address from_ip
3000::1 to_ip 3000::3
Command: config address_binding auto_scan ipv6address from_ip 3000::1 to_ip
3000::3

Success.
DGS-1210-28MP/ME:5#
```

**delete address\_binding**

Purpose	Used to delete IP-MAC-port binding entries.
Syntax	<b>delete address_binding [ip_mac [ipaddress &lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;   mac_address &lt;macaddr&gt;   all]   blocked [all   vlan_name &lt;string 32&gt; mac_address &lt;macaddr&gt; port &lt;port 1-28&gt;]]</b>
Description	<p>The <b>delete address_binding</b> command is used to delete IP-MAC-port binding entries. Two different kinds of information can be deleted.</p> <p><i>ip_mac</i> – Individual address binding entries can be deleted by entering the physical and IP addresses of the device. Toggling to all will delete all the address binding entries.</p> <p><i>blocked</i> – Blocked address binding entries (bindings between VLAN names and MAC addresses) can be deleted by entering the VLAN name and the physical address of the device. To delete all the blocked address binding entries, toggle all.</p>
Parameters	<p><i>ipaddress &lt;ipaddr&gt;</i> – The IPv4 address of the device where the IP-MAC-port binding is made.</p> <p><i>iv6paddress &lt;ipv6addr&gt;</i> – The IPv6 address of the device where the IP-MAC-port binding is made.</p> <p><i>&lt;macaddr&gt;</i> – The MAC address of the device where the IP-MAC-port binding is made.</p> <p><i>vlan_name &lt;string 32&gt;</i> – The VLAN name of the VLAN that is bound to a MAC address in order to block a specific device on a known VLAN.</p> <p><i>all</i> – For IP-MAC-port binding all specifies all the IP-MAC-port binding entries; for blocked address binding entries all specifies all</p>

	the blocked VLANs and their bound physical addresses.
	<port 1-28> – Specifies a port to be deleted for address binding.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete all address binding entries on the Switch:

```
DGS-1210-28MP/ME:5# delete address_binding ip_mac all
Command: delete address_binding ip_mac all
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show address\_binding

Purpose	Used to display IP-MAC-port binding entries.
Syntax	<b>show address_binding</b> [{ip_mac [all   {ipaddress <ipaddr>   ipv6address <ipv6addr>   mac_address <macaddr>}]   blocked [all   vlan_name <string 32> mac_address <macaddr> port <portlist>}]
Description	This <b>show address_binding</b> command is used to display IP-MAC-port binding entries. Four different kinds of information can be viewed. <i>ip_mac</i> – Address binding entries can be viewed by entering the physical and IP addresses of the device. <i>blocked</i> – Blocked address binding entries (bindings between VLAN names and MAC addresses) can be viewed by entering the VLAN name and the physical address of the device. <i>ports</i> – The number of enabled ports on the device.
Parameters	<i>ip_mac</i> – The database the user creates for address binding. <i>all</i> – For IP MAC binding all specifies all the IP-MAC-port binding entries; for blocked address binding entries all specifies all the blocked VLANs and their bound physical addresses. <i>blocked</i> – The address database that the system auto learns and blocks. <i>ipaddress &lt;ipaddr&gt;</i> – The IPv4 address of the device where the IP-MAC-port binding is made. <i>ipv6address &lt;ipv6addr&gt;</i> – The IPv6 address of the device where the IP-MAC-port binding is made. <macaddr> – The MAC address of the device where the IP-MAC-port binding is made. <i>vlan_name &lt;string 32&gt;</i> – The VLAN name of the VLAN that is bound to a MAC address in order to block a specific device on a known VLAN. <i>port &lt;portlist&gt;</i> – Specifies a port to be displayed for the address binding on the Switch.
Restrictions	None.

Example usage:

To display address binding entries on the Switch:

```
DGS-1210-28MP/ME:5# show address_binding ip_mac all
Command: show address_binding ip_mac all
```

IP Address	MAC Address	Port
-----	-----	----
10.0.0.21	00-00-00-00-01-02	3

DGS-1210-28MP/ME:5#

<b>show address_binding auto_scan list</b>	
Purpose	Used to display IP-MAC-port binding entries.
Syntax	<b>show address_binding auto_scan list</b>
Description	This <b>show address_binding auto_scan list</b> command is used to display auto scan list of address binding on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the auto scan list of address binding on the Switch:

<b>DGS-1210-28MP/ME:5# show address_binding auto_scan list</b>			
<b>Command: show address_binding auto_scan list</b>			
<b>VLAN IP Address</b>	<b>MAC Address</b>	<b>Port</b>	<b>Bound</b>
-----	-----	----	-----
<b>Total Entries : 0</b>			
<b>DGS-1210-28MP/ME:5#</b>			

<b>enable address_binding dhcp_snoop</b>	
Purpose	Used to enable address binding DHCP Snooping.
Syntax	<b>enable address_binding dhcp_snoop ports [&lt;portlist&gt;   all]</b>
Description	This <b>enable address_binding dhcp_snoop</b> command is used to enable IP-MAC-port binding DHCP snooping entries.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be enabled of the address binding DHCP snooping on the Switch.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the DHCP snooping of address binding for port 3~5 on the Switch:

<b>DGS-1210-28MP/ME:5# enable address_binding dhcp_snoop ports 3-5</b>	
<b>Command: enable address_binding dhcp_snoop ports 3-5</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	



**disable address\_binding dhcp\_snoop**

Purpose	Used to disable address binding DHCP Snooping.
Syntax	<b>disable address_binding dhcp_snoop ports [&lt;portlist&gt;   all]</b>
Description	This <b>disable address_binding dhcp_snoop</b> command is used to disable IP-MAC-port binding DHCP snooping entries.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be enabled of the address binding DHCP snooping on the Switch.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To disable the DHCP snooping of address binding for port 3–5 on the Switch:

```
DGS-1210-28MP/ME:5# disable address_binding dhcp_snoop ports 4
Command: disable address_binding dhcp_snoop ports 4

Success.
DGS-1210-28MP/ME:5#
```

**config address\_binding dhcp\_snoop**

Purpose	Used to configure the max entry and entry reflush mechanism of DHCP snooping function..
Syntax	<b>config address_binding dhcp_snoop {max_entry ports [&lt;portlist&gt;   all] limit [&lt;int 1-10&gt;   no_limit] {IPv6}}   {flush_on_port_down ports &lt;portlist&gt;   all} [enable   disable]}</b>
Description	The <b>config address_binding dhcp_snoop max_entry</b> command is used to specify the maximum number of DHCP snooping entries on specified ports. By default, the per-port maximum entry has no limit. The command <b>config address_binding dhcp_snooping flush_on_port_down</b> command forces to clear binded entry when port physical state is down.
Parameters	<i>max_entry</i> – The max binding entry of DHCP snooping <i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be configured of the address binding DHCP snooping on the Switch. <i>[&lt;int 1-10&gt;   no_limit]</i> – Specifies the limit for max entry number. <i>{IPv6}</i> – Specifies the IPv6 address used for this configuration. <i>Flush_on_port_down</i> – The mechanism to force clear binded entry when the specified port physically down. <i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be configured. <i>enable   disable</i> – Specified the state
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To configure the DHCP snooping of address binding for port 1 on the Switch:

```
DGS-1210-28MP/ME:5# config address_binding dhcp_snoop max_entry ports 1 limit 1
Command: config address_binding dhcp_snoop max_entry ports 1 limit 1
```

```

Success.
DGS-1210-28MP/ME:5#
DGS-1210-28MP/ME:5# config address_binding dhcp_snoop flush_on_port_down
ports 1 enable
Command: config address_binding dhcp_snoop flush_on_port_down ports 1
enable
Success.

```

## show address\_binding dhcp\_snoop

Purpose	Used to display DHCP snoop of IP-MAC-port binding.
Syntax	<b>show address_binding dhcp_snoop [binding_entry   flush_status   max_entry   vlan_list] {ports &lt;portlist&gt;}</b>
Description	This command is used show types information about DHCP snooping which includes binding entry, flush status, max entry and vlan list.
Parameters	<i>binding_entry</i> – Display the binding entry <i>flush_status</i> – Display the configured status of flush_on_port_down feature <i>max_entry</i> - Specifies address binding entries can be viewed. <i>vlan_list</i> – Display the list of VLAN group that configured to turn on DHCP snooping. <i>ports &lt;portlist&gt;</i> – Specifies the ports on the device to be displayed.
Restrictions	None.

Example usage:

To display DHCP snoop of address binding max entries of port 1~5 on the Switch:

```

DGS-1210-28MP/ME:5# show address_binding dhcp_snoop max_entry ports 1-5
Command: show address_binding dhcp_snoop max_entry ports 1-5

Port  Max Entry  Max IPv6 Entry
----  -
1     No Limit    No Limit
2     No Limit    No Limit
3     No Limit    No Limit
4     No Limit    No Limit
5     No Limit    No Limit
DGS-1210-28MP/ME:5#

```

## enable address\_binding dhcp\_pd\_snoop

Purpose	Used to enable address binding DHCPv6 PD Snooping.
Syntax	<b>enable address_binding dhcp_pd_snoop</b>
Description	This <b>enable address_binding dhcp_pd_snoop</b> command is used to enable IP-MAC-port binding DHCPv6 PD snooping.
Parameters	None.

Restrictions	Only administrator or operate-level users can issue this command.
--------------	---

Example usage:

To enable address binding DHCPv6 PD Snooping on the Switch:

```
DGS-1210-28MP/ME:5# enable address_binding dhcp_pd_snoop
Command: enable address_binding dhcp_pd_snoop

Success.
DGS-1210-28MP/ME:5#
```

### disable address\_binding dhcp\_pd\_snoop

Purpose	Used to disable address binding DHCPv6 PD Snooping.
Syntax	<b>disable address_binding dhcp_pd_snoop</b>
Description	This <b>disable address_binding dhcp_pd_snoop</b> command is used to disable IP-MAC-port binding DHCPv6 PD snooping.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To disable address binding DHCPv6 PD Snooping on the Switch:

```
DGS-1210-28MP/ME:5# disable address_binding dhcp_pd_snoop
Command: disable address_binding dhcp_pd_snoop

Success.
DGS-1210-28MP/ME:5#
```

### show address\_binding dhcp\_pd\_snoop

Purpose	Used to display address binding DHCPv6 PD Snooping.
Syntax	<b>show address_binding dhcp_pd_snoop {binding_entry   ports &lt;portlist&gt;}</b>
Description	This <b>show address_binding dhcp_pd_snoop</b> command is used to display IP-MAC-port binding DHCPv6 PD snooping.
Parameters	None.
Restrictions	None.

Example usage:

To display address binding DHCPv6 PD Snooping on the Switch:

```
DGS-1210-28MP/ME:5# show address_binding dhcp_pd_snoop binding_entry
Command: show address_binding dhcp_pd_snoop binding_entry

IP Address                Port Lease Remain
-----
Total Entries : 0
```

```
DGS-1210-28MP/ME:5#
```

### config address\_binding vlan\_checking

Purpose	Used to configure an IP-MAC-port binding specified VLAN.
Syntax	<b>config address_binding vlan_checking [add_vlan   remove_vlan  state]</b>
Description	The <b>config address_binding vlan_checking</b> command is used to configure the IP-MAC-port binding for specified VLAN.
Parameters	add_vlan   remove_vlan {<vidlist>} – Specifies the VLAN ID to be configured. state [ <i>enable</i>   <i>disable</i> ] – Specifies to enable or disable the IP-MAC-port binding of the added VLAN.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the address binding of VLAN ID 1 on the Switch:

```
DGS-1210-28MP/ME:5# config address_binding vlan_checking add_vlan 1
Command: config address_binding vlan_checking add_vlan 1

Success.
DGS-1210-28MP/ME:5# config address_binding vlan_checking state enable
Command: config address_binding vlBanneran_checking state enable

Success.

DGS-1210-28MP/ME:5#
```

### enable address\_binding roaming

Purpose	Used to enable address binding roaming.
Syntax	<b>enable address_binding roaming</b>
Description	This <b>enable address_binding roaming</b> command is used to enable IP-MAC-port binding roaming.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable the roaming of address binding on the Switch:

```
DGS-1210-28/ME:5# enable address_binding roaming
Command: enable address_binding roaming

Success.
DES-1210-52/ME:5#
```

### disable address\_binding roaming

Purpose	Used to disable address binding roaming.
---------	--

Syntax	<b>disable address_binding roaming</b>
Description	This <b>disable address_binding roaming</b> command is used to disable IP-MAC-port binding roaming.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To disable the roaming of address binding on the Switch:

```
DGS-1210-28/ME:5# disable address_binding roaming
Command: disable address_binding roaming
```

**Success.**

```
DES-1210-52/ME:5#
```

### show address\_binding roaming

Purpose	Used to display DHCP snoop of IP-MAC-port binding roaming information.
Syntax	<b>show address_binding roaming</b>
Description	This <b>show address_binding roaming</b> command is used to display DHCP snoop of IP-MAC-port binding roaming information.
Parameters	None.
Restrictions	None.

Example usage:

To display DHCP snoop of address binding roaming information on the Switch:

```
DGS-1210-28/ME:5# show address_binding roaming
Command: show address_binding roaming
```

**Roaming state is enabled.**

```
DES-1210-52/ME:5#
```

### clear address\_binding dhcp\_snoop binding\_entry ports

Purpose	Used to clear the DHCP snooping entries learned for the specified ports.
Syntax	<b>clear address_binding dhcp_snoop binding_entry ports</b> [<portlist>   all] {all   ipv6}
Description	This <b>clear address_binding dhcp_snoop binding_entry ports</b> command is used to clear the DHCP snooping entries learned for the specified ports.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a range of ports or all ports to be configured. <i>all</i> - Specifies that all entries will be cleared. <i>ipv6</i> - Specifies that IPv6 entries will be cleared.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To clear DHCP IPv4 snooping entries on ports 1-3:

```
DGS-1210-28MP/ME:5# clear address_binding dhcp_snoop binding_entry ports 1-3
```

```
Command: clear address_binding dhcp_snoop binding_entry ports 1-3
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## NETWORK MANAGEMENT (SNMP) COMMANDS

The Switch supports the Simple Network Management Protocol (SNMP) versions 1, 2c, and 3. Users can specify which version of the SNMP users want to use to monitor and control the Switch. The three versions of SNMP vary in the level of security provided between the management station and the network device. The following table lists the security features of the three SNMP versions:

SNMP Version	Authentication Method	Description
v1	Community String	Community String is used for authentication - NoAuthNoPriv
v2c	Community String	Community String is used for authentication - NoAuthNoPriv
v3	Username	Username is used for authentication – NoAuthNoPriv
v3	MD5 or SHA	Authentication is based on the HMAC-MD5 or HMAC-SHA algorithms – AuthNoPriv
v3	MD5 DGS or SHA DGS	Authentication is based on the HMAC-MD5 or HMAC-SHA algorithms – AuthPriv. DGS 56-bit encryption is added based on the CBC-DGS(DGS-56) standard

The Network Management commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable snmp	
disable snmp	
create snmp user	<username 32> <groupname 32> [v1   v2c   v3 [MD5 <auth_password 32>   SHA <auth_password 32>   none ] [DES <priv_password 32>   none]]   [encrypted by_key auth [MD5 <auth_password 32>   SHA <auth_password 40 >] priv [none   DES <priv_password 40>]]
delete snmp user	<username 32> [v1   v2c   v3]
show snmp user	
create snmp view	<view_name 32> <oid 32> <oid_mask 32 view_type [included   excluded]
delete snmp view	<view_name 32> <oid 32>
show snmp view	{<view_name 32>}
create snmp community	<community_string 32> [<username 32>   view <view_name 32>] [read_only   read_write]
delete snmp community	<community_string 32>
show snmp community	{<community_string 32>}
config snmp engineID	<snmp_engineID 64>
show snmp engineID	
enable community_encryption	

Command	Parameter
disable community_encryption	
show community_encryption	
create snmp group	<groupname 32> [v1   v2c   v3 [noauth_nopriv   auth_nopriv   auth_priv]{notify_view <view_name 32>}] {read_view <view_name 32>   write_view <view_name 32>}
delete snmp group	<groupname 32> [v1   v2c   v3] [auth_nopriv   auth_priv   noauth_priv]
show snmp global state	
show snmp groups	
create snmp host	<ipaddr> [v1 <username 32>   v2c <username 32>   v3 [noauth_nopriv   auth_nopriv   auth_priv] <username 32>]
delete snmp host	<ipaddr>
show snmp host	{<ipaddr>}
create snmp v6host	<ip6_addr> [v1 <username 32>   v2c <username 32>   v3 [noauth_nopriv   auth_nopriv   auth_priv] <username 32>]
delete snmp v6host	<ip6_addr>
show snmp v6host	<ip6_addr>
enable trusted_host	
disable trusted_host	
create trusted_host	[<ipaddr>   <ipv6_addr>   network {<network_address>   <ipaddr>}   ipv6_prefix <ipv6networkaddr>]
show trusted_host	
delete trusted_host	[<ipaddr>   network <network_address>   <ip6_addr>   ipv6_prefix <ipv6networkaddr>   all]
config snmp system_contact	<string 128>
config snmp system_location	<string 128>
config snmp system_name	<string 128>
enable snmp traps	
disable snmp traps	
show snmp traps	
enable snmp authenticate traps	
disable snmp authenticate traps	
enable snmp linkchange_traps	



Command	Parameter
disable snmp linkchange_traps	
config snmp linkchange_traps ports	[<portlist>   all] [enable   disable]
show snmp traps linkchange_traps	
config snmp warmstart_traps	[enable   disable]
config snmp coldstart_traps	[enable   disable]
enable snmp DHCP_screening traps	
diabile snmp DHCP_screening traps	
enable snmp DHCPv6_screening traps	
diabile snmp DHCPv6_screening traps	
enable snmp ICMPv6_RA_all_node traps	
disable snmp ICMPv6_RA_all_node traps	
enable snmp IMPB_violation traps	
disable snmp IMPB_violation traps	
enable snmp firmware_upgrade_state traps	
disable snmp firmware_upgrade_state traps	
enable snmp LBD traps	
disable snmp LBD traps	
enable snmp port_security_violation traps	
disable snmp port_security_violation traps	
enable snmp	

Command	Parameter
rstpport_state_change traps	
disable snmp rstpport_state_change traps	
enable snmp duplicate_IP_detected traps	
disable snmp duplicate_IP_detected traps	
enable snmp DULD traps	
disable snmp DULD traps	
enable snmp RPS traps	
disable snmp RPS traps	
enable snmp Login_Logout traps	
disable snmp Login_Logout traps	

Each command is listed in detail, as follows:

### enable snmp

Purpose	To enable SNMP support.
Syntax	<b>enable snmp</b>
Description	The <b>enable snmp</b> command enables SNMP support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp
Command: enable snmp

Success.
DGS-1210-28MP/ME:5#
```

### disable snmp

Purpose	To disable SNMP support.
Syntax	<b>disable snmp</b>
Description	The <b>disable snmp</b> command enables SNMP support on the Switch.

Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP support on the Switch:

**DGS-1210-28MP/ME:5# disable snmp**

**Command: disable snmp**

**Success.**

**DGS-1210-28MP/ME:5#**

<b>create snmp user</b>	
Purpose	To create a new SNMP user and add the user to an SNMP group.
Syntax	<b>create snmp user &lt;username 32&gt; &lt;groupname 32&gt; [v1   v2c   v3 [MD5 &lt;auth_password 32&gt;   SHA &lt;auth_password 32&gt;   none ] [DES &lt;priv_password 32&gt;   none]]   [encrypted by_key auth [MD5 &lt;auth_password 32&gt;   SHA &lt;auth_password 40 &gt;] priv [none   DES &lt;priv_password 40&gt;]]</b>
Description	The <b>create snmp user</b> command creates a new SNMP user and adds the user to an existing SNMP group.
Parameters	<p><i>&lt;username 32&gt;</i> - The new SNMP username, up to 32 alphanumeric characters.</p> <p><i>&lt;groupname 32&gt;</i> - The SNMP groupname the new SNMP user is associated with, up to 32 alphanumeric characters.</p> <p><i>auth</i> - The user may also choose the type of authentication algorithms used to authenticate the snmp user. The choices are:</p> <ul style="list-style-type: none"> <li>• <i>MD5</i> - Specifies that the HMAC-MD5-96 authentication level to be used. md5 may be utilized by entering one of the following:</li> <li>• <i>&lt;auth_password 32&gt;</i> - A string of between 1 and 32 alphanumeric characters used to authorize the agent to receive packets for the host.</li> <li>• <i>SHA</i> - Specifies that the HMAC-SHA-96 authentication level will be used.</li> <li>• <i>&lt;priv_password 32&gt;</i> - A string of between 1 and 32 alphanumeric characters used to authorize the agent to receive packets for the host.</li> <li>• <i>&lt;auth_password 40&gt;</i> - A string of exactly 40 alphanumeric characters, in hex form, to define the key used to authorize the agent to receive packets for the host.</li> <li>• <i>DES</i> - Specifies that the DES authentication level will be used.</li> <li>• <i>&lt;priv_password 40&gt;</i> - A string of between 1 and 40 alphanumeric characters used to authorize the agent to receive packets for the host.</li> </ul> <p><i>encrypted by_key</i> - Requires the SNMP user to enter an encryption key for authentication and privacy. The key is defined by specifying the key in hex form.</p>
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To create an SNMP user on the Switch:

```
DGS-1210-28MP/ME:5# create snmp user dlink SW22 v3 MD5 1234 DES jklj22
Command: create snmp user dlink SW22 v3 MD5 1234 DES jklj22
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete snmp user

Purpose	To remove an SNMP user from an SNMP group and also to delete the associated SNMP group.
Syntax	<b>delete snmp user &lt;username 32&gt; [v1   v2c   v3]</b>
Description	The <b>delete snmp user</b> command removes an SNMP user from its SNMP group and then deletes the associated SNMP group.
Parameters	<username 32> - A string of up to 32 alphanumeric characters that identifies the SNMP user to be deleted.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To delete a previously created SNMP user on the Switch:

```
DGS-1210-28MP/ME:5# delete snmp user dlink v3
Command: delete snmp user dlink v3
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show snmp user

Purpose	To display information about each SNMP username in the SNMP group username table.
Syntax	<b>show snmp user</b>
Description	The <b>show snmp user</b> command displays information about each SNMP username in the SNMP group username table.
Parameters	None.
Restrictions	None.

Example usage:

To display the SNMP users currently configured on the Switch:

```
DGS-1210-28MP/ME:5# show snmp user
Command: show snmp user
```

```
Username  Group Name  SNMP Version  Auth-Protocol  PrivProtocol
```

ReadOnly	ReadOnly	V1	None	None
ReadOnly	ReadOnly	V2	None	None
ReadWrite	ReadWrite	V1	None	None
ReadWrite	ReadWrite	V2	None	None
<b>Total Entries: 4</b>				
<b>DGS-1210-28MP/ME:5#</b>				

## create snmp view

Purpose	To assign views to community strings to limit which MIB objects an SNMP manager can access.
Syntax	<b>create snmp view &lt;view_name 32&gt; &lt;oid 32&gt; &lt;oid_mask 32 view_type [included   excluded]</b>
Description	The <b>create snmp view</b> command assigns views to community strings to limit which MIB objects an SNMP manager can access.
Parameters	<p>&lt;view_name 32&gt; – A string of up to 30 alphanumeric characters that identifies the SNMP view to be created.</p> <p>&lt;oid 32&gt; – The object ID that identifies an object tree (MIB tree) to be included or excluded from access by an SNMP manager.</p> <p>&lt;oid_mask 32&gt; – The object ID mask that identifies an object tree (MIB tree) to be included or excluded from access by an SNMP manager.</p> <p><i>included</i> – IncluDGS this object in the list of objects that an SNMP manager can access.</p> <p><i>excluded</i> – ExcluDGS this object from the list of objects that an SNMP manager can access.</p>
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To create an SNMP view:

<b>DGS-1210-28MP/ME:5# create snmp view dlink 1.3.6 1.1.1 view_type excluded</b>
<b>Command: create snmp view dlink 1.3.6 1.1.1 view_type excluded</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## delete snmp view

Purpose	To remove an SNMP view entry previously created on the Switch.
Syntax	<b>delete snmp view &lt;view_name 32&gt; &lt;oid 32&gt;</b>
Description	The <b>delete snmp view</b> command removes an SNMP view previously created on the Switch.

Parameters	<p><b>&lt;view_name 32&gt;</b> – A string of up to 32 alphanumeric characters that identifies the SNMP view to be deleted.</p> <p><b>&lt;oid 32&gt;</b> – The object ID that identifies an object tree (MIB tree) that is deleted from the Switch.</p>
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To delete a previously configured SNMP view from the Switch:

```
DGS-1210-28MP/ME:5# delete snmp view dlink 1.3.6
Command: delete snmp view dlink 1.3.6

Success.

DGS-1210-28MP/ME:5#
```

## show snmp view

Purpose	To display an SNMP view previously created on the Switch.
Syntax	<b>show snmp view {&lt;view_name 32&gt;}</b>
Description	The <b>show snmp view</b> command displays an SNMP view previously created on the Switch.
Parameters	<b>&lt;view_name 32&gt;</b> – A string of up to 30 alphanumeric characters that identifies the SNMP view to be displayed.
Restrictions	None.

Example usage:

To display SNMP view configuration:

```
DGS-1210-28MP/ME:5# show snmp view
Command: show snmp view

SNMP View Table Configuration
View Name      Subtree OID      OID Mask      View Type
-----
dlink          1.2.3.4          1.1.1.1       Excluded
ReadWrite     1                 1              Included

Total Entries: 2

DGS-1210-28MP/ME:5#
```

## create snmp community

Purpose	To create an SNMP community string to define the relationship between the SNMP manager and an SNMP agent.
Syntax	<b>create snmp community &lt;community_string 32&gt; [&lt;username 32&gt;   view &lt;view_name 32&gt;] [read_only   read_write]</b>
Description	The <b>create snmp community</b> command creates an SNMP

	<p>community string and assigns access-limiting characteristics to this community string. The community string acts like a password to permit access to the agent on the Switch. One or more of the following characteristics can be associated with the community string:</p> <p>An Access List of IP addresses of SNMP managers that are permitted to use the community string to gain access to the Switch's SNMP agent.</p> <p>A MIB view that defines the subset of all MIB objects to be accessible to the SNMP community.</p> <p>Read/write or read-only level permission for the MIB objects accessible to the SNMP community.</p>
Parameters	<p><i>&lt;community_string 32&gt;</i> – A string of up to 32 alphanumeric characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.</p> <p><i>&lt;username 32&gt;</i> – A string of up to 32 alphanumeric characters that is used to identify the group of MIB objects that a remote SNMP manager is allowed to access on the Switch.</p> <p><i>&lt;view_name 32&gt;</i> – A string of up to 32 alphanumeric characters that is used to identify the view name.</p> <p><i>[read_only   read_write]</i> – Allow the above community string user to have read-only or read-write access to the switch's SNMP agent. The default is read-only.</p>
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To create the SNMP community string 'dlink':

```
DGS-1210-28MP/ME:5# create snmp community dlink view dlink read_only
Command: create snmp community dlink view dlink read_only
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete snmp community

Purpose	To remove a specific SNMP community string from the Switch.
Syntax	<b>delete snmp community &lt;community_string 32&gt;</b>
Description	The <b>delete snmp community</b> command removes a previously defined SNMP community string from the Switch.
Parameters	<i>&lt;community_string 32&gt;</i> – A string of up to 32 alphanumeric characters that is used to identify members of an SNMP community to delete. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To delete the SNMP community string 'dlink':

```
DGS-1210-28MP/ME:5# delete snmp community dlink
```

**Command: delete snmp community dlink**

**Success.**

**DGS-1210-28MP/ME:5#**

## delete snmp all\_community

Purpose	To remove all SNMP community string from the Switch.
Syntax	<b>delete snmp all_community</b>
Description	The <b>delete snmp all_community</b> command removes all previously defined SNMP community string from the Switch.
Parameters	None.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To delete all SNMP community strings:

**DGS-1210-28MP/ME:5# delete snmp all\_community**  
**Command: delete snmp all\_community**

**Success.**

**DGS-1210-28MP/ME:5#**

## show snmp community

Purpose	To display SNMP community strings configured on the Switch.
Syntax	<b>show snmp community {&lt;community_string 32&gt;}</b>
Description	The <b>show snmp community</b> command displays SNMP community strings that are configured on the Switch.
Parameters	<i>&lt;community_string 32&gt;</i> - A string of up to 20 alphanumeric characters that is used to identify members of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.
Restrictions	None.

Example usage:

To display the currently entered SNMP community strings:

**DGS-1210-28MP/ME:5# show snmp community**  
**Command: show snmp community**

**SNMP Community Table**  
**(Maximum Entries : 10)**

<b>Community Name</b>	<b>User Name</b>
-----	-----



<b>public</b>	<b>ReadOnly</b>
<b>private</b>	<b>ReadWrite</b>
<b>Total Entries: 2</b>	
<b>DGS-1210-28MP/ME:5#</b>	

<b>config snmp engineID</b>	
Purpose	To configure a name for the SNMP engine on the Switch.
Syntax	<b>config snmp engineID &lt;snmp_engineID 64&gt;</b>
Description	The <b>config snmp engineID</b> command configures a name for the SNMP engine on the Switch.
Parameters	<i>&lt;snmp_engineID 64&gt;</i> – A string, of between 10 and 64 alphanumeric characters, to be used to identify the SNMP engine on the Switch.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To give the SNMP agent on the Switch:

<b>DGS-1210-28MP/ME:5# config snmp engineID 12345678900</b>
<b>Command: config snmp engineID 12345678900</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>show snmp engineID</b>	
Purpose	To display the identification of the SNMP engine on the Switch.
Syntax	<b>show snmp engineID</b>
Description	The <b>show snmp engineID</b> command displays the identification of the SNMP engine on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the current name of the SNMP engine on the Switch:

<b>DGS-1210-28MP/ME:5# show snmp engineID</b>
<b>Command: show snmp engineID</b>
<b>Default SNMP Engine ID : *??445532d313231</b>
<b>SNMP Engine ID : 4445532d313231302d323600aebfcb2d8d</b>
<b>DGS-1210-28MP/ME:5#</b>

**enable community\_encryption**

Purpose	To enable the encryption state on SNMP community string.
Syntax	<b>enable community_encryption</b>
Description	The <b>enable community_encryption</b> command is used to enable the encryption state on SNMP community string.
Parameters	None.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To enable the encryption state on SNMP community string:

```
DGS-1210-28MP/ME:5# enable community_encryption
Command: enable community_encryption
```

```
Success.
DGS-1210-28MP/ME:5#
```

**disable community\_encryption**

Purpose	To disable the encryption state on SNMP community string.
Syntax	<b>disable community_encryption</b>
Description	The <b>disable community_encryption</b> command is used to disable the encryption state on SNMP community string.
Parameters	None.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To disable the encryption state on SNMP community string:

```
DGS-1210-28MP/ME:5# disable community_encryption
Command: disable community_encryption
```

```
Success.
DGS-1210-28MP/ME:5#
```

**show community\_encryption**

Purpose	To display the encryption state on SNMP community string.
Syntax	<b>show community_encryption</b>
Description	The <b>show community_encryption</b> command is used to display the encryption state on SNMP community string.
Parameters	None.
Restrictions	None.

Example usage:

To display the encryption state on SNMP community string:

```
DGS-1210-28MP/ME:5# show community_encryption
```

```
Command: show community_encryption
```

```
SNMP Community Encryption State : Enabled
```

```
DGS-1210-28MP/ME:5#
```

## create snmp group

Purpose	To create a new SNMP group, or a table that maps SNMP users to SNMP views.
Syntax	<b>create snmp group &lt;groupname 32&gt; [v1   v2c   v3 [noauth_nopriv   auth_nopriv   auth_priv]{notify_view &lt;view_name 32&gt;}] {read_view &lt;view_name 32&gt;   write_view &lt;view_name 32&gt;}</b>
Description	The <b>create snmp group</b> command creates a new SNMP group, or a table that maps SNMP users to SNMP views.
Parameters	<p><i>&lt;groupname 32&gt;</i> – A name of up to 30 alphanumeric characters that identifies the SNMP group the new SNMP user is to be associated with.</p> <p><i>v1</i> – Specifies that SNMP version 1 is to be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices.</p> <p><i>v2c</i> – Specifies that SNMP version 2c is to be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features.</p> <p><i>v3</i> – Specifies that the SNMP version 3 is to be used. SNMP v3 provides secure access to devices through a combination of authentication and encrypting packets over the network. SNMP v3 adds:</p> <ul style="list-style-type: none"> <li>• Message integrity – Ensures that packets have not been tampered with during transit.</li> <li>• Authentication – Determines if an SNMP message is from a valid source.</li> <li>• Encryption – Scrambles the contents of messages to prevent it from being viewed by an unauthorized source.</li> </ul> <p><i>noauth_nopriv</i> – Specifies that there is no authorization and no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_nopriv</i> – Specifies that authorization is required, but there is no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_priv</i> – Specifies that authorization is required, and that packets sent between the Switch and a remote SNMP manager are encrypted.</p> <p><i>read_view</i> – Specifies that the SNMP group being created can request SNMP messages.</p> <ul style="list-style-type: none"> <li>• <i>&lt;view_name 32&gt;</i> – A string of up to 32 objects that a remote</li> </ul>

	SNMP manager is allowed to access on the Switch.
	<i>write_view</i> – Specifies that the SNMP group being created has write privileges.
	<ul style="list-style-type: none"> <li>• <i>&lt;view_name 32&gt;</i> identifies the group of MIB objects that a remote SNMP manager is allowed to access on the Switch.</li> </ul>
	<i>notify_view</i> – Specifies that the SNMP group being created can receive SNMP trap messages generated by the Switch's SNMP agent.
	<ul style="list-style-type: none"> <li>• <i>&lt;view_name 32&gt;</i> – A string of up to 32 alphanumeric characters that identifies the group of MIB objects that a remote SNMP manager is allowed to access on the Switch.</li> </ul>
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To create an SNMP group named 'sg1':

```
DGS-1210-28MP/ME:5# create snmp group sg1 v2c read_view sg1 write_view sg1
notify_view sg1
Command: create snmp group sg1 v2c read_view sg1 write_view sg1 notify_view
sg1

Success.
DGS-1210-28MP/ME:5#
```

## delete snmp group

Purpose	To remove an SNMP group from the Switch.
Syntax	<b>delete snmp group &lt;groupname 32&gt; [v1   v2c   v3 [auth_priv   noauth_nopriv]]</b>
Description	The <b>delete snmp group</b> command removes an SNMP group from the Switch.
Parameters	<i>&lt;groupname 32&gt;</i> – A string of that identifies the SNMP group the new SNMP user will be associated with. Up to 32 alphanumeric characters.
Restrictions	Only administrator, operate or power user-level users can issue this command.

Example usage:

To delete the SNMP group named 'sg1':

```
DGS-1210-28MP/ME:5# delete snmp group sg1 v3 auth_priv
Command: delete snmp group sg1 v3 auth_priv

Success.

DGS-1210-28MP/ME:5#
```

## show snmp global state

Purpose	To display the global state of SNMP currently configured on the
---------	---

	Switch.
Syntax	<b>show snmp global state</b>
Description	The <b>show snmp global state</b> command displays the global state of SNMP groups currently configured on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the currently configured SNMP global state on the Switch:

```
DGS-1210-28MP/ME:5# show snmp global state
Command: show snmp global state

SNMP Global State : Enable

DGS-1210-28MP/ME:5#
```

## show snmp groups

Purpose	To display the group-names of SNMP groups currently configured on the Switch. The security model, level, and status of each group are also displayed.
Syntax	<b>show snmp groups</b>
Description	The <b>show snmp groups</b> command displays the group-names of SNMP groups currently configured on the Switch. The security model, level, and status of each group are also displayed.
Parameters	None.
Restrictions	None.

Example usage:

To display the currently configured SNMP groups on the Switch:

```
DGS-1210-28MP/ME:5# show snmp groups
Command: show snmp groups

SNMP Group Table

Group Name  Read View  Write View  Notify View  Security Model  Security Level
-----
sg1         df         df          d            v3              AuthPriv
ReadOnly    ReadWrite  ---         ReadWrite    v1              NoAuthNoPriv
ReadOnly    ReadWrite  ---         ReadWrite    v2c             NoAuthNoPriv
ReadWrite   ReadWrite  ReadWrite   ReadWrite    v1              NoAuthNoPriv
ReadWrite   ReadWrite  ReadWrite   ReadWrite    v2c             NoAuthNoPriv

Total Entries: 5

DGS-1210-28MP/ME:5#
```

**create snmp host**

Purpose	To create a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>create snmp host &lt;ipaddr&gt; [v1 &lt;username 32&gt;   v2c &lt;username 32&gt;   v3 [noauth_nopriv   auth_nopriv   auth_priv] &lt;username 32&gt;]</b>
Description	The <b>create snmp host</b> command creates a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	<p><i>&lt;ipaddr&gt;</i> – The IP address of the remote management station to serve as the SNMP host for the Switch.</p> <p><i>v1</i> – Specifies that SNMP version 1 is to be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices.</p> <p><i>v2c</i> – Specifies that SNMP version 2c is to be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features.</p> <p><i>v3</i> – Specifies that the SNMP version 3 is to be used. SNMP v3 provides secure access to devices through a combination of authentication and encrypting packets over the network. SNMP v3 adds:</p> <ul style="list-style-type: none"> <li>• Message integrity – ensures that packets have not been tampered with during transit.</li> <li>• Authentication – determines if an SNMP message is from a valid source.</li> <li>• Encryption – scrambles the contents of messages to prevent it being viewed by an unauthorized source.</li> </ul> <p><i>&lt;username 32&gt;</i> – A string of up to 32 alphanumeric characters that identifies user name of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.</p> <p><i>noauth_nopriv</i> – Specifies that there is no authorization and no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_nopriv</i> – Specifies that authorization is required, but there is no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_priv</i> – Specifies that authorization is required, and that packets sent between the Switch and a remote SNMP manager are encrypted.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create an SNMP host to receive SNMP messages:

```
DGS-1210-28MP/ME:5# create snmp host 10.90.90.22 v3 noauth_nopriv dlink
Command: create snmp host 10.90.90.22 v3 noauth_nopriv dlink
```

**Success.**

**DGS-1210-28MP/ME:5#**

## delete snmp host

Purpose	To remove a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>delete snmp host &lt;ipaddr&gt;</b>
Description	The <b>delete snmp host</b> command deletes a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	<ipaddr> – The IP address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete an SNMP host entry:

**DGS-1210-28MP/ME:5# delete snmp host 10.90.90.22**

**Command: delete snmp host 10.90.90.22**

**Success.**

**DGS-1210-28MP/ME:5#**

## show snmp host

Purpose	To display the recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>show snmp host {&lt;ipaddr&gt;}</b>
Description	The <b>show snmp host</b> command is used to display the IP addresses and configuration information of remote SNMP managers that are DGSigned as recipients of SNMP traps generated by the Switch's SNMP agent.
Parameters	<ipaddr> – The IP address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	None.

Example usage:

To display the currently configured SNMP hosts on the Switch:

**DGS-1210-28MP/ME:5# show snmp host**

**Command: show snmp host**

### SNMP Host Table

(Maximum Entries : 10)

Host IP Address	SNMP Version	Community Name/SNMPv3 User Name
10.90.90.22	V3-NoAuthNoPriv	dlink

Total Entries : 1

DGS-1210-28MP/ME:5#

## create snmp v6host

Purpose	To create a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>create snmp v6host &lt;ip6_addr&gt; [v1 &lt;username 32&gt;   v2c &lt;username 32&gt;   v3 [noauth_nopriv   auth_nopriv   auth_priv] &lt;username 32&gt;]</b>
Description	The <b>create snmp v6host</b> command creates a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	<p><i>&lt;ip6_addr&gt;</i> – The IPv6 address of the remote management station to serve as the SNMP host for the Switch.</p> <p><i>v1</i> – Specifies that SNMP version 1 is to be used. The Simple Network Management Protocol (SNMP), version 1, is a network management protocol that provides a means to monitor and control network devices.</p> <p><i>v2c</i> – Specifies that SNMP version 2c is to be used. The SNMP v2c supports both centralized and distributed network management strategies. It includes improvements in the Structure of Management Information (SMI) and adds some security features.</p> <p><i>v3</i> – Specifies that the SNMP version 3 is to be used. SNMP v3 provides secure access to devices through a combination of authentication and encrypting packets over the network. SNMP v3 adds:</p> <ul style="list-style-type: none"> <li>• Message integrity – ensures that packets have not been tampered with during transit.</li> <li>• Authentication – determines if an SNMP message is from a valid source.</li> <li>• Encryption – scrambles the contents of messages to prevent it being viewed by an unauthorized source.</li> </ul> <p><i>&lt;username 32&gt;</i> – A string of up to 32 alphanumeric characters that identifies user name of an SNMP community. This string is used like a password to give remote SNMP managers access to MIB objects in the Switch's SNMP agent.</p> <p><i>noauth_nopriv</i> – Specifies that there is no authorization and no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_nopriv</i> – Specifies that authorization is required, but there is no encryption of packets sent between the Switch and a remote SNMP manager.</p> <p><i>auth_priv</i> – Specifies that authorization is required, and that packets sent between the Switch and a remote SNMP manager are encrypted.</p>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To create an SNMP host to receive SNMP messages:

```
DGS-1210-28MP/ME:5# create snmp v6host 3000::1 v3 noauth_nopriv dlink
Command: create snmp v6host 3000::1 v3 noauth_nopriv dlink
```



**Success.**

**DGS-1210-28MP/ME:5#**

## delete snmp v6host

Purpose	To remove a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>delete snmp v6host &lt;ip6_addr&gt;</b>
Description	The <b>delete snmp host</b> command deletes a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	<ip6_addr> – The IPv6 address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete an SNMP host entry:

**DGS-1210-28MP/ME:5# delete snmp v6host 90.90.22**

**Command: delete snmp host 10.90.90.22**

**Success.**

**DGS-1210-28MP/ME:5#**

## show snmp v6host

Purpose	To display the recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	<b>show snmp v6host {&lt;ip6_addr&gt;}</b>
Description	The <b>show snmp host</b> command is used to display the IPv6 addresses and configuration information of remote SNMP managers that are DGSigned as recipients of SNMP traps generated by the Switch's SNMP agent.
Parameters	<ip6_addr> – The IPv6 address of a remote SNMP manager that receives SNMP traps generated by the Switch's SNMP agent.
Restrictions	None.

Example usage:

To display the currently configured SNMP hosts on the Switch:

**DGS-1210-28MP/ME:5# show snmp v6host**

**Command: show snmp v6host**

**SNMP Host Table**

**(Maximum Entries : 10)**

Host IP Address	SNMP Version	Community or User Name
----- 3000::1	----- V3-NoAuthNoPriv	----- dlink
<b>Success.</b>		
DGS-1210-28MP/ME:5#		

## enable trusted\_host

Purpose	To enable the trusted host.
Syntax	<b>enable trusted_host</b>
Description	The <b>enable trusted_host</b> command enables the trusted host feature.
Parameters	None.
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To enable the trusted host on the Switch:

<b>DGS-1210-28MP/ME:5# enable trusted_host</b>
<b>Command: enable trusted_host</b>
<b>Success.</b>
DGS-1210-28MP/ME:5#

## disable trusted\_host

Purpose	To enable the trusted host.
Syntax	<b>disable trusted_host</b>
Description	The <b>disable trusted_host</b> command disables the trusted host feature.
Parameters	None.
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To disable the trusted host on the Switch:

<b>DGS-1210-28MP/ME:5# disable trusted_host</b>
<b>Command: disable trusted_host</b>
<b>Success.</b>
DGS-1210-28MP/ME:5#

## create trusted\_host

Purpose	To create a trusted host.
Syntax	<b>create trusted_host</b> [ <b>&lt;ipaddr&gt;</b>   <b>&lt;ip6_addr&gt;</b>   <b>network</b>

	{<network_address> <ipv6networkaddr>}		<ipaddr>		ipv6_prefix
Description	The <b>create trusted_host</b> command creates a trusted host. The Switch allows specifying up to 30 IPv4 or IPv6 addresses that are allowed to manage the Switch via in-band based management software. These IP addresses must be members of the Management VLAN. If no IP addresses are specified, then there is nothing to prevent any IP address from accessing the Switch, provided the user knows the Username and Password.				
Parameters	<p>&lt;ipaddr&gt; – The IPv4 address of the trusted host to be created.</p> <p>&lt;network_address&gt; – The subnet mask of the trusted host to be created. This parameter is optional. If not specified, the default subnet mask is 255.255.255.0.</p> <p>&lt;ip6_addr&gt; – The IPv6 address of the trusted host to be created.</p> <p>ipv6_prefix &lt;ipv6networkaddr&gt; – The IPv6 subnet prefix of the trusted network to be created. The network address of the trusted network. The form of network address is xxx.xxx.xxx.xxx/y.</p>				
Restrictions	Only administrator or operator-level users can issue this command.				

Example usage:

To create the trusted host:

```
DGS-1210-28MP/ME:5# create trusted_host 10.90.90.91
Command: create trusted_host 10.90.90.91

Success.
DGS-1210-28MP/ME:5#
```

To create the IPv6 trusted host:

```
DGS-1210-28MP/ME:5# create trusted_host 3000::1
Command: create trusted_host 3000::1

Success.
DGS-1210-28MP/ME:5#
```

## show trusted\_host

Purpose	To display a list of trusted hosts entered on the Switch using the create trusted_host command above.
Syntax	<b>show trusted_host</b>
Description	The <b>show trusted_host</b> command displays a list of trusted hosts entered on the Switch using the <b>create trusted_host</b> command above.
Parameters	None.
Restrictions	None.

Example usage:

To display the list of trusted hosts:

```
DGS-1210-28MP/ME:5# show trusted_host
Command: show trusted_host
```

<b>Trusted Host Status : Disable</b>	
<b>Management Stations</b>	
<b>IP Address</b>	<b>Subnet Mask</b>
-----	-----
<b>10.90.90.91</b>	<b>255.255.255.255</b>
<b>3000::1</b>	<b>128</b>
<b>Total Entries: 2</b>	
<b>DGS-1210-28MP/ME:5#</b>	

<b>delete trusted_host</b>	
Purpose	To delete a trusted host entry made using the <b>create trusted_host</b> command above.
Syntax	<b>delete trusted_host [<i>&lt;ipaddr&gt;</i>   network <i>&lt;network_address&gt;</i>   <i>&lt;ip6_addr&gt;</i>   ipv6_prefix <i>&lt;ipv6networkaddr&gt;</i>   all]</b>
Description	The <b>delete trusted_host</b> command deletes a trusted host entry made using the <b>create trusted_host</b> command above.
Parameters	<i>&lt;ipaddr&gt;</i> – The IP address of the trusted host. <i>network &lt;network_address&gt;</i> – The subnet mask of the trusted host to be deleted. This parameter is optional. <i>&lt;ip6_addr&gt;</i> – The IPv6 address of the trusted host to be removed. <i>ipv6_prefix &lt;ipv6networkaddr&gt;</i> – The IPv6 subnet prefix address of the trusted network to be removed. The network address of the trusted network. The form of network address is xxx.xxx.xxx.xxx/y. <i>all</i> – The all IP address of the trusted host.
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To delete a trusted host with an IPv4 address **10.90.90.91**:

```
DGS-1210-28MP/ME:5# delete trusted_host 10.90.90.91
Command: delete trusted_host 10.90.90.91

Success.
DGS-1210-28MP/ME:5#
```

To delete a trusted host with an IPv6 address **3000::1**:

```
DGS-1210-28MP/ME:5# delete trusted_host 3000::1
Command: delete trusted_host 3000::1

Success.
DGS-1210-28MP/ME:5#
```

**config snmp system\_contact**

Purpose	To enter the name of a contact person who is responsible for the Switch.
Syntax	<b>config snmp system_contact &lt;string 128&gt;</b>
Description	The <b>config snmp system_contact</b> command is used to enter the name and/or other information to identify a contact person who is responsible for the Switch. A maximum of 128 characters can be used.
Parameters	<string 128> – A maximum of 128 characters is allowed. A NULL string is accepted if there is no contact.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the Switch contact to “**MIS**”:

```
DGS-1210-28MP/ME:5# config snmp system_contact MIS
Command: config snmp system_contact MIS

Success.
DGS-1210-28MP/ME:5#
```

**config snmp system\_location**

Purpose	To enter a Description of the location of the Switch.
Syntax	<b>config snmp system_location &lt;string 128&gt;</b>
Description	The <b>config snmp system_location</b> command is used to enter a Description of the location of the Switch. A maximum of 20 characters can be used.
Parameters	<string 128> – A maximum of 128 characters is allowed. A NULL string is accepted if there is no location desired.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the Switch location to “**HQ**”:

```
DGS-1210-28MP/ME:5# config snmp system_location HQ
Command: config snmp system_location HQ

Success.
DGS-1210-28MP/ME:5#
```

**config snmp system\_name**

Purpose	To configure the name of the location of the Switch.
Syntax	<b>config snmp system_name &lt;string 128&gt;</b>
Description	The <b>config snmp system_name</b> command configures the name of

	the Switch.
Parameters	< <i>string 128</i> > - A maximum of 128 characters is allowed. A NULL string is accepted if there is no location Desired.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the Switch name for "DGS-1210:

```
DGS-1210-28MP/ME:5# config snmp system_name DGS-1210
Command: config snmp system_name DGS-1210

Success.
DGS-1210-28MP/ME:5#
```

## enable snmp traps

Purpose	To enable SNMP trap support.
Syntax	<b>enable snmp traps</b>
Description	The <b>enable snmp traps</b> command enables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command

Example usage:

To enable SNMP trap support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp traps
Command: enable snmp traps

Success.
DGS-1210-28MP/ME:5#
```

## disable snmp traps

Purpose	To disable SNMP trap support on the Switch.
Syntax	<b>disable snmp traps</b>
Description	The <b>disable snmp traps</b> command disables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To prevent SNMP traps from being sent from the Switch:

```
DGS-1210-28MP/ME:5# disable snmp traps
Command: disable snmp traps

Success.
DGS-1210-28MP/ME:5#
```

**show snmp traps**

Purpose	To display SNMP trap support status on the Switch.
Syntax	<b>show snmp traps</b>
Description	The <b>show snmp traps</b> command displays the SNMP trap support status currently configured on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the current SNMP trap support:

<b>DGS-1210-28/ME:5# show snmp traps</b>	
<b>Command: show snmp traps</b>	
<b>SNMP Traps</b>	<b>: Disable</b>
<b>SNMP Authentication Traps</b>	<b>: Disable</b>
<b>Coldstart Traps</b>	<b>: Disable</b>
<b>Warmstart Traps</b>	<b>: Disable</b>
<b>Linkchange Traps</b>	<b>: Disable</b>
<b>RSTP Port State Change</b>	<b>: Disable</b>
<b>Firmware Upgrade State</b>	<b>: Disable</b>
<b>Port Security violation State</b>	<b>: Disable</b>
<b>IMPB violation State</b>	<b>: Disable</b>
<b>Loopback detection State</b>	<b>: Disable</b>
<b>DHCP server screening State</b>	<b>: Disable</b>
<b>DHCPv6 server screening State</b>	<b>: Disable</b>
<b>ICMPv6 RA all node filter State</b>	<b>: Disable</b>
<b>Duplicate IP Detected State</b>	<b>: Disable</b>
<b>Login/Logout Traps</b>	<b>: Disable</b>
<b>DULD Traps</b>	<b>: Disable</b>
<b>RPS Traps</b>	<b>: Disable</b>
<b>DGS-1210-28/ME:5#</b>	

**enable snmp authenticate\_traps**

Purpose	To enable SNMP authentication traps support.
Syntax	<b>enable snmp authenticate_traps</b>
Description	The <b>enable snmp authenticate_traps</b> command enables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To turn on SNMP authentication trap support:

```
DGS-1210-28MP/ME:5# enable snmp authenticate_traps
Command: enable snmp authenticate_traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

### disable snmp authenticate\_traps

Purpose	To disable SNMP authentication traps support.
Syntax	<b>disable snmp authenticate_traps</b>
Description	The <b>disable snmp authenticate_traps</b> command disables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the SNMP authentication trap support:

```
DGS-1210-28MP/ME:5# disable snmp authenticate_traps
Command: disable snmp authenticate_traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

### enable snmp linkchange\_traps

Purpose	To enable SNMP link change traps support on the Switch.
Syntax	<b>enable snmp linkchange_traps</b>
Description	The <b>enable snmp linkchange_traps</b> command is used to enable SNMP link change traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the SNMP link change trap function:

```
DGS-1210-28MP/ME:5# enable snmp linkchange_traps
Command: enable snmp linkchange_traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

### disable snmp linkchange\_traps

Purpose	To disable SNMP link change traps support on the Switch.
---------	--



Syntax	<b>disable snmp linkchange_traps</b>
Description	The <b>disable snmp linkchange_traps</b> command is used to disable SNMP link change traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the SNMP link change trap function:

<b>DGS-1210-28MP/ME:5# disable snmp linkchange_traps</b>
<b>Command: disable snmp linkchange_traps</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>config snmp linkchange_traps ports</b>	
Purpose	To configure SNMP traps support on the Switch.
Syntax	<b>config snmp linkchange_traps ports [&lt;portlist&gt;   all] [enable   disable]</b>
Description	The <b>config snmp linkchange_traps ports</b> command configures the SNMP trap support status currently configured on the Switch.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, ports or port range to be configured. <i>[enable   disable]</i> – Enable or disable the SNMP trap support for specified port.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the current SNMP trap settings:

<b>DGS-1210-28MP/ME:5# config snmp linkchange_traps ports all enable</b>
<b>Command: config snmp linkchange_traps ports all enable</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>show snmp traps linkchange_traps</b>	
Purpose	To show SNMP traps support on the Switch.
Syntax	<b>show snmp traps linkchange_traps</b>
Description	The <b>show snmp traps</b> command displays the SNMP trap support status currently configured on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the current SNMP trap support:

DGS-1210-28MP/ME:5# show snmp traps linkchange\_traps

Command: show snmp traps linkchange\_traps

Linkchange Traps : Disable

Port 01: Disabled

Port 02: Disabled

Port 03: Disabled

Port 04: Disabled

Port 05: Disabled

Port 06: Disabled

Port 07: Disabled

Port 08: Disabled

Port 09: Disabled

Port 10: Disabled

Port 11: Disabled

Port 12: Disabled

Port 13: Disabled

Port 14: Disabled

Port 15: Disabled

Port 16: Disabled

Port 17: Disabled

Port 18: Disabled

Port 19: Disabled

CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL

## config snmp warmstart\_traps

Purpose	To enable or disable the warm start traps of SNMP on the Switch.
Syntax	<b>config snmp warmstart_traps [enable   disable]</b>
Description	The <b>config snmp warmstart_traps</b> command enable or disable the warm start traps of the Switch.
Parameters	<i>[enable   disable]</i> – Enable or disable the warm start traps of the Switch.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP warm start traps for the Switch:

DGS-1210-28MP/ME:5# config snmp warmstart\_traps enable

Command: config snmp warmstart\_traps enable

Success.

DGS-1210-28MP/ME:5#

**config snmp coldstart\_traps**

Purpose	To enable or disable the cold start traps of SNMP on the Switch.
Syntax	<b>config snmp coldstart_traps [enable   disable]</b>
Description	The <b>config snmp coldstart_traps</b> command enable or disable the cold start traps of the Switch.
Parameters	<i>[enable   disable]</i> – Enable or disable the cold start traps of the Switch.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP cold start traps for the Switch:

```
DGS-1210-28MP/ME:5# config snmp coldstart_traps disable
Command: config snmp coldstart_traps disable

Success.
DGS-1210-28MP/ME:5#
```

**enable snmp DHCP\_screening traps**

Purpose	To enable SNMP DHCP screening traps.
Syntax	<b>enable snmp DHCP_screening traps</b>
Description	The <b>enable snmp DHCP_screening traps</b> command enables SNMP DHCP screening traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP DHCP screening traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp DHCP_screening traps
Command: enable snmp DHCP_screening traps

Success.
DGS-1210-28MP/ME:5#
```

**disable snmp DHCP\_screening traps**

Purpose	To disable SNMP DHCP screening traps.
Syntax	<b>disable snmp DHCP_screening traps</b>
Description	The <b>disable snmp DHCP_screening traps</b> command enables SNMP DHCP screening traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP DHCP screening traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp DHCP_screening traps
Command: disable snmp DHCP_screening traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

## enable snmp DHCPv6\_screening traps

Purpose	To enable SNMP DHCPv6 screening traps.
Syntax	<b>enable snmp DHCPv6_screening traps</b>
Description	The <b>enable snmp DHCPv6_screening traps</b> command enables SNMP DHCPv6 screening traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP DHCPv6 screening traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp DHCPv6_screening traps
Command: enable snmp DHCPv6_screening traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

## disable snmp DHCPv6\_screening traps

Purpose	To disable SNMP DHCPv6 screening traps.
Syntax	<b>disable snmp DHCPv6_screening traps</b>
Description	The <b>disable snmp DHCPv6_screening traps</b> command enables SNMP DHCPv6 screening traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP DHCPv6 screening traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp DHCPv6_screening traps
Command: disable snmp DHCPv6_screening traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

## enable snmp icmpv6\_RA\_all\_node traps

Purpose	Used to enable SNMP ICMPv6 RA all-node traps state.
Syntax	<b>enable snmp ICMPv6_RA_all_node traps</b>

Description	The <b>enable snmp ICMPv6_RA_all_node traps</b> command is used to enable SNMP ICMPv6 RA all-node traps state.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To enable SNMP ICMPv6 RA all-nodes traps:

```
DGS-1210-28MP/ME:5# enable snmp ICMPv6_RA_all_node traps
Command: enable snmp ICMPv6_RA_all_node traps

Success.
DGS-1210-28MP/ME:5#
```

### disable snmp icmpv6\_RA\_all\_node traps

Purpose	Used to disable SNMP ICMPv6 RA all-node traps state.
Syntax	<b>disable snmp ICMPv6_RA_all_node traps</b>
Description	The <b>disable snmp ICMPv6_RA_all_node traps</b> command is used to disable SNMP ICMPv6 RA all-node traps state.
Parameters	None.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To disable SNMP ICMPv6 RA all-nodes traps:

```
DGS-1210-28MP/ME:5# disable snmp ICMPv6_RA_all_node traps
Command: disable snmp ICMPv6_RA_all_node traps

Success.
DGS-1210-28MP/ME:5#
```

### enable snmp IMPB\_violation traps

Purpose	To enable SNMP IMPB violation traps.
Syntax	<b>enable snmp IMPB_violation traps</b>
Description	The <b>enable snmp IMPBv2 traps</b> command enables SNMP IMPB violation traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP IMPB violation traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp IMPB_violation traps
Command: enable snmp IMPB_violation traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

### disable snmp IMPB\_violation traps

Purpose	To disable SNMP IMPB violation traps.
Syntax	<b>disable snmp IMPB_violation traps</b>
Description	The <b>disable snmp IMPB_violation traps</b> command enables SNMP IMPB violation traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP IMPB violation traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp IMPB_violation traps
Command: disable snmp IMPB_violation traps

Success.
DGS-1210-28MP/ME:5#
```

### enable snmp firmware\_upgrade\_state traps

Purpose	To enable SNMP firmware upgrade state traps.
Syntax	<b>enable snmp firmware_upgrade_state traps</b>
Description	The <b>enable snmp firmware_upgrade_state traps</b> command enables SNMP firmware upgrade state traps support on the Switch. After enables the SNMP firmware upgrade state traps support, the Switch will send out a trap to the SNMP manage host when the firmware upgrade is succeed or fail.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP firmware upgrade state traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp firmware_upgrade_state traps
Command: enable snmp firmware_upgrade_state traps

Success.
DGS-1210-28MP/ME:5#
```

### disable snmp firmware\_upgrade\_state traps

Purpose	To disable SNMP firmware upgrade state traps.
Syntax	<b>disable snmp firmware_upgrade_state traps</b>
Description	The <b>disable snmp firmware_upgrade_state traps</b> command

	disables SNMP firmware upgrade state traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP firmware upgrade state traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp firmware_upgrade_state traps
Command disable enable snmp firmware_upgrade_state traps

Success.
DGS-1210-28MP/ME:5#
```

## enable snmp LBD traps

Purpose	To enable SNMP LBD traps.
Syntax	<b>enable snmp LBD traps</b>
Description	The <b>enable snmp LBD traps</b> command enables SNMP LBD traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP LBD traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp LBD traps
Command: enable snmp LBD traps

Success.
DGS-1210-28MP/ME:5#
```

## disable snmp LBD traps

Purpose	To disable SNMP LBD traps.
Syntax	<b>disable snmp LBD traps</b>
Description	The <b>disable snmp LBD traps</b> command disables SNMP LBD traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP LBD traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp LBD traps
Command: disable snmp LBD traps

Success.
```

DGS-1210-28MP/ME:5#

**enable snmp port\_security\_violation traps**

Purpose	To enable SNMP port security violation traps.
Syntax	<b>enable snmp port_security_violation traps</b>
Description	The <b>enable snmp port_security_violation traps</b> command enables SNMP port security violation traps on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable SNMP port security violation traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp port_security_violation traps
Command: enable snmp port_security_violation traps
```

Success.

DGS-1210-28MP/ME:5#

**disable snmp port\_security\_violation traps**

Purpose	To disable SNMP port security violation traps.
Syntax	<b>disable snmp port_security_violation traps</b>
Description	The <b>disable snmp port_security_violation traps</b> command disables SNMP port security violation traps on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP port security violation traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp port_security_violation traps
Command: disable snmp port_security_violation traps
```

Success.

DGS-1210-28MP/ME:5#

**enable snmp rstpport\_state\_change traps**

Purpose	To enable SNMP rstp port state change traps support on the Switch.
Syntax	<b>enable snmp rstpport_state_change traps</b>
Description	The <b>enable snmp rstpport_state_change traps</b> command enables SNMP rstp port state change traps support on the Switch. After enables the SNMP RSTP port state change traps support, the Switch will send out a trap when the state of RSTP port is changed.
Parameters	None.



Restrictions	Only Administrator or operator-level users can issue this command.
--------------	--

Example usage:

To enable SNMP RSTP port state change traps support on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp rstpport_state_change traps
Command: enable snmp rstpport_state_change traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

## disable snmp rstpport\_state\_change traps

Purpose	To disable SNMP RSTP port state change traps.
Syntax	<b>disable snmp rstpport_state_change traps</b>
Description	The <b>disable snmp rstpport_state_change traps</b> command disables SNMP RSTP port state change traps on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable SNMP RSTP port state change traps support on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp rstpport_state_change traps
Command: disable snmp rstpport_state_change traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

## enable snmp duplicate\_IP\_detected traps

Purpose	To enable SNMP duplicate IP detected traps support on the Switch.
Syntax	<b>enable snmp duplicate_IP_detected traps</b>
Description	The <b>enable snmp duplicate_IP_detected traps</b> command enables SNMP duplicate IP detected traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the SNMP duplicate\_IP\_detected traps on the Switch:

```
DGS-1210-28MP/ME:5# enable snmp duplicate_IP_detected traps
Command: enable snmp duplicate_IP_detected traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

**disable snmp duplicate\_IP\_detected traps**

Purpose	To disable SNMP duplicate IP detected traps support on the Switch.
Syntax	<b>disable snmp duplicate_IP_detected traps</b>
Description	The <b>disable snmp duplicate_IP_detected traps</b> command disables SNMP duplicate IP detected traps support on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the SNMP duplicate\_IP\_detected traps on the Switch:

```
DGS-1210-28MP/ME:5# disable snmp duplicate_IP_detected traps
Command: disable snmp duplicate_IP_detected traps
```

```
Success.
DGS-1210-28MP/ME:5#
```

**enable snmp DULD traps**

Purpose	To enable SNMP DULD (D-Link Unidirectional Link Detection) traps support on the switch.
Syntax	<b>enable snmp DULD traps</b>
Description	To <b>enable snmp DULD traps</b> feature on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable snmp DULD traps on the Switch:

```
DGS-1210-28/ME:5# enable snmp DULD traps
Command: enable snmp DULD traps
```

```
Success.
DGS-1210-28/ME:5#
```

**disable snmp DULD traps**

Purpose	To disable SNMP DULD (D-Link Unidirectional Link Detection) traps support on the switch.
Syntax	<b>disable snmp DULD traps</b>
Description	To <b>disable snmp DULD traps</b> feature on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable snmp DULD traps on the Switch:

```
DGS-1210-28/ME:5# disable snmp DULD traps
Command: enable snmp DULD traps
```

```
Success.
DGS-1210-28/ME:5#
```

## enable snmp RPS traps

Purpose	To enable SNMP RPS traps support on the switch.
Syntax	<b>enable snmp RPS traps</b>
Description	To <b>enable snmp RPS traps</b> feature on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable snmp RPS traps on the Switch:

```
DGS-1210-28/ME:5# enable snmp RPS traps
Command: enable snmp RPS traps
```

```
Success.
DGS-1210-28/ME:5#
```

## disable snmp RPS traps

Purpose	To disable SNMP RPS traps support on the switch.
Syntax	<b>disable snmp RPS traps</b>
Description	To <b>disable snmp RPS traps</b> feature on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable snmp RPS traps on the Switch:

```
DGS-1210-28/ME:5# disable snmp RPS traps
Command: disable snmp RPS traps
```

```
Success.
DGS-1210-28/ME:5#
```

## enable snmp Login\_Logout traps

Purpose	To enable SNMP traps for event of account login and logout.
Syntax	<b>enable snmp Login_Logout traps</b>
Description	To <b>enable snmp login and logout traps</b> feature on the switch.

Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable snmp login and logout traps on the Switch:

```
DGS-1210-28/ME:5# enable snmp Login_Logout traps
Command: enable snmp Login_Logout traps
```

Success.

```
DGS-1210-28/ME:5#
```

## **disable snmp Login\_Logout traps**

Purpose	To disable SNMP traps for event of account login and logout.
Syntax	<b>disable snmp Login_Logout traps</b>
Description	To <b>disable snmp login and logout traps</b> feature on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable snmp login and logout traps on the Switch:

```
DGS-1210-28/ME:5# disable snmp Login_Logout traps
Command: disable snmp Login_Logout traps
```

Success.

```
DGS-1210-28/ME:5#
```

## DOWNLOAD/UPLOAD COMMANDS

The Download/Upload commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
download	[cfg_fromTFTP [<ipaddr>   <ipv6_addr>] <path_filename 64> config_id <value 1-2> {increment}]   [firmware_fromTFTP {<ipaddr>   <ipv6_addr>} {bootup}]
download	[cfg_fromFTP <ftp_url 256> config_id <value 1-2> {increment}]   firmware_fromFTP <ftp_url 256> image_id <value 1-2>]
upload	[[firmware_toTFTP [<ipaddr>   <ip6_addr>] <path_filename 64>]   [cfg_toTFTP [<ipaddr>   <ip6_addr>] <path_filename 64> config_id <value 1-2>]   [log_toTFTP [<ipaddr>   <ip6_addr>] <path_filename 64>]]
config configuration config_id	<value 1-2> [boot_up   delete]
show firmware information	
show config	[current_config   modified   config_in_nvram config_id <value 1-2> {[begin   include   exclude] <string 80> {<string 80>} {<string 80>}}]
config firmware image_id	<value 1-2> [boot_up   delete]
show boot_file	
show firmware information	

Each command is listed in detail, as follows:

download	
Purpose	To download and install a firmware, boot, or switch configuration file from a TFTP server.
Syntax	<b>download</b> [cfg_fromTFTP [<ipaddr>   <ipv6_addr>] <path_filename 64> config_id <value 1-2> {increment}]   [firmware_fromTFTP {<ipaddr>   <ipv6_addr>} {bootup}]
Description	The <b>download</b> command downloads a firmware, boot, or switch configuration file from a TFTP server.
Parameters	<p><i>cfg_fromTFTP</i> – Downloads a switch configuration file from a TFTP server.</p> <p><i>&lt;ipaddr&gt;</i> – The IPv4 address of the TFTP server.</p> <p><i>&lt;ipv6_addr&gt;</i> – The IPv6 address of the TFTP server.</p> <p><i>&lt;path_filename 64&gt;</i> – The DOS path and filename of the switch configuration file, up to 64 characters, on the TFTP server. For example, C:\DGS-1210-28XME-B1-7-00-B055-ALL.hex.</p> <p><i>config_id &lt;value 1-2&gt;</i> – Indicates the Configuration file to be</p>

	<p>downloaded.</p> <p><i>Increment</i> - If increment is specified, then the existing configuration will not be cleared before applying of the new configuration. If it is not specified, then the existing configuration will be cleared before applying of the new configuration.</p> <p><i>firmware_fromTFTP</i> - Downloads and installs firmware on the Switch from a TFTP server. The image automatically stored in non-running image ID section. For example, downloaded image stored in image_id 2 when user executing download command running at image_id 1.</p> <p><i>bootup</i> - The image downloaded would be configured as boot image when "bootup" parameter issued.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To download a firmware file:

```
DGS-1210-28/ME:5# download firmware_fromTFTP 10.90.90.122 DGS-1210-28ME-B1-7-02-B045.hex bootup
Command: download firmware_fromTFTP 10.90.90.122 DGS-1210-28ME-B1-7-02-B045.hex bootup

Connecting to server..... Done.
Download firmware..... Done. Do not power off!
Please wait, programming flash..... Done.

Success.

Image Updated Successful

Success.
```

To download a configuration file:

```
DGS-1210-28/ME:5# download cfg_fromTFTP 10.90.90.122 test.cfg config_id 2 increm
Command: download cfg_fromTFTP 10.90.90.122 test.cfg config_id 2 increment

Connecting to server..... Done.
Config file restore successful via TFTP.

DGS-1210-28/ME:5#
```

<b>download</b>	
Purpose	To download and install a firmware, boot, or switch configuration file from a FTP server.
Syntax	<b>download [cfg_fromFTP &lt;ftp_url 256&gt; config_id &lt;vaue 1-2&gt; {increment}   firmware_fromFTP &lt;ftp_url 256&gt; {bootup}</b>
Description	The <b>download</b> command downloads a firmware, boot, or switch configuration file from a FTP server.

Parameters	<p><i>cfg_fromFTP</i> &lt;ftp_url 256&gt; – Downloads a switch configuration file from a FTP server.</p> <p><i>config_id</i> &lt;value 1-2&gt; – Indicates the Configuration file to be downloaded.</p> <p><i>Increment</i> - If increment is specified, then the existing configuration will not be cleared before applying of the new configuration. If it is not specified, then the existing configuration will be cleared before applying of the new configuration.</p> <p><i>firmware_fromFTP</i> &lt;ftp_url 256&gt; – Downloads and installs firmware on the Switch from a FTP server.</p> <p><i>bootup</i> – The image downloaded would be configured as boot image when “bootup” parameter issued.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To download a firmware file:

```

DGS-1210-28/ME:5#                download                firmware_fromFTP
ftp://test:1234@10.90.90.122:21//DGS-1210-28ME-B1-7-03-D007.hex
Command: download firmware_fromFTP ftp://test:1234@10.90.90.122:21//DGS-
1210-28ME-B1-7-03-D007.hex

Connecting to server..... Done.
Download firmware..... Done. Do not power off!
Please wait, programming flash..... Done.

Success.
DGS-1210-28/ME:5#
DGS-1210-28/ME:5#
DGS-1210-28/ME:5# show firmware information
Command: show firmware information

```

## upload

Purpose	To upload the current switch settings to a TFTP server.
Syntax	<pre> upload [[firmware_toTFTP [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] &lt;path_filename 64&gt;]   [cfg_toTFTP [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] &lt;path_filename 64&gt; image_id &lt;value 1-2&gt;]   [log_toTFTP [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] &lt;path_filename 64&gt;]]  upload [[firmware_toFTP &lt;ftp_url 256&gt;] &lt;path_filename 64&gt; image_id &lt;value 1-2&gt;   cfg_toFTP &lt;ftp_url (256)&gt; &lt;path_filename (64)&gt; [config_id &lt;value (1-2)&gt;]] </pre>
Description	The <b>upload</b> command uploads the Switch's current settings to a TFTP server.
Parameters	<p><i>firmware_toTFTP</i> – Specifies that the Switch's current firmware are to be uploaded to the TFTP server.</p> <p><i>&lt;ipaddr&gt;</i> – The IPv4 address of the TFTP server. The TFTP server must be on the same IP subnet as the Switch.</p> <p><i>&lt;ipv6_addr&gt;</i> – The IPv6 address of the TFTP server. The TFTP server must be on the same IP subnet as the Switch.</p> <p><i>&lt;path_filename 64&gt;</i> – The location of the Switch configuration file on</p>

	the TFTP server. <i>image_id</i> <value 1-2> - Specifies the image id which to be uploaded.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

```
DGS-1210-28MP/ME:5# upload log_toTFTP 172.21.45.73 log1
Command: upload log_toTFTP 172.21.45.73 log1

Success.

DGS-1210-28MP/ME:5#
```

<b>config configuration config_id</b>	
Purpose	Used to delete the specific firmware or configure the specific firmware as boot up image.
Syntax	<b>config configuration config_id</b> <value 1-2> [ <b>boot_up</b>   <b>delete</b> ]
Description	The <b>config configuration config_id</b> command is used to delete the specific firmware or configure the specific firmware as boot up image.
Parameters	<value 1-2> - Specifies the serial number of the indicated configuration. <i>[boot_up   delete]</i> - Specifies the config is boot_up config or delete the specified configuration.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

```
DGS-1210-28/ME:5# config configuration config_id 1 boot_up
Command: config configuration config_id 1 boot_up

Success.
DES-1210-52/ME:5#
```

<b>show firmware information</b>	
Purpose	Used to display the firmware section information.
Syntax	<b>show firmware information</b>
Description	The <b>show firmware information</b> command is used to display the firmware section information.
Parameters	None.
Restrictions	None.

Example usage:

```
DGS-1210-28MP/ME:5# show firmware information
Command: show firmware information

Current : image one
```



**Configured : image one****IMAGE ONE:**

**Version** : 7.01.B030  
**Size** : 14117904Bytes  
**Updated Time** : 01/01/2015 00:06:56  
**From** : 10.90.90.98  
**User** : Anonymous (web)

**IMAGE TWO:**

**Version** : 7.01.B030  
**Size** : 14117904Bytes  
**Updated Time** : 01/01/2015 00:06:56  
**From** : 10.90.90.98  
**User** : Anonymous (unknown)

DGS-1210-28MP/ME:5#

## show config

Purpose	Used to display the current or saved version of the configuration settings of the Switch.
Syntax	<b>show config [current_config   modified   config_in_nvram config_id &lt;value 1-2&gt; {[begin   include   exclude] &lt;string 80&gt; {&lt;string 80&gt;} {&lt;string 80&gt;}}</b>
Description	The <b>show config</b> command is used to display all the configuration settings that are saved to NV RAM or display the configuration settings as they are currently configured. Use the keyboard to list settings one line at a time (Enter), one page at a time (Space) or view all (a).
Parameters	<p><i>current_config</i> – To specify the current configuration to be displayed.</p> <p><i>modified</i> – Specifies to display only the commands which are not from the 'reset' default setting.</p> <p><i>config_in_nvram</i> – Specifies to display the configuration from naram.</p> <p><i>config_id &lt;value 1-2&gt;</i> – Specifies to display the configuration from nvram.</p> <p><i>begin</i> – The first line that contains the specified filter string will be the first line of the output.</p> <p><i>include</i> – Includes lines that contain the specified filter string.</p> <p><i>exclude</i> – Excludes lines that contain the specified filter string.</p> <p><i>&lt;string 80&gt;</i> - To specify a filter string enclosed by the quotation mark symbol.</p>
Restrictions	Only Administrator -level users can issue this command.

Example usage:

```
DGS-1210-28MP/ME:5# show config config_in_nvram config_id 1
Command: show config config_in_nvram config_id 1
```

```

#-----
#           DGS-1210-28MP/ME Gigabit Ethernet Switch Configuration
#
#           Firmware: Build 7.01.B037
#           Copyright(C) 2010 D-Link Corporation. All rights reserved.
#-----

# User Account
disable password encryption

# Basic
config syslogintimeout 5
enable web 80
enable clipaging
config command_prompt default
config serial_port baud_rate 9600
config serial_port auto_logout 10_minutes
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL

```

## config firmware image\_id

Purpose	Used to configure the firmware image id.
Syntax	<b>config firmware image_id &lt;value 1-2&gt; [boot_up   delete]</b>
Description	The <b>config firmware image_id</b> command is used to configure the firmware image id.
Parameters	<value 1-2>- Specify the image id to be configured. [boot_up   delete] – Specify to boot up or delete the specified image id.
Restrictions	Only Administrator -level users can issue this command.

Example usage:

To configure the firmware image of the Switch:

```

DGS-1210-28MP/ME:5# config firmware image_id 1 boot_up
Command: config firmware image_id 1 boot_up

Success.
DGS-1210-28MP/ME:5#

```

## show boot\_file

Purpose	Used to display the configuration file and firmware image assigned as boot up files.
Syntax	<b>show boot_file</b>
Description	The <b>show boot_file</b> command is used to display the configuration file and firmware image assigned as boot up files.

Parameters	None.
Restrictions	None.

Example usage:

To display the configuration file and firmware image assigned as a boot up file:

```
DGS-1210-28MP/ME:5# show boot_file
Command: show boot_file

Bootup Firmware : image_1
Bootup Configuration : config_1
DGS-1210-28MP/ME:5#
```

## show flash information

Purpose	Used to display the flash information of the Switch.
Syntax	<b>show flash information</b>
Description	The <b>show flash information</b> command is used to display the flash information of the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the flash information of the Switch:

```
DGS-1210-28MP/ME:5# show flash information
Command: show flash information

Flash ID : MX25L25635E
Flash size : 32MB

Partition    Used      Available  Use%
Boot         1310720   0          0
Image1       12357664 1798112    87
Image2       12337184 1818592    87
FileSystem   331776   3600384    8

DGS-1210-28MP/ME:5# show flash information
```

## DHCP RELAY COMMANDS

The DHCP Relay commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable dhcp_relay	
disable dhcp_relay	
config dhcp_relay	[add   delete] ipif System <ipaddr>
config dhcp_relay port	<portlist> state [enable   disable]
config dhcp_relay hops	<value 1-16>
config dhcp_relay vlan	[<vlan_name 32>   vlanid <vidlist>] state [enable   disable]
config dhcp_relay option_82	[ check {enable   disable}   circuit_id {default   user_define <desc 32>   user_define_hex <string 246>   user_define_hex   vendor1-8}   policy {drop   keep   replace}   remote_id {default   user_define <desc 32>   user_define_hex <string 246>   vendor2   vendor3   vendor7   vendor 8}   state {enable   disable}]
config dhcp_relay port_option_82	{<portlist>} [ circuit_id   remote_id ] vendor3 <desc 64>
show dhcp_relay port_option_82	<portlist>
show dhcp_relay	{ipif [System]}
enable dhcp_local_relay	
disable dhcp_local_relay	
config dhcp_local_relay port	<portlist> state [enable   disable]
config dhcp_local_relay vlan	[<vlan_name 32>   vlanid <vid 1-4094>] state [enable   disable]
show dhcp_local_relay	
enable dhcpv6_relay	
disable dhcpv6_relay	
show dhcpv6_relay	{ ipif System   option_18 ports <portslist>   option_38 {ports <portlist>}}
config dhcpv6_relay	[add   delete] ipif system <ip6_addr>
config dhcpv6_relay port	<portlist> state [enable   disable]
config dhcpv6_relay hop_count	<value 1-32>
config dhcpv6_relay option_18	[check {enable   disable}   state {enable   disable}   interface_id {default   cid   vendor1   vendor 2}]

Command	Parameter
config dhcpv6_relay option_18 ports	<portlist> interface_id vendor2 <desc 64>
config dhcpv6_relay option_37	[check [enable   disable]   remote_id [cid_with_user_define <string 128>   default   user_define <string 128>]   state]
config dhcpv6_relay option_38 ports	<portlist> [state {enable   disable}   subscriber_id {default   user_define <string 128>}]
show dhcpv6_relay option_18 ports	{<portlist>}
show dhcpv6_relay option_38	{ports <portlist>}

Each command is listed in detail, as follows:

### enable dhcp\_relay

Purpose	To enable DHCP Relay server on the Switch
Syntax	<b>enable dhcp_relay</b>
Description	The <b>enable dhcp_relay</b> command sets the DHCP Relay to be globally enabled on the Switch and on all existing VLANs.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable DHCP Relay on the Switch:

```
DGS-1210-28MP/ME:5# enable dhcp_relay
Command: enable dhcp_relay

Success.

DGS-1210-28MP/ME:5#
```

### disable dhcp\_relay

Purpose	To disable DHCP Relay server on the Switch
Syntax	<b>disable dhcp_relay</b>
Description	The <b>disable dhcp_relay</b> command sets the DHCP Relay to be globally disabled on the Switch and on all existing VLANs.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To disable DHCP Relay on the Switch:

```
DGS-1210-28MP/ME:5# disable dhcp_relay
```

```
Command: disable dhcp_relay
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config dhcp\_relay

Purpose	This command is used to add or delete a destination IP address to switch DHCP relay serve.
Syntax	<b>config dhcp_relay [add   delete] ipif System &lt;ipaddr&gt;</b>
Description	The <b>config dhcp_relay add ipif System</b> command adds DHCP servers as DHCP Relay servers. The maximum supports up to 4 IP addresses as server. The <b>config dhcp_relay delete ipif System</b> command deletes the specified IP address from DHCP relay server list.
Parameters	<ipaddr> – The IP address of the DHCP server. Up to 4 servers can be defined.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To add a DHCP server as a DHCP Relay server:

```
DGS-1210-28MP/ME:5# config dhcp_relay add ipif System 10.6.150.49
```

```
Command: config dhcp_relay add ipif System 10.6.150.49
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config dhcp\_relay port

Purpose	To enable or disable the ports of DHCP Relay server.
Syntax	<b>config dhcp_relay port &lt;portlist&gt; state [enable   disable]</b>
Description	The <b>config dhcp_relay port</b> command is used to enable or disable the ports of DHCP Relay server.
Parameters	<portlist> – Specifies the ports to be configured. <i>state [enable   disable]</i> – Specifies the ports of DHCP Relay server to be enabled or disabled.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable ports 1-4 of DHCP Relay server:

```
DGS-1210-28MP/ME:5# config dhcp_relay port 1-4 state enable
```

**Command: config dhcp\_relay port 1-4 state enable**

**Success.**

**DGS-1210-28MP/ME:5#**

## config dhcp\_relay hops

Purpose	To configure the maximum number of DHCP relay hops that the DHCP packets cross.
Syntax	<b>config dhcp_relay hops &lt;value 1-16&gt;</b>
Description	The <b>config dhcp_relay hops</b> command configures the maximum number of DHCP relay hops that the DHCP packets cross.
Parameters	<i>hops &lt;value 1-16&gt;</i> – Specifies the maximum number of relay agent hops that the DHCP packets can cross.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure the DHCP relay hops on the Switch:

**DGS-1210-28MP/ME:5# config dhcp\_relay hops 12**

**Command: config dhcp\_relay hops 12**

**Success.**

**DGS-1210-28MP/ME:5#**

## config dhcp\_relay vlan

Purpose	To configure a VLAN of DHCP Relay to be enabled or disabled of the Switch.
Syntax	<b>config dhcp_relay vlan [&lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;] state [enable   disable]</b>
Description	The <b>config dhcp_relay vlan</b> command configures a VLAN of DHCP Relay to be enabled or disabled of the Switch.
Parameters	<i>&lt;vlan_name 32&gt;</i> – Specifies the VLAN name to be configured. <i>vlanid &lt;vidlist&gt;</i> - Specifies the id of VLAN to be configured. <i>[enable   disable]</i> – Specifies the VLAN of DHCP Relay to be enabled or disabled.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To specify the VLAN ID 2 of DHCP relay to be enabled:

**DGS-1210-28MP/ME:5# config dhcp\_relay vlan vlanid 2 state enable**

**Command: config dhcp\_relay vlan vlanid 2 state enable**

**Success.**

**DGS-1210-28MP/ME:5#**

## config dhcp\_relay option\_82

Purpose	To configure the check, policy and state of DHCP relay agent information option 82 of the Switch.
Syntax	<b>config dhcp_relay option_82 [check {enable   disable}   circuit_id {default   user_define &lt;desc 32&gt;   user_define_hex &lt;string 246&gt;   user_define_hex   vendor1-8}   remote_id {default   user_define &lt;desc 32&gt;   user_define_hex &lt;string 246&gt;   vendor2   vendor3   vendor7   vendor 8}   ports &lt;portlist&gt; policy {drop   keep   replace}   state {enable   disable}]</b>
Description	The <b>config dhcp_relay option_82</b> is used to configure the check, policy and state of DHCP relay agent information option 82 of the Switch
Parameters	<p><i>check</i>: used to configure the check of DHCP relay agent information option 82 of the Switch.</p> <p><i>enable</i> – When the field is toggled to enable, the relay agent will check the validity of the packet's option 82 field. If the switch receives a packet that contains the option 82 field from a DHCP client, the switch drops the packet because it is invalid. In packets received from DHCP servers, the relay agent will drop invalid messages.</p> <p><i>disable</i> – When the field is toggled to disable, the relay agent will not check the validity of the packet's option 82 field.</p>

*circuit\_id*: Specify the circuit ID in option 82:

*default* - If configured to default, the circuit ID use the original format:

a	b	c	d	e	f	g
1	0x6	0	4	VLAN	ModuleID	PortID
1 byte	1 byte	1 byte	1 byte	2 bytes	1 byte	1 byte

a. Sub-option type 1 (Circuit ID)

b. Length, it should be 6.

c. Circuit ID's sub-option, it should be 0.

d. Sub-option's length, it should be 4

e. VLAN ID (S-VID)

f. Module ID, for standalone switch, it is 0; for stacking switch, it is the box ID that assigned by stacking.

g. Port ID: port number of each box

*user\_define* - Use user-defined string as the circuit ID

a	b	c	d	e
1	N+2	1	N	User-define
1 byte	1 byte	1 byte	1 byte	Max. 32 bytes

<desc 32> - Enter the user-defined ID. Space is NOT allowed in the string

*user\_define\_hex* - Use user-defined hex as the circuit ID



a	b	c	d	e
1	N+2	1	N	User-define_hex
1 byte	1 byte	1 byte	1 byte	Max. 246 characters

<string 246> - Enter the user-defined ID.

*vendor1* - The circuit ID uses the following format::

a	b	c	d	e	f	g	h	i	j
1	0x10	0	6	VLAN	SlotID	PortID	1	6	MAC
1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	1 byte	1 byte	6 bytes

a. Sub-option type 1 (Circuit ID).

b. Length

c. Circuit ID's sub-option's first tag, it should be 0.

d. First tag's length, it should be 6

e. VLAN ID

f. Slot ID, for standalone switch, it is 1; for stacking switch, it is the box ID that assigned by stacking.

g. Port ID: port number of each box

h. Circuit ID's sub-option's second tag, it should be 1.

i. Second tag's length, it should be 6.

j. MAC address: System's MAC address

*vendor2* - The circuit ID uses the following format:

a	b	c
1	n	Port Number
1 byte	1 byte	N bytes

a. Sub-option type 1 (Circuit ID).

b. Length: length of value

c. Value: Character string. The incoming port number of DHCP client packet, start with character "p". Ex: p02 means port 2. (No Circuit ID sub-option type, directly fill the value.)

*verdor3* - The circuit ID uses the following format:

a	b	c
1	n	User-define
1 byte	1 byte	Max. 32 bytes

a. Sub-option type 1 (Circuit ID).

b. Length: Total length of user-defined string. By default, the length is 0 with no field value.

c. Value: User-defined string that can be configured using the config dhcp\_relay port\_option\_82 command. The maximum length of the user-defined string is 32 bytes.

*vendor4* - The circuit ID uses the following format:

a	b	c	d	e	f	g	h	i
1	8	SystemName	- (0x2D)	ModuleID	/ (0x2F)	PortID	- (0x2D)	CVID

1 byte 1 byte 0-128 bytes 1 byte 1 byte 1 byte 1-2 bytes 1 byte 1-4 bytes

- a. Sub-option type 1 (Circuit ID).
- b. Length: Total lengths of all follow fields.
- c. System name.
- d. Separator character
- e. Module ID
- f. Separator character.
- g. Port ID: port number
- h. Separator character
- i. CVID(Client VLAN ID)

*vendor5* - The circuit ID uses the following format:

a	b	c	d	e	f	G	h
1	n	SystemName	Space (0x20)	e (0x65)	t (0x74)	h (0x68)	Space (0x20)
1 byte	1 byte	0-128 bytes	1 byte	1 byte	1 byte	1 byte	1 byte

i	j	k	l	m	n	o
ChassisID	/ (0x2F)	SlotID	/ (0x2F)	PortNum	: (0x3A)	VLAN
1-2 bytes	1 byte	1-2 bytes	1-2 bytes	1 byte	1 byte	1-4 bytes

- a. Sub-option type 1 (Circuit ID).
- b. Length.
- c. System name of the Switch. NOTE: If the System name exceeds 128 bytes, it will only use the first 128 bytes.
- d. Space
- e. Character 'e'.
- f. Character 't'.
- g. Character 'h'.
- h. Space.
- i. Chassis ID.
- j. Slash (/).
- k. Slot ID. The number of the slot used in the chassis. For non-chassis devices, the slot ID is the module ID of the device starting from 0.
- l. Slash (/).
- m. Port number. The number of the client's port.
- n. Colon (:).
- o. VLAN ID. The ID number of the client's VLAN.

*vendor6* - This circuit ID uses the following format:

F01	F02	F03	F04	F05	F06	F07	F08
1	Length	E (0x45)	t (0x74)	h (0x68)	e (0x65)	r (0x72)	n (0x6E)
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

F09	F10	F11	F12	F13	F14	F15	F16
e (0x65)	t (0x74)	ChassisID	/ (0x2F)	0 (0x30)	/ (0x2F)	PortNum	: (0x3A)
1 byte	1 byte	1-2 bytes	1 byte	1 byte	1 byte	1-2 bytes	1 byte

F17	F18	F19	F20	F21	F22	F23	F24
cvlan	. (0x2E)	0 (0x30)	Space (0x20)	SystemName	/ (0x2F)	0 (0x30)	/ (0x2F)
1-4 bytes	1 byte	1 byte	1 byte	1-128 bytes	1 byte	1 byte	1 byte

F25	F26	F27	F28	F29	F30	F31
0 (0x30)	/ (0x2F)	ChassisID	/ (0x2F)	0 (0x30)	/ (0x2F)	PortNum
1 byte	1 byte	1-2 bytes	1 byte	1 byte	1 byte	1-2 bytes

F01: Sub-option type (Circuit ID).

F02: Length.

F03: Character 'E'.

F04: Character 't'.

F05: Character 'h'.

F06: Character 'e'.

F07: Character 'r'.

F08: Character 'n'.

F09: Character 'e'.

F10: Character 't'.

F11: Chassis ID. The number of the chassis. For stand-alone devices, the chassis ID will always be 1. For stacked devices, the chassis ID will be the unit ID.

F12: Slash (/).

F13: ASCII format string '0'.

F14: Slash (/).

F15: Port number. The incoming port number DHCP client packets. ASCII format string.

F16: Colon (:)

F17: 'cvlan' is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.

F18: Dot (.

F19: ASCII format string '0'.

F20: Space.

F21: System name of the Switch. NOTE: If the System name exceeds 128 bytes, it will only use the first 128 bytes.

F22: Slash (/).

F23: ASCII format string '0'.

F24: Slash (/).

F25: ASCII format string '0'.

F26: Slash (/).

F27: Chassis ID. This value is the same as F11.

F28: Slash (/).

F29: ASCII format string '0'.

F30: Slash (/).

F31: Port number. The incoming port number of DHCP client packets. ASCII format string.

*vendor7*: This circuit ID uses the following format:

F01	F02	F03	F04	F05	F06	F07	F08
<b>1</b>	<b>Length</b>	<b>L</b> <b>(0x4C)</b>	<b>2</b> <b>(0x32)</b>	<b>S</b> <b>(0x53)</b>	<b>W</b> <b>(0x57)</b>	<b>I</b> <b>(0x49)</b>	<b>T</b> <b>(0x54)</b>
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

F09	F10	F11	F12	F13	F14	F15
<b>C</b> <b>(0x43)</b>	<b>H</b> <b>(0x48)</b>	<b>Spcae</b> <b>(0x20)</b>	<b>e</b> <b>(0x65)</b>	<b>t</b> <b>(0x74)</b>	<b>h</b> <b>(0x68)</b>	<b>ChassisID</b>
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1-2 bytes

F16	F17	F18	F19	F20	F21	F22
<b>/</b> <b>(0x2F)</b>	<b>SlotID</b>	<b>/</b> <b>(0x2F)</b>	<b>ModuleID</b>	<b>/</b> <b>(0x2F)</b>	<b>:</b> <b>(0x3A)</b>	<b>PortNum</b>
1 byte	1-2 bytes	1 byte	1 bytes	1 byte	1 byte	2 bytes

F23	F24	F25	F26	F27	F28
<b>_</b> <b>(0x5F)</b>	<b>CVLAN</b>	<b>:</b> <b>(0x3A)</b>	<b>CVLAN</b>	<b>/</b> <b>(0x2F)</b>	<b>SystemMAC</b>
1 byte	1-4 bytes	1 byte	1-4 bytes	1 byte	6 bytes

F01: Sub-option type 1 (Circuit ID).

F02: Length.

F03: Character 'L'.

F04: Character '2'.

F05: Character 'S'.

F06: Character 'W'.

F07: Character 'I'.

F08: Character 'T'.

F09: Character 'C'.

F10: Character 'H'.

F11: Space

F12: Character 'e'.

F13: Character 't'.

F14: Character 'h'.

F15: Chassis ID. The number of the chassis. For stand-alone devices, the chassis ID will always be 1. For stacked devices, the chassis ID will be the unit ID.

F16: Slash (/).

F17: Slot ID: The number of the slot used in the chassis. For non-chassis devices, the slot ID is the module ID of the device starting from 0.

F18: Slash (/).

F19: Module ID

- F20: Slash (/).
- F21: Colon (:)
- F22: Port number. The incoming port number DHCP client packets. ASCII format string.
- F23: Underscore (\_).
- F24: 'cvlan' is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.
- F25: Colon (:)
- F26: 'cvlan' is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.
- F27: Slash (/).
- F28: System MAC: MAC address of switch

*vendor8*: This circuit ID uses the following format:

a	b	c	d	e	f	g
<b>1</b>	<b>0x6</b>	<b>CircuitID Type (0x00)</b>	<b>0x4</b>	<b>CVLAN</b>	<b>ModuleID</b>	<b>PortNum</b>
1 byte	1 byte	1 byte	1 byte	2 byte	1 byte	1 byte

- a: Sub-option type 1 (Circuit ID).
- b: Length: Total lengths of all follow fields.
- c: Circuit ID Type
- d: Length: Total lengths of all follow fields.
- e: 'cvlan' is the client's VLAN ID.
- f: Module ID
- g: Port Number

*remote\_id*: used to configure the remote id of DHCP relay agent information option 82 of the Switch.

*default* - - Use the Switch's system MAC address as remote ID.

*user\_define* - Use user-defined string as the remote ID

a	b	c	d	e
<b>2</b>	<b>N+2</b>	<b>1</b>	<b>N</b>	<b>User-define</b>
1 byte	1 byte	1 byte	1 byte	Max. 32 bytes

<desc 32> - Enter the user-defined ID. Space is NOT allowed in the string

*user\_define\_hex* - Use user-defined hex as the remote ID

a	b	c	d	e
<b>1</b>	<b>N+2</b>	<b>1</b>	<b>N</b>	<b>User-define_hex</b>
1 byte	1 byte	1 byte	1 byte	Max. 246 characters

<string 246> - Enter the user-defined ID.

*vendor2* - The remote ID uses the following format:

a	b	c
<b>2</b>	<b>n</b>	<b>Port Number</b>
1 byte	1 byte	N bytes

- a. Sub-option type 2 (Remote ID).

b. Length: length of value

c. Value: Character string. The incoming port number of DHCP client packet, start with character "p". Ex: p02 means port 2. (No Circuit ID sub-option type, directly fill the value.)

*vendor3* - The remote ID uses the following format:

a	b	c
<b>2</b>	<b>n</b>	<b>User-define</b>
1 byte	1 byte	Max. 32 bytes

a. Sub-option type 2 (Remote ID).

b. Length: Total length of user-defined string. By default, the length is 0 with no field value.

c. Value: User-defined string that can be configured using the config dhcp\_relay port\_option\_82 command. The maximum length of the user-defined string is 32 bytes.

*vendor7*: This circuit ID uses the following format:

F01	F02	F03	F04	F05	F06	F07	F08
<b>2</b>	<b>Length</b>	<b>L</b> <b>(0x4C)</b>	<b>2</b> <b>(0x32)</b>	<b>S</b> <b>(0x53)</b>	<b>W</b> <b>(0x57)</b>	<b>I</b> <b>(0x49)</b>	<b>T</b> <b>(0x54)</b>
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

F09	F10	F11	F12	F13	F14	F15
<b>C</b> <b>(0x43)</b>	<b>H</b> <b>(0x48)</b>	<b>Spcae</b> <b>(0x20)</b>	<b>e</b> <b>(0x65)</b>	<b>t</b> <b>(0x74)</b>	<b>h</b> <b>(0x68)</b>	<b>ChassisID</b>
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1-2 bytes

F16	F17	F18	F19	F20	F21	F22
<b>/</b> <b>(0x2F)</b>	<b>SlotID</b>	<b>/</b> <b>(0x2F)</b>	<b>ModuleID</b>	<b>/</b> <b>(0x2F)</b>	<b>:</b> <b>(0x3A)</b>	<b>PortNum</b>
1 byte	1-2 bytes	1 byte	1 bytes	1 byte	1 byte	2 bytes

F23	F24	F25	F26	F27	F28
<b>_</b> <b>(0x5F)</b>	<b>CVLAN</b>	<b>:</b> <b>(0x3A)</b>	<b>CVLAN</b>	<b>/</b> <b>(0x2F)</b>	<b>SystemMAC</b>
1 byte	1-4 bytes	1 byte	1-4 bytes	1 byte	6 bytes

F01: Sub-option type 2 (Remote ID).

F02: Length.

F03: Character 'L'.

F04: Character '2'.

F05: Character 'S'.

F06: Character 'W'.

F07: Character 'I'.

F08: Character 'T'.

F09: Character 'C'.

F10: Character 'H'.

F11: Space

F12: Character 'e'.

F13: Character 't'.

F14: Character 'h'.

F15: Chassis ID. The number of the chassis. For stand-alone devices, the chassis ID will always be 1. For stacked devices, the chassis ID will be the unit ID.

F16: Slash (/).

F17: Slot ID: The number of the slot used in the chassis. For non-chassis devices, the slot ID is the module ID of the device starting from 0.

F18: Slash (/).

F19: Module ID

F20: Slash (/).

F21: Colon (:)

F22: Port number. The incoming port number DHCP client packets. ASCII format string.

F23: Underscore (\_).

F24: 'cvlan' is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.

F25: Colon (:)

F26: 'cvlan' is the client's VLAN ID. The value ranges from 1 to 4094. ASCII format string.

F27: Slash (/).

F28: System MAC: MAC address of switch

*vendor8*: This remote ID uses the following format:

a	b	c	d	e	f	g
<b>2</b>	<b>0x6</b>	<b>CircuitID Type (0x00)</b>	<b>0x4</b>	<b>CVLAN</b>	<b>ModuleID</b>	<b>PortNum</b>
1 byte	1 byte	1 byte	1 byte	2 byte	1 byte	1 byte

a: Sub-option type 2 (Remote ID).

b: Length: Total lengths of all follow fields.

c: Circuit ID Type

d: Length: Total lengths of all follow fields.

e: 'cvlan' is the client's VLAN ID.

f: Module ID

g: Port Number

*Ports* – Specicy the policy for ports

*<portlist>* - A port or a range of ports

*Policy* – Spcecity the policy applied to the port(s)

*Drop* –Specifies to discard if the packet has the Option 82 field. If the packet that comes from the client side contains an Option 82 value, the packet will be dropped. If the packet that comes from the client side does not contain an Option 82 value, its own Option 82 value is inserted into the packet.

*Keep* - Specifies to retain the existing Option 82 field in the packet. The default setting is replace. If the packet that comes from the client side contains an Option 82 value, the old Option 82 value is kept. If the packet that comes from the client side does not contain an Option 82 value, its own Option 82 value is inserted into the packet.

*Replace* - Replace the existing option 82 field in the packet.

**State** - used to configure the state of DHCP relay agent information option 82 of the Switch.

**enable** – When this field is toggled to Enabled the relay agent will insert and remove DHCP relay information (option 82 field) in messages between DHCP server and client. When the relay agent receives the DHCP request, it adds the option 82 information, and the IP address of the relay agent (if the relay agent is configured), to the packet. Once the option 82 information has been added to the packet it is sent on to the DHCP server. When the DHCP server receives the packet, if the server is capable of option 82, it can implement policies like restricting the number of IP addresses that can be assigned to a single remote ID or circuit ID. Then the DHCP server echoes the option 82 field in the DHCP reply. The DHCP server unicasts the reply to the back to the relay agent if the request was relayed to the server by the relay agent. The switch verifies that it originally inserted the option 82 data. Finally, the relay agent removes the option 82 field and forwards the packet to the switch port that connects to the DHCP client that sent the DHCP request.

**disable** – If the field is toggled to disable the relay agent will not insert and remove DHCP relay information (option 82 field) in messages between DHCP servers and clients, and the check and policy settings will have no effect.

**Restrictions** Only Administrator, operator or power user-level users can issue this command.

Example usage:

To disable the DHCP relay option 82 on the Switch:

```
DGS-1210-28MP/ME:5# config dhcp_relay option_82 state disable
Command: config dhcp_relay option_82 state disable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config dhcp\_relay port\_option\_82

Purpose	To configure DHCP relay agent option 82 information of each port.
Syntax	<b>config dhcp_relay port_option_82 &lt;portlist&gt; [ circuit_id   remote_id ] vendor3 &lt;desc 64&gt;</b>
Description	The <b>config dhcp_relay port_option_82</b> is used to configure DHCP relay agent option 82 information of each port.
Parameters	<p><i>&lt;portlist&gt;</i> – Specifies the ports' option 82 information.</p> <p><i>circuit_id</i> – Specifies the content in the Circuit ID.</p> <p><i>remote_id</i> – Specifies the content in the Remote ID.</p> <p><i>vendor3 &lt;desc 64&gt;</i> – To configure an apacific ports' vendor3 user define string.</p>
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure vendor3 circuit\_id of port 1 to “12345678”:

```
DES-1210-28/ME:5# config dhcp_relay port_option_82 1 circuit_id vendor3
12345678
```

```
Command: config dhcp_relay port_option_82 1 circuit_id vendor3 12345678
```



**Success.**

**DES-1210-28/ME:5#**

## show dhcp\_relay port\_option\_82

Purpose	To display the current DHCP Relay option 82 information of each port.
Syntax	<b>show dhcp_relay port_option_82 {&lt;portlist&gt;}</b>
Description	The <b>show dhcp_relay port_option_82</b> command displays the current DHCP Relay option 82 information of each port.
Parameters	<portlist> – Specifies the ports' option 82 information to be displayed.
Restrictions	None.

Example usage:

To display DHCP Relay option 82 information of port 1-3:

```
DES-1210-28/ME:5# show dhcp_relay port_option_82 1-3
Command: show dhcp_relay port_option_82 1-3
```

### Port option 82 information of vendor 3

Port	Circuit ID	Remote ID
1	12345678	
2		
3		

**DES-1210-28/ME:5#**

## show dhcp\_relay

Purpose	To display the DHCP Relay settings on the Switch.
Syntax	<b>show dhcp_relay {ipif [System]}</b>
Description	The <b>show dhcp_relay</b> command displays the DHCP Relay status and list of servers defined as DHCP Relay servers on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display DHCP Relay settings:

```
DGS-1210-28MP/ME:5# show dhcp_relay
Command: show dhcp_relay
```

```

DHCP/BOOTP Relay Status      : Enabled
DHCP/BOOTP Relay Enable Portlist : 1-28
DHCP/BOOTP Relay Enable VID List : 1,
DHCP/BOOTP Hops Count Limit   : 4
DHCP/BOOTP Relay Time Threshold : 0
DHCP Relay Agent Information Option 82 State      : Disabled
DHCP Relay Agent Information Option 82 Check     : Disabled
DHCP Relay Agent Information Option 82 Policy    : Replace
DHCP Relay Agent Information Option 82 ID
DHCP Relay Agent Information Option 82 Circuit ID Type : Default
DHCP Relay Agent Information Option 82 Remote ID Type : Default

```

```

Interface  Server 1      Server 2      Server 3      Server 4
-----
DGS-1210-28MP/ME:5#

```

### enable dhcp\_local\_relay

Purpose	To enable the DHCP local relay feature globally.
Syntax	enable dhcp_local_relay
Description	The <b>enable dhcp_local_relay</b> command enables the DHCP local relay feature on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable the DHCP Local Relay:

```

DGS-1210-28MP/ME:5# enable dhcp_local_relay
Command: enable dhcp_local_relay

Success.
DGS-1210-28MP/ME:5#

```

### disable dhcp\_local\_relay

Purpose	To disable the DHCP local relay feature globally.
Syntax	disable dhcp_local_relay
Description	The <b>disable dhcp_local_relay</b> command disables the DHCP local relay feature on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To disable the DHCP Local Relay:

```
DGS-1210-28MP/ME:5# disable dhcp_local_relay
```

```
Command: disable dhcp_local_relay
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config dhcp\_local\_relay port

Purpose	To enable or disable the ports of DHCP local relay.
Syntax	<b>config dhcp_local_relay port &lt;portlist&gt; state [enable   disable]</b>
Description	The <b>config dhcp_local_relay port</b> command is used to enable or disable the ports of DHCP Local Relay.
Parameters	<i>&lt;portlist&gt;</i> – Specifies the ports to be enabled or disabled. <i>state [enable   disable]</i> – Enable or disable the specified ports of the DHCP Local Relay status.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable the port 8-10 of DHCP Local Relay:

```
DGS-1210-28MP/ME:5# config dhcp_local_relay port 8-10 state enable
```

```
Command: config dhcp_local_relay port 8-10 state enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config dhcp\_local\_relay vlan

Purpose	To specify which VLAN's the feature works on.
Syntax	<b>config dhcp_local_relay vlan &lt;vlan_name 32&gt; state [enable   disable]</b>
Description	Each VLAN which was added to the DHCP Local Relay list participates in the DHCP Local Relay process – Option 82 is added to DHCP requests on this VLAN, and Removed from DHCP Replies on this VLAN.
Parameters	<i>vlan &lt;vlan_name 32&gt;</i> – the VLAN name identifier <i>state [enable   disable]</i> – enable or disable of the DHCP Local Relay status by VLAN name or VLAN ID.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To disable the VLAN rd1 from VLAN of DHCP Local Relay:

```
DGS-1210-28MP/ME:5# config dhcp_local_relay vlan rd1 state disable
```

```
Command: config dhcp_local_relay vlan vlanid 10 state disable
```

**Success.**  
**DGS-1210-28MP/ME:5#**

## show dhcp\_local\_relay

Purpose	To display which VLAN's the feature works on.
Syntax	<b>show dhcp_local_relay</b>
Description	Each VLAN which was added to the DHCP Local Relay list participates in the DHCP Local Relay process – Option 82 is added to DHCP requests on this VLAN, and Removed from DHCP Replies on this VLAN.
Parameters	None.
Restrictions	None.

Example usage:

To display the DHCP local relay information on the Switch:

```
DGS-1210-28MP/ME:5# show dhcp_local_relay
Command: show dhcp_local_relay

DHCP/BOOTP Local Relay Status : Enabled
DHCP/BOOTP Local Relay PortList : None
DHCP/BOOTP Local Relay VID List :

DGS-1210-28MP/ME:5#
```

## enable dhcpv6\_relay

Purpose	To enable DHCPv6 Relay function on the Switch.
Syntax	<b>enable dhcpv6_relay</b>
Description	The <b>enable dhcpv6_relay</b> command is used to enable the DHCPv6 relay global state on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable DHCPv6 Relay on the Switch:

```
DGS-1210-28MP/ME:5# enable dhcpv6_relay
Command: enable dhcpv6_relay

Success.

DGS-1210-28MP/ME:5#
```

**disable dhcpv6\_relay**

Purpose	To disable DHCPv6 Relay function on the Switch.
Syntax	<b>disable dhcpv6_relay</b>
Description	The <b>disable dhcpv6_relay</b> command is used to disable the DHCPv6 relay global state on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable DHCPv6 Relay on the Switch:

```
DGS-1210-28MP/ME:5# disable dhcpv6_relay
```

```
Command: disable dhcpv6_relay
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**show dhcpv6\_relay**

Purpose	To display the current DHCPv6 relay configuration.
Syntax	<b>show dhcpv6_relay { ipif System   option_18 ports &lt;portslist&gt;   option_38 {ports &lt;portlist&gt;}}</b>
Description	The <b>show dhcpv6_relay</b> command displays the current DHCPv6 relay configuration of all interfaces, or if an IP interface name is specified, the DHCPv6 relay configuration for that IP interface.
Parameters	<i>ipif System</i> – Specifies the name of the IP interface <i>option_18</i> – Interface ID option <i>port&lt;porlist&gt;</i> - Specifies the ports of option 18 to be displayed <i>option_38</i> - Relay Agent Subscriber-ID option <i>port&lt;porlist&gt;</i> – Specifies the ports of option 38 to be displayed.
Restrictions	None.

Example usage:

To display DHCPv6 Relay settings:

```
DGS-1210-28MP/ME:5# show dhcpv6_relay
```

```
Command: show dhcpv6_relay
```

```
DHCPv6 Relay Global State           : disable
DHCPv6 Hops Count Limit              : 4
DHCPv6 Relay Option37 State         : enable
DHCPv6 Relay Option37 Check State   : enable
DHCPv6 Relay Option37 Remote ID Type : default
DHCPv6 Relay Option37 Remote ID     : 9C-D6-43-60-4F-A4
```

```
-----
IP Interface       : Syetem
Server Address    :
```

**Total Entries : 0**

**DGS-1210-28MP/ME:5#**

## config dhcpv6\_relay

Purpose	Used to add or delete a destination IP address to or from the switch's DHCPv6 relay table.
Syntax	<b>config dhcpv6_relay [add   delete] ipif System &lt;ipv6_addr&gt;</b>
Description	The <b>config dhcpv6_relay</b> command can add or delete an IPv6 destination address to forward (relay) DHCPv6 packets.
Parameters	<p><i>add</i> – Add an IPv6 destination to the DHCPv6 relay table.</p> <p><i>delete</i> – Remove an IPv6 destination to the DHCPv6 relay table.</p> <p><i>ipif System</i> – The name of the IP interface in which DHCPv6 relay is to be enabled.</p> <p><i>&lt;ipv6_addr&gt;</i> – The DHCPv6 server IP address.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To add the DHCPv6 relay on the Switch:

```
DGS-1210-28MP/ME:5# config dhcpv6_relay add ipif System 3000::1
Command: config dhcpv6_relay add ipif System 3000::1
```

**Success.**

**DGS-1210-28MP/ME:5#**

## config dhcpv6\_relay port

Purpose	Used to configure the specified port state for DHCPv6 relay.
Syntax	<b>config dhcpv6_relay port &lt;portlist&gt; state [enable   disable]</b>
Description	This command is used to configure the specified port state for DHCPv6 relay.
Parameters	<p><i>port</i> – Specify the port for DHCPv6 relay function</p> <p><i>&lt;portlist&gt;</i> – A port, or a range of ports</p> <p><i>state</i> – The state of DHCPv6 relay of port basis.</p> <p><i>enable</i> – Enable the DHCPv6 relay for the specified port</p> <p><i>disable</i> – Disable the DHCPv6 relay for the specified port</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the DHCPv6 relay on the port 1:

```
DGS-1210-28/ME:5# config dhcpv6_relay port 1 state enable
Command: config dhcpv6_relay port 1 state enable
```

**Success.**

**DGS-1210-28/ME:5#**

## config dhcpv6\_relay hop\_count

Purpose	Used to configure the DHCPv6 relay hop count of the switch.
Syntax	<b>config dhcpv6_relay hop_count &lt;value 1-32&gt;</b>
Description	The <b>config dhcpv6_relay hops_count</b> command is used to configure the DHCPv6 relay hop count of the switch.
Parameters	<value 1-32> – The hop count is the number of relay agents that have to be relayed in this message. The range is 1 to 32. The default value is 4.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To configure the DHCPv6 relay hop count on the Switch:

**DGS-1210-28MP/ME:5# config dhcpv6\_relay hop\_count 3**  
**Command: config dhcpv6\_relay hop\_count 3**

**Success.**

**DGS-1210-28MP/ME:5#**

## config dhcpv6\_relay option\_18

Purpose	Used to configure the processing of Option 18 (Interface-ID) for the DHCPv6 relay function. Both the DHCPv6 relay and DHCPv6 local relay functions use the same Interface ID format. Localrelay isn't concerned about the option state it adds to the packet.
Syntax	<b>config dhcpv6_relay option_18 [check [enable   disable]   state [enable   disable]   interface_id [default   cid   vendor1   vendor2]]</b>
Description	The <b>config dhcpv6_relay option_18</b> command is used to configure the processing of Option 18 for the DHCPv6 relay function. Both the DHCPv6 relay and DHCPv6 local relay functions use the same Interface ID format.
Parameters	<p><i>check [enable   disable]</i> – Specifies whether or not to check for the Option 18 field in incoming packets.</p> <p><i>state [enable   disable]</i> – Specifies the DHCPv6 Relay Option 18's state. When the state is enabled, the DHCP packet will be inserted with the Option 18 field before being relayed to server.</p> <p><i>interface_id</i> – Specify the format of the Interface ID.</p> <p><i>default</i> - Specify to used the default formation for the Interface ID.</p>

a	b	c	d
<b>18</b>	<b>Length</b>	<b>1</b>	<b>VLAN</b>
1 byte	2 bytes	1 byte	2 bytes

a. DHCPv6 option 18

- b. Length
- c. Sub-option type 1
- d. VLAN

*cid* - Specify to use the CID format for the Interface ID.

a	b	c	d	e
<b>18</b>	<b>Length</b>	<b>2</b>	<b>VLAN</b>	<b>Port ID</b>
1 byte	2 bytes	1 byte	2 bytes	2 bytes

- a. DHCPv6 option 18
- b. Length
- c. Sub-option type 2
- d. Port ID

*vendor1* - Specify to use the Vendor 1 format for the Interface ID.

a	b	c	d	e
<b>18</b>	<b>Length</b>	<b>Ethernet</b> <b>(0x45746865726E6574)</b>	<b>0</b> <b>(0x30)</b>	<b>/</b> <b>(0x2F)</b>
1 byte	2 bytes	8 bytes	1 bytes	1 byte

f	g	h	i	j
<b>0</b> <b>(0x30)</b>	<b>/</b> <b>(0x2F)</b>	<b>PortID</b>	<b>:</b> <b>(0x3A)</b>	<b>VLANID</b>
1 byte	1 bytes	1 byte	1 bytes	2 bytes

f	g	h	i	k
<b>.</b> <b>(0x2E)</b>	<b>0</b> <b>(0x30)</b>	<b>(space)</b> <b>(0x20)</b>	<b>Switich</b> <b>Name</b>	<b>/</b>
1 byte	1 byte	1 byte	Max 128 bytes	1 byte

f	g	h	i	k
<b>0</b> <b>(0x30)</b>	<b>/</b> <b>(0x2F)</b>	<b>0</b> <b>(0x30)</b>	<b>/</b> <b>(0x2F)</b>	<b>0</b> <b>(0x30)</b>
1 byte	1 byte	1 byte	1 byte	1 byte

f	g	h	i
<b>/</b> <b>(0x2F)</b>	<b>0</b> <b>(0x30)</b>	<b>/</b> <b>(0x2F)</b>	<b>PortID</b>
1 byte	1 bytes	1 byte	1 byte

*vendor2* - Specify to use the Vendor 2 format for the Interface ID.  
The vendor2 information can be configured by command " config dhcpv6\_relay ports <portlist> interface\_id vendor2"

Restrictions

Only Administrator or operate-level users can issue this command.

Example usage:

To configure the DHCPv6 relay option 18 to be enabled on the Switch:

**DGS-1210-28MP/ME:5# config dhcpv6\_relay option\_18 state enable**

**Command: config dhcpv6\_relay option\_18 state enable**

**Success.**



DGS-1210-28MP/ME:5#

**config dhcpv6\_relay option\_18 ports**

Purpose	Used to configure string contained DHCPv6 relay option 18 vendor2 option.
Syntax	<b>config dhcpv6_relay option_18 ports &lt;portlist&gt; interface_id vendor2 &lt;desc 64&gt;</b>
Description	The vendor2 information can be specified by this command.
Parameters	<i>port</i> – Specify the port for DHCPv6 option 18 vendor2 value <i>&lt;portlist&gt;</i> – A port, or a range of ports <i>vendor2</i> – Option “vendor2” of DHCPv6 option 18 <i>&lt;desc 64&gt;</i> - Specify the string contained in vendor2. The maximum length is 64 characters.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To configure the DHCPv6 relay option 18 vendor2 string on port 1:

```
DGS-1210-28/ME:5# config dhcpv6_relay option_18 ports 1 interface_id vendor2 D-linkTesting
Command: config dhcpv6_relay option_18 ports 1 interface_id vendor2 D-linkTesting

Success.
```

**config dhcpv6\_relay option\_37**

Purpose	Used to configure the DHCPv6 relay option 37 of the switch.															
Syntax	<b>config dhcpv6_relay option_37 [check {enable   disable}   remote_id {cid_with_user_define &lt;string 128&gt;   default   user_define &lt;string 128&gt;}   state {enable   disable}]</b>															
Description	The <b>config dhcpv6_relay option_37</b> command is used to configure the DHCPv6 relay option 37 of the switch.															
Parameters	<i>check [enable   disable]</i> – Specifies the DHCPv6 Relay Option37 Check to be enabled or disabled. <i>cid_with_user_define &lt;string 128&gt;</i> – Specifies the DHCPv6 Relay Option37 Remote ID type as following format: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">VLAN</td> <td style="text-align: center;">ModuleID</td> <td style="text-align: center;">PortID</td> <td style="text-align: center;">UserDefine</td> </tr> <tr> <td style="text-align: center;">1 byte</td> <td style="text-align: center;">2 bytes</td> <td style="text-align: center;">1 byte</td> <td style="text-align: center;">1 byte</td> <td style="text-align: center;">Max 128 bytes</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>a. Sub-option type 2.</li> <li>b. VLAN ID (S-VID).</li> <li>c. Module ID. For a stand-alone switch, it is 0</li> <li>d. Port ID</li> <li>e. User defined string</li> </ul>	a	b	c	d	e	2	VLAN	ModuleID	PortID	UserDefine	1 byte	2 bytes	1 byte	1 byte	Max 128 bytes
a	b	c	d	e												
2	VLAN	ModuleID	PortID	UserDefine												
1 byte	2 bytes	1 byte	1 byte	Max 128 bytes												

*default* – Specified the default format used in DHCPv6 option 37.

a	b	c	d	e
<b>1</b>	<b>VLAN</b>	<b>ModuleID</b>	<b>PortID</b>	<b>MAC</b>
1 byte	2 bytes	1 byte	1 byte	6 bytes

- a. Sub-option type 1
- b. VLAN ID
- c. Module ID. For a stand-alone switch, it is 0
- d. System MAC address

*user\_define* <string 128> - Specify user defined string as the remote ID.

a	b
<b>3</b>	<b>User Define</b>
1 byte	Max 128 bytes

- a. Sub-option type 3
- b. User defined string

*state* – Specify the state of DHCPv6 option 37

enable – Enable DHCPv6 option 37 state

disable – Disable DHCPv6 option 37 state

Restrictions

Only Administrator or operate-level users can issue this command.

Example usage:

To configure the DHCPv6 relay option 37 on the Switch:

```
DGS-1210-28MP/ME:5# config dhcpv6_relay option_37 remote_id default
Command: config dhcpv6_relay option_37 remote_id default
```

**Success!**

```
DGS-1210-28MP/ME:5#
```

## config dhcpv6\_relay option\_38 ports

Purpose	Used to configure the DHCPv6 relay option 38 of the switch.
Syntax	<b>config dhcpv6_relay option_38 ports &lt;portlist&gt; [state {enable   disable}   subscriber_id {default   user_define &lt;string 128&gt;}]</b>
Description	The <b>config dhcpv6_relay option_38</b> command is used to configure the DHCPv6 relay option 38 of the switch.
Parameters	<i>ports</i> <portlist> - Specifies the ports to be configured. <i>state</i> [enable   disable] – Specifies the DHCPv6 Relay Option37 state to be enabled or disabled. <i>subscriber_id</i> [default   user_define <string 128>] - Specifies the subscriber id to use default value or user defined.
Restrictions	Only Administrator or operate-level users can issue this command.

Example usage:

To configure the DHCPv6 relay option 38 on the Switch:

```
DGS-1210-28MP/ME:5# config dhcpv6_relay option_38 ports 3 subscriber_id default
```

```
Command: config dhcpv6_relay option_38 ports 3 subscriber_id default
```

```
Success!
```

```
DGS-1210-28MP/ME:5#
```

## show dhcpv6\_relay option\_18 ports

Purpose	Used to display the DHCPv6 relay option 18 strings.
Syntax	<b>show dhcpv6_relay option_18 ports {&lt;portlist&gt;}</b>
Description	This command is used to display the DHCPv6 relay option 18 of the switch in port(s) basis.
Parameters	<i>ports &lt;portlist&gt;</i> - Specifies the ports to be displayed.
Restrictions	None.

Example usage:

To display the DHCPv6 relay option 18 of ports 1 on the Switch:

```
DGS-1210-28/ME:5# show dhcpv6_relay option_18 ports 1
```

```
Command: show dhcpv6_relay option_18 ports 1
```

```
Port option 18 information of vendor 2
```

Port	Interface ID
1	D-linkTesting

```
DGS-1210-28/ME:5#
```

## show dhcpv6\_relay option\_38

Purpose	Used to display the DHCPv6 relay option 38 of the switch.
Syntax	<b>show dhcpv6_relay option_38 {ports &lt;portlist&gt;}</b>
Description	The <b>show dhcpv6_relay option_38</b> command is used to display the DHCPv6 relay option 38 of the switch.
Parameters	<i>ports &lt;portlist&gt;</i> - Specifies the ports to be displayed.
Restrictions	None.

Example usage:

To display the DHCPv6 relay option 38 of ports 5-8 on the Switch:

```
DGS-1210-28MP/ME:5# show dhcpv6_relay option_38 ports 5-8
```

```
Command: show dhcpv6_relay option_38 ports 5-8
```

```
DHCPv6 Relay Option38 Information
```

<b>Port</b>	<b>State</b>	<b>Type</b>	<b>Subscriber ID</b>
5	Disabled	Default	
6	Disabled	Default	
7	Disabled	Default	
8	Disabled	Default	

DGS-1210-28MP/ME:5#

## GRATUITOUS ARP COMMANDS

The Gratuitous ARP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config gratuitous_arp send ipif_status_up	[enable   disable]
config gratuitous_arp send dup_ip_detected	[enable   disable]
config gratuitous_arp learning	[enable   disable]
enable gratuitous_arp	[log   trap]
disable gratuitous_arp	[log   trap]
config gratuitous_arp log	[enable   disable]
show gratuitous_arp	
config gratuitous_arp send periodically ipif	<ipif_name 12> interval <integer 0-65535>

Each command is listed in detail, as follows:

<b>config gratuitous_arp send ipif_status_up</b>	
Purpose	Used to enable or disable the sending of gratuitous ARP requests while the IP interface status is up.
Syntax	config gratuitous_arp send ipif_status_up [enable   disable]
Description	The config gratuitous_arp send ipif_status_up command is used to enable or disable the sending of gratuitous ARP request packets while the IPIF interface is up. This is used to automatically announce the interface's IP address to other noDGS. By default, the state is enabled, and only one gratuitous ARP packet will be broadcast.
Parameters	<i>enable</i> – Enable the sending of gratuitous ARP when the IPIF status is up. <i>disable</i> – Disable the sending of gratuitous ARP when the IPIF status is up.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable a gratuitous ARP request:

```
DGS-1210-28MP/ME:5# config gratuitous_arp send ipif_status_up enable
Command: config gratuitous_arp send ipif_status_up enable
```

**Success.**  
**DGS-1210-28MP/ME:5#**

## config gratuitous\_arp send dup\_ip\_detected

Purpose	Used to enable or disable the sending of gratuitous ARP requests while duplicate IP addresses are detected.
Syntax	<b>config gratuitous_arp send dup_ip_detected [enable   disable]</b>
Description	The <b>config gratuitous_arp send dup_ip_detected</b> command is used to enable or disable the sending of gratuitous ARP request packets while duplicate IPs are detected. By default, the state is enabled.
Parameters	<i>enable</i> – Enable the sending of gratuitous ARP when a duplicate IP is detected. <i>disable</i> – Disable the sending of gratuitous ARP when a duplicate IP is detected.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable gratuitous ARP request when a duplicate IP is detected:

**DGS-1210-28MP/ME:5# config gratuitous\_arp send dup\_ip\_detected enable**  
**Command: config gratuitous\_arp send dup\_ip\_detected enable**

**Success.**  
**DGS-1210-28MP/ME:5#**

## config gratuitous\_arp learning

Purpose	Used to enable or disable the learning of ARP entries in ARP cache based on the received gratuitous ARP packets.
Syntax	<b>config gratuitous_arp send learning [enable   disable]</b>
Description	Normally, the system will only learn the ARP reply packet or a normal ARP request packet that asks for the MAC address that corresponds to the system's IP address. The <b>config gratuitous_arp send learning</b> command is used to enable or disable the learning of ARP entries in ARP cache based on the received gratuitous ARP packet. The gratuitous ARP packet is sent by a source IP address that is identical to the IP that the packet is queries for. Note that, with gratuitous ARP learning, the system will not learn new entries but only do the update on the ARP table based on the received gratuitous ARP packet. By default, the state is enabled.
Parameters	<i>enable</i> – Enable the learning of ARP entries based on received gratuitous ARP packets. <i>disable</i> – Disable the learning of ARP entries based on received gratuitous ARP packets.

Restrictions	Only Administrator or operator-level users can issue this command.
--------------	--

Example usage:

To enable learning of ARP entries based on the received gratuitous ARP packets:

```
DGS-1210-28MP/ME:5# config gratuitous_arp learning enable
Command: config gratuitous_arp learning enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### enable gratuitous\_arp log

Purpose	Used to enable the gratuitous ARP trap and log.
Syntax	enable gratuitous_arp log
Description	The <b>enable gratuitous_arp</b> command is used to enable gratuitous ARP log states. The Switch can trap or log the IP conflict event to inform the administrator. By default, the event log is enabled.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the System's interface gratuitous ARP log:

```
DGS-1210-28MP/ME:5# enable gratuitous_arp log
Command: enable gratuitous_arp log
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### disable gratuitous\_arp log

Purpose	Used to disable the gratuitous ARP trap and log.
Syntax	disable gratuitous_arp log
Description	The <b>disable gratuitous_arp</b> command is used to disable gratuitous ARP log states. The Switch can trap and log the IP conflict event to inform the administrator. By default, the event log is enabled.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the System's interface gratuitous ARP log:

```
DGS-1210-28MP/ME:5# disable gratuitous_arp log
Command: disable gratuitous_arp log
```

```
Success.
DGS-1210-28MP/ME:5#
```

## config gratuitous\_arp log

Purpose	Used to enable or disable the gratuitous ARP log feature.
Syntax	config gratuitous_arp log [enable   disable]
Description	The config <b>gratuitous_arp log</b> command is used to enable or disable the gratuitous ARP log feature.
Parameters	[enable   disable] – To enable or disable the gratuitous ARP log.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the System's interface gratuitous ARP log:

```
DGS-1210-28MP/ME:5# config gratuitous_arp log enable
Command: config gratuitous_arp log enable

Success.
DGS-1210-28MP/ME:5#
```

## show gratuitous\_arp

Purpose	Used to display the gratuitous ARP configuration.
Syntax	<b>show gratuitous_arp</b>
Description	The <b>show gratuitous_arp</b> command is used to display the gratuitous ARP configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display gratuitous ARP log and trap states:

```
DGS-1210-28MP/ME:5# show gratuitous_arp
Command: show gratuitous_arp

==== Gratuitous ARP Global Settings ====
Send on IPIF status up      : Disabled
Send on Duplicate_IP_Detected : Disabled
Gratuitous ARP Learning    : Disabled
Gratuitous ARP Log        : Enabled

==== Gratuitous ARP Settings ====
IP Interface Name          : System
```



**Gratuitous ARP Periodical Send Interval : 0**

**DGS-1210-28MP/ME:5#**

### **config gratuitous\_arp send periodically ipif**

Purpose	Used to configure the interval for periodical sending of gratuitous ARP request packets.
Syntax	<b>config gratuitous_arp send periodically ipif &lt;ipif_name 12&gt; interval &lt;integer 0-65535&gt;</b>
Description	The <b>config gratuitous_arp send periodically ipif</b> command is used to configure the interval for periodical sending of gratuitous ARP request packets. By default, the interval is 0.
Parameters	<ipif_name 12> - Specifies the IP interface name to be configured. <integer 0-65535> - Periodically send gratuitous ARP interval time in seconds. 0 means it will not send gratuitous ARP periodically.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure gratuitous ARP intervals for the Switch:

**DGS-1210-28MP/ME:5# config gratuitous\_arp send periodically ipif ip2 interval 100**  
**Command: config gratuitous\_arp send periodically ipif ip2 interval 100**

**Success.**

**DGS-1210-28MP/ME:5#**

## POWER SAVING COMMANDS

The Power Saving commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config power_saving mode	[hibernation   led   link_detection   port] [enable   disable]
config power_saving	[hibernation   led [all   <portlist>]   port [all   <portlist>]] [add   delete] time_range1 <range_name 20> time_range2 <range_name 20> {clear_time_range}
show power_saving	{hibernation   led   length_detection   port}

Each command is listed in detail, as follows:

config power_saving mode	
Purpose	To configure the power saving mode on the switch.
Syntax	<b>config power_saving mode [hibernation   led   link_detection   port] [enable   disable]</b>
Description	The <b>config power_saving mode</b> command is used to configure the power saving mode on the switch.
Parameters	<p><i>hibernation</i> – Configure the hibernation state to enable or disable. The default value is disabled.</p> <p><i>led</i> – Configure the led state to enable or disable. The default value is disabled.</p> <p><i>link_detection</i> – Configure the link detection state to enable or disable. The default value is disabled.</p> <p><i>port</i> – Configure ports state to be enabled or disabled.</p> <p><i>[enable   disable]</i> – Enable or disable the power saving feature.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the power saving mode on the switch:

```
DGS-1210-28MP/ME:5# config power_saving mode port hibernation enable
Command: config power_saving mode port hibernation enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

config power_saving	
Purpose	To configure the power saving on the switch.
Syntax	<b>config power_saving [hibernation   led [all   &lt;portlist&gt;]   port [all</b>

	<b>  &lt;portlist&gt;]] [add   delete] time_range1 &lt;range_name 20&gt; time_range2 &lt;range_name 20&gt; {clear_time_range}</b>
Description	The <b>config power_saving</b> command is used to configure the power saving on the switch.
Parameters	<p><i>hibernation</i> – Configure the hibernation.</p> <p><i>led [all   &lt;portlist&gt;]</i> – Configure the ports for led.</p> <p><i>port</i> – Configure ports.</p> <p><i>[add   delete]</i> – Add or delete time range for power saving mode.</p> <p><i>time_range1 &lt;range_name 20&gt;</i> – Specifies the time range 1 to be configured.</p> <p><i>time_range2 &lt;range_name 20&gt;</i> – Specifies the time range 2 to be configured.</p> <p><i>{clear_time_range}</i> – Clear the time range setting for power saving on the Switch.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the power saving on the switch:

```
DGS-1210-28MP/ME:5# config power_saving mode port hibernation enable
Command: config power_saving mode port hibernation enable

Success.
DGS-1210-28MP/ME:5#
```

## show power\_saving

Purpose	To display power saving information on the switch.
Syntax	<b>show power_saving {hibernation   led   length_detection   port   link_detection}</b>
Description	The <b>show power_saving</b> is used to display power saving information.
Parameters	<p><i>hibernation</i> – Display the hibernation state.</p> <p><i>led</i> – Display the led state.</p> <p><i>length_detection</i> – Display the length detection state.</p> <p><i>port</i> – Display ports state.</p> <p><i>link_detection</i> – Display link detection state.</p>
Restrictions	None.

Example usage:

To display power saving information on the switch:

```
DGS-1210-28MP/ME:5# show power_saving length_detection
Command: show power_saving length_detection

Length Detection State : Enabled
DGS-1210-28MP/ME:5#
```

## CPU PROTECTION COMMANDS

The CPU Protection commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable cpu_protect	
disable cpu_protect	
config cpu_protect	pps [<value>   no_limit] type [arp   bpdu   icmp   igmp   snmp]
show cpu_protect	

Each command is listed in detail, as follows:

### enable cpu\_protect

Purpose	To enable the CPU protection function on the Switch.
Syntax	<b>enable cpu_protect</b>
Description	The <b>enable cpu_protect</b> command is used to enable the CPU protection function on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the CPU protection function on the switch:

```
DGS-1210-28MP/ME:5# enable cpu_protect
Command: enable cpu_protect

Success.

DGS-1210-28MP/ME:5#
```

### disable cpu\_protect

Purpose	To disable the CPU protection function on the Switch.
Syntax	<b>disable cpu_protect</b>
Description	The <b>disable cpu_protect</b> command is used to disable the CPU protection function on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the CPU protection function on the switch:

```
DGS-1210-28MP/ME:5# disable cpu_protect
```

```
Command: disable cpu_protect
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config cpu\_protect type

Purpose	To configure the CPU protection packet type on the Switch.
Syntax	<b>config cpu_protect pps</b> [ <i>&lt;value&gt;</i>   <b>no_limit</b> ] <b>type</b> [ <b>arp</b>   <b>bpdu</b>   <b>icmp</b>   <b>igmp</b>   <b>snmp</b> ]
Description	The <b>config cpu_protect type</b> command is used to configure the CPU protection packet type on the Switch.
Parameters	<i>pps</i> – Specify the rate in measurement unit packet/second <i>&lt;value&gt;</i> – Specify the rate in interger. <i>no_limit</i> – No limit specified <i>[arp   bpdu   icmp   snmp]</i> – Specifies the packet type of CPU protection to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the CPU protection with ARP type on the switch:

```
DGS-1210-28MP/ME:5# config cpu_protect type arp pps no_limit
```

```
Command: config cpu_protect type arp pps no_limit
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show cpu\_protect

Purpose	To display the CPU protection information on the Switch.
Syntax	<b>show cpu_protect</b>
Description	The <b>show cpu_protect</b> command is used to display the CPU protection information on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the CPU protection information on the switch:

```
DGS-1210-28MP/ME:5# show cpu_protect
```

```
Command: show cpu_protect
```

```
CPU Protect State : Enabled
```

```
CPU Protect Type Rate Limit(pps)
```

```
-----
```

ARP	no limit
BPDU	no limit
ICMP	no limit
IGMP	no limit
SNMP	no limit

```
DGS-1210-28MP/ME:5#
```

## NETWORK MONITORING COMMANDS

The Network Monitoring commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
show packet ports	<portlist>
show error ports	<portlist>
show utilization	[ports {<portlist>}   cpu   mem]
clear counters	{ports <portlist>}
save log	
clear log	
show log	{index <value 1-500> - <value 1-500>   module <string 32>}
enable syslog	
disable syslog	
show syslog	
create syslog host	<index 1-4> ipaddress [<ipaddr>   <ipv6addr>] {severity [informational   warning   all]   facility [local0   local1   local2   local3   local4   local5   local6   local7]   state [enable   disable]   udp_port [514   <udp_port_number 6000-65535>]}
config syslog host	[all   <index 1-4>] {severity [informational   warning   all]   facility [local0   local1   local2   local3   local4   local5   local6   local7]   state [enable   disable]   udp_port [514   <udp_port_number 6000-65535>]   ipaddress [<ipaddr>   <ipv6addr>]}
config syslog module_log	[all   igmp   impb   stp] state [enable   disable]
show syslog module_log	
delete syslog host	[<index 1-4>   all]
show syslog host	{<index 1-4>}
cable diagnostic port	[<portlist>   all] {mode careful}
config autocable_diag	ports [<portlist>   all] state [enable   disable]
show autocable_diag	ports <portlist>
config syslogintimeout	<integer 3-30>
config sysgroupinterval	[<integer 120-1225>   0]
show log_software_module	

Each command is listed in detail, as follows:

## show packet ports

Purpose	To display statistics about the packets sent and received in frames per second by the Switch.
Syntax	<b>show packet ports &lt;portlist&gt;</b>
Description	The <b>show packet ports</b> command displays statistics about packets sent and received by ports specified in the port list. The results are separated into three tables, labeled A, B, and C in the window below. Table A is relevant to the size of the packets, Table B is relevant to the type of packets and Table C is relevant to the type of frame associated with these packets.
Parameters	<portlist> – A port or range of ports whose statistics are to be displayed.
Restrictions	None.

Example usage:

To display the packets analysis for port 1:

```
DGS-1210-28MP/ME:5# show packet ports 1
Command: show packet ports 1

Port Number : 1
Frame Size  Frame Counts  Frames/sec  Frame Type  Total  Total/sec
-----
64          0             0           RX Bytes   0      0
65-127     0             0           RX Frames  0      0
128-255    0             0
256-511    0             0           TX Bytes   0      0
512-1023   0             0           TX Frames  0      0
1024-1518  0             0

Unicast RX  0             0
Multicast RX 0             0
Broadcast RX 0             0

CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh
```

## show error ports

Purpose	To display the error statistics for a port or a range of ports.
Syntax	<b>show error ports &lt;portlist&gt;</b>
Description	The <b>show error ports</b> command displays all of the packet error statistics collected and logged by the Switch for a given port list.
Parameters	<portlist> – A port or range of ports whose error statistics are to be displayed.
Restrictions	None.

Example usage:



To display the errors of port 2:

```
DGS-1210-28MP/ME:5# show errors port 1
Command: show error ports 1

Port Number : 1

          RX Frames                      TX Frames
-----
CRC Error   0          Excessive Deferral  0
Undersize   0          CRC Error           0
Oversize    0          Late Collision      0
Fragment    8          Excessive Collision 0
Jabber      0          Single Collision    0
Drop Pkts   0          Collision           0

DGS-1210-28MP/ME:5#
```

### show utilization

Purpose	To display real-time port utilization statistics.
Syntax	<b>show utilization [ports {&lt;portlist&gt;}   cpu   mem]</b>
Description	The <b>show utilization</b> command displays the real-time utilization statistics for ports in bits per second (bps) for the Switch, and for the CPU in percentage.
Parameters	<p><i>ports</i> – Entering this parameter will display the current port utilization of the Switch.</p> <p><i>&lt;portlist&gt;</i> – Specifies a range of ports to be displayed.</p> <p><i>cpu</i> – Entering this parameter will display the current CPU utilization of the Switch.</p> <p><i>mem</i> – Entering this parameter will display the current memory utilization of the Switch.</p>
Restrictions	None.

To display the port 2 utilization statistics:

```
DGS-1210-28MP/ME:5# show utilization ports 2
Command: show utilization ports 2
2 0 0 0

Port TX/sec RX/sec Util
-----
2 0 0 0

CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh

DGS-1210-28MP/ME:5#
```

To display the cpu utilization statistics:

```
DGS-1210-28MP/ME:5# show utilization cpu
Command: show utilization cpu
Five Seconds - 6 % One Minute - 6 % Five Minutes - 6 %
Five Seconds - 7 % One Minute - 6 % Five Minutes - 6 %
Five Seconds - 7 % One Minute - 6 % Five Minutes - 6 %

CPU Utilization :
-----
Five Seconds - 7 % One Minute - 6 % Five Minutes - 6 %

CTRL+C ESC q Quit SPACE n Next Page p Previous Page r Refresh

DGS-1210-28MP/ME:5#
```

## clear counters

Purpose	To clear the Switch's statistics counters.
Syntax	<b>clear counters</b> {ports <portlist>}
Description	The <b>clear counters</b> command clears the counters used by the Switch to compile statistics.
Parameters	<i>ports &lt;portlist&gt;</i> - Specifies the counters of ports to be cleared.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To clear the counters:

```
DGS-1210-28MP/ME:5# clear counters

Success.
DGS-1210-28MP/ME:5#
```

## save log

Purpose	To save the Switch's history log.
Syntax	<b>save log</b>
Description	The <b>save log</b> command saves the Switch's history log.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To save the log information:

```
DGS-1210-28MP/ME:5# save log

Command: save log

Success.
```

DGS-1210-28MP/ME:5#

## clear log

Purpose	To clear the Switch's history log.
Syntax	<b>clear log</b>
Description	The <b>clear log</b> command clears the Switch's history log.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To clear the log information:

DGS-1210-28MP/ME:5# clear log

Command: clear log

Success.

DGS-1210-28MP/ME:5#

## show log

Purpose	To display the Switch history log.
Syntax	<b>show log {index &lt;value 1-500&gt; - &lt;value 1-500&gt;   module &lt;string 32&gt;}</b>
Description	The <b>show log</b> command displays the contents of the Switch's history log.
Parameters	<i>index &lt;value 1-500&gt;</i> – The number of entries in the history log to displayed. <i>module &lt;string 32&gt;</i> – The module of entries in the history log to be displayed.
Restrictions	None.

Example usage:

To display the Switch history log:

DGS-1210-28MP/ME:5# show log

Command: show log

Index	Time	Log Text
-----	-----	-----
1	03-Jan-2000 17:48:21	%AAA-I-CONNECT: User CLI session for user admin over telnet , source 10.6.150.34 destination 10.6.41.37 ACCEPTED
2	03-Jan-2000 17:48:02	%AAA-I-DISCONNECT: User CLI session for user admin over telnet , source 10.6.150.34 destination 10.6.41.37 TERMINATED. The Telnet/SSH session may still be connected.

**DGS-1210-28MP/ME:5#**

## enable syslog

Purpose	To enable the system log to be sent to a remote host.
Syntax	<b>enable syslog</b>
Description	The <b>enable syslog</b> command enables the system log to be sent to a remote host.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the syslog function on the Switch:

```
DGS-1210-28MP/ME:5# enable syslog
Command: enable syslog
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## disable syslog

Purpose	To disable the system log from being sent to a remote host.
Syntax	<b>disable syslog</b>
Description	The <b>disable syslog</b> command disables the system log from being sent to a remote host.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the syslog function on the Switch:

```
DGS-1210-28MP/ME:5# disable syslog
Command: disable syslog
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show syslog

Purpose	To display the syslog protocol status.
Syntax	<b>show syslog</b>
Description	The <b>show syslog</b> command displays the syslog status (enabled or disabled).
Parameters	None.
Restrictions	None.

Example usage:

To display the current status of the syslog function:

```
DGS-1210-28MP/ME:5# show syslog
```

**Command: show syslog**

**Syslog Global State: Enabled**

```
DGS-1210-28MP/ME:5#
```

## create syslog host

Purpose	To create a new syslog host.																		
Syntax	<b>create syslog host &lt;index 1-4&gt; ipaddress [&lt;ipaddr&gt;   &lt;ipv6addr&gt;] {severity [informational   warning   all]   facility [local0   local1   local2   local3   local4   local5   local6   local7]   state [enable   disable]   udp_port [514   &lt;udp_port_number 6000-65535&gt;]}</b>																		
Description	The <b>create syslog host</b> command creates a new syslog host.																		
Parameters	<p><i>all</i> – Specifies that the command is to be applied to all hosts.</p> <p><i>&lt;index 1-4&gt;</i> – The syslog host index id. There are four available indices, numbered 1 to 4.</p> <p><i>ipaddress [&lt;ipaddr&gt;   &lt;ipv6addr&gt;]</i> – The IPv4 or IPv6 address of the remote host to which syslog messages are to be sent.</p> <p><i>severity</i> – The message severity level indicator. These are described in the table below (Bold font indicates that the corresponding severity level is currently supported on the Switch):</p> <table border="1"> <thead> <tr> <th>Numerical Code</th> <th>Severity</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Emergency: system is unusable</td> </tr> <tr> <td>1</td> <td>Alert: action must be taken immediately</td> </tr> <tr> <td>2</td> <td>Critical: critical conditions</td> </tr> <tr> <td>3</td> <td>Error: error conditions</td> </tr> <tr> <td><b>4</b></td> <td><b>Warning: warning conditions</b></td> </tr> <tr> <td>5</td> <td>Notice: normal but significant condition</td> </tr> <tr> <td><b>6</b></td> <td><b>Informational: informational messages</b></td> </tr> <tr> <td>7</td> <td>Debug: debug-level messages</td> </tr> </tbody> </table> <p><i>informational</i> – Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.</p> <p><i>warning</i> – Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.</p> <p><i>all</i> – Specifies that all message are to be sent to the remote host.</p> <p><i>facility</i> – Some of the operating system daemons and processes have been assigned Facility values. Processes and daemons that have not been explicitly assigned a Facility may use any of the 'local use' facilities or they may use the 'user-level' Facility. Those Facilities that have been DGSigned are shown in the table below</p>	Numerical Code	Severity	0	Emergency: system is unusable	1	Alert: action must be taken immediately	2	Critical: critical conditions	3	Error: error conditions	<b>4</b>	<b>Warning: warning conditions</b>	5	Notice: normal but significant condition	<b>6</b>	<b>Informational: informational messages</b>	7	Debug: debug-level messages
Numerical Code	Severity																		
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<b>6</b>	<b>Informational: informational messages</b>																		
7	Debug: debug-level messages																		

(Bold font indicates the facility values that the Switch currently supports):

Numerical Code	Facility
0	kernel messages
1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslog
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 (local0)
17	local use 1 (local1)
18	local use 2 (local2)
19	local use 3 (local3)
20	local use 4 (local4)
21	local use 5 (local5)
22	local use 6 (local6)
23	local use 7 (local7)

*local0* – Specifies that local use 0 messages are to be sent to the remote host. This corresponds to number 16 from the list above.

*local1* – Specifies that local use 1 messages are to be sent to the remote host. This corresponds to number 17 from the list above.

*local2* – Specifies that local use 2 messages are to be sent to the remote host. This corresponds to number 18 from the list above.

*local3* – Specifies that local use 3 messages are to be sent to the remote host. This corresponds to number 19 from the list above.

*local4* – Specifies that local use 4 messages are to be sent to the remote host. This corresponds to number 20 from the list above.

*local5* – Specifies that local use 5 messages are to be sent to the remote host. This corresponds to number 21 from the list above.

*local6* – Specifies that local use 6 messages are to be sent to the remote host. This corresponds to number 22 from the list above.

*local7* – Specifies that local use 7 messages is sent to the remote host. This corresponds to number 23 from the list above.

*udp\_port [514 | <udp\_port\_number 6000-65535>]* – Specifies the UDP port number that the syslog protocol is to use to send messages to the remote host.

	<i>state [enable   disable]</i> – Allows the sending of syslog messages to the remote host, specified above, to be enabled and disabled.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create syslog host:

```
DGS-1210-28MP/ME:5# create syslog host 1 ipaddress 1.1.2.1 severity all state
enable
Command: create syslog host 1 ipaddress 1.1.2.1 severity all state enable

Success.

DGS-1210-28MP/ME:5#
```

## config syslog host

Purpose	To configure the syslog protocol to send system log data to a remote host.																		
Syntax	<b>config syslog host</b> [ <i>all</i>   <index 1-4>] { <b>severity</b> [ <i>informational</i>   <i>warning</i>   <i>all</i> ]   <b>facility</b> [ <i>local0</i>   <i>local1</i>   <i>local2</i>   <i>local3</i>   <i>local4</i>   <i>local5</i>   <i>local6</i>   <i>local7</i> ]   <b>state</b> [ <i>enable</i>   <i>disable</i> ]   <b>udp_port</b> [ 514   <udp_port_number 6000-65535>]   <b>ipaddress</b> [<ipaddr>   <ipv6addr>]}																		
Description	The <b>config syslog host</b> command configures the syslog protocol to send system log information to a remote host.																		
Parameters	<p><i>all</i> – Specifies that the command applies to all hosts.</p> <p>&lt;index 1-4&gt; – Specifies that the command applies to an index of hosts. There are four available indices, numbered 1 to 4.</p> <p><i>severity</i> – The message severity level indicator. These are described in the following table (Bold font indicates that the corresponding severity level is currently supported on the Switch):</p> <table border="1"> <thead> <tr> <th>Numerical Code</th> <th>Severity</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Emergency: system is unusable</td> </tr> <tr> <td>1</td> <td>Alert: action must be taken immediately</td> </tr> <tr> <td>2</td> <td>Critical: critical conditions</td> </tr> <tr> <td>3</td> <td>Error: error conditions</td> </tr> <tr> <td><b>4</b></td> <td><b>Warning: warning conditions</b></td> </tr> <tr> <td>5</td> <td>Notice: normal but significant condition</td> </tr> <tr> <td><b>6</b></td> <td><b>Informational: informational messages</b></td> </tr> <tr> <td>7</td> <td>Debug: debug-level messages</td> </tr> </tbody> </table> <p><i>informational</i> – Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.</p> <p><i>warning</i> – Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.</p> <p><i>all</i> – Specifies that all message are to be sent to the remote host.</p>	Numerical Code	Severity	0	Emergency: system is unusable	1	Alert: action must be taken immediately	2	Critical: critical conditions	3	Error: error conditions	<b>4</b>	<b>Warning: warning conditions</b>	5	Notice: normal but significant condition	<b>6</b>	<b>Informational: informational messages</b>	7	Debug: debug-level messages
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*facility* – Some of the operating system daemons and processes have been assigned Facility values. Processes and daemons that have not been explicitly assigned a Facility may use any of the ‘local use’ facilities or they may use the ‘user-level’ Facility. Those Facilities that have been DGSigned are shown in the following:

Bold font indicates the facility values that the Switch currently supports.

Numerical Code	Facility
0	kernel messages
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6	line printer subsystem
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8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 ( <i>local0</i> )
17	local use 1 ( <i>local1</i> )
18	local use 2 ( <i>local2</i> )
19	local use 3 ( <i>local3</i> )
20	local use 4 ( <i>local4</i> )
21	local use 5 ( <i>local5</i> )
22	local use 6 ( <i>local6</i> )
23	local use 7 ( <i>local7</i> )

*local0* – Specifies that local use 0 messages are to be sent to the remote host. This corresponds to number 16 from the list above.

*local1* – Specifies that local use 1 messages are to be sent to the remote host. This corresponds to number 17 from the list above.

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*local5* – Specifies that local use 5 messages are to be sent to the remote host. This corresponds to number 21 from the list above.

*local6* – Specifies that local use 6 messages are to be sent to the remote host. This corresponds to number 22 from the list above.



	<p><i>local7</i> – Specifies that local use 7 messages are to be sent to the remote host. This corresponds to number 23 from the list above.</p> <p><i>udp_port</i> [514   &lt;udp_port_number 6000-65535&gt;] – Specifies the UDP port number that the syslog protocol is to use to send messages to the remote host.</p> <p><i>ipaddress</i> [&lt;ipaddr&gt;   &lt;ipv6addr&gt;] – Specifies the IPv4 or IPv6 address of the remote host to which syslog messages are to be sent.</p> <p><i>state</i> [enable   disable] – Allows the sending of syslog messages to the remote host, specified above, to be enabled and disabled.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure a syslog host:

<b>DGS-1210-28MP/ME:5# config syslog host 1 severity all facility local0</b>
<b>Command: config syslog host 1 severity all facility local0</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## delete syslog host

Purpose	To remove a previously configured syslog host from the Switch.
Syntax	<b>delete syslog host [&lt;index 1-4&gt;   all]</b>
Description	The <b>delete syslog host</b> command removes a previously configured syslog host from the Switch.
Parameters	<p>&lt;index 1-4&gt; – The syslog host index id. There are four available indices, numbered 1 to 4.</p> <p><i>all</i> – Specifies that the command applies to all hosts.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a previously configured syslog host:

<b>DGS-1210-28MP/ME:5# delete syslog host all</b>
<b>Command: delete syslog host all</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## show syslog host

Purpose	To display the syslog hosts currently configured on the Switch.
Syntax	<b>show syslog host {&lt;index 1-4&gt;}</b>
Description	The <b>show syslog host</b> command displays the syslog hosts that are currently configured on the Switch.

Parameters	< <i>index 1-4</i> > – The syslog host index id. There are four available indices, numbered 1 to 4.
Restrictions	None.

Example usage:

To show Syslog host information:

```
DGS-1210-28MP/ME:5# show syslog host
Command: show syslog host

Host ID Host IP Address  Severity  Facility  UDP Port  Status
-----
1          1.1.2.1    All       Local0    514       Enabled

Total Entries : 1

DGS-1210-28MP/ME:5#
```

## config syslog module\_log

Purpose	To configure the specify module (DYING_GASP, IGMP, IMPB, PORT_SECURITY, Sntp, STP or all) state for syslog.
Syntax	<b>config syslog module_log [all   dying_gasp   igmp   impb   port_security  sntp stp] state [enable   disable]</b>
Description	The specified module (IGMP, IMPB, STP) can be configured indepently.
Parameters	<p><i>module_log</i>: Specify the module</p> <ul style="list-style-type: none"> <li><i>all</i> – All modules</li> <li><i>dying_gasp</i>– dying gasp module</li> <li><i>igmp</i> – IGMP module</li> <li><i>impb</i> – IP MAC Port binding module</li> <li><i>port_security</i> – port security module</li> <li><i>sntp</i> – sntp module</li> <li><i>stp</i> – Spanning Tree (STP, RSTP, MSTP) module.</li> </ul> <p><i>state</i> – The state of the specified module will configured:</p> <ul style="list-style-type: none"> <li><i>enable</i> – Configured to “enable”</li> <li><i>disbale</i> – Configured to “disable”</li> </ul>
Restrictions	None.

Example usage:

To enable all modules (IGMP, IMPB, STP) state for syslog.:

```
DGS-1210-28/ME:5# config syslog module_log all state enable
Command: config syslog module_log all state enable

Success.
DGS-1210-28/ME:5#
```

**show syslog module\_log**

Purpose	To display modules (DYING_GASP, IGMP, IMPB, PORT_SECURITY, SNTP, STP or all) state for syslog.
Syntax	<b>show syslog module_log</b>
Description	To display modules (DYING_GASP, IGMP, IMPB, PORT_SECURITY, SNTP, STP or all) state for syslog.
Parameters	None
Restrictions	None.

Example usage:

To display modules (DYING\_GASP, IGMP, IMPB, PORT\_SECURITY, SNTP, STP or all) state for syslog:

```
DGS-1210-28X/ME:5# show syslog module_log
```

```
Command: show syslog module_log
```

```
Syslog Module State Threshold Time Interval
```

```
-----
IGMP      Enabled 0      1
STP       Enabled 0      1
IMPB      Enabled 0      1
Port security Enabled 0      1
SNTP      Enabled 0      1
Dying Gasp Enabled 0      1
```

```
DGS-1210-28X/ME:5#
```

**cable diagnostic port**

Purpose	To determine if there are any errors on the copper cables and the position where the errors may have occurred.
Syntax	<b>cable diagnostic port [&lt;portlist&gt;   all] {mode careful}</b>
Description	The <b>cable diagnostic port</b> command is used to determine if there are any errors on the copper cables and the position where the errors may have occurred. Cable length is detected as following range: <50m, 50~80, 80~100, >100m. Deviation is +/-5 meters, therefore "No Cable" may be displayed under "Test Result," when the cable used is less than 5 m in length. The Fault Distance will show "No Cable", whether the fiber is connected to the port or not.
Parameters	<i>&lt;portlist&gt;</i> – A port or range of ports to be configured. <i>all</i> – Specifies all ports on the Switch are to be configured. <i>mode careful</i> – This mode is used to execute cable diagnostic for link status only. No link-down occurred by executing diagnostic in careful mode.
Restrictions	None.

Example usage:

To determine the copper cables and position of port 3 on the Switch:

```
DGS-1210-28MP/ME:5# cable diagnostic port 15
```

**Command: cable diagnostic port 15****Perform Cable Diagnostics ...**

Port	Type	Link Status	Test Result	Cable Length (M)
15	GE	Link Up	OK	4

DGS-1210-28MP/ME:5#

**config autocable\_diag**

Purpose	To configure the state for auto cable diagnostic feature.
Syntax	<b>config autocable_diag ports [&lt;portlist&gt;   all] state [enable   disable]</b>
Description	<p>When detecting an unexpected port linkdown event (port was down by itself, not by administrator), system will execute cable diagnostic on that port immediately, and then send a trap that binds the port number, test result and cable length to the host.</p> <p>The following objects will be contained in SNMP trap:</p> <ol style="list-style-type: none"> <li>swEtherCableDiagPortIndex</li> <li>swEtherCableDiagPair1Status</li> <li>swEtherCableDiagPair2Status</li> <li>swEtherCableDiagPair3Status</li> <li>swEtherCableDiagPair4Status</li> <li>swEtherCableDiagPair1Length</li> <li>swEtherCableDiagPair2Length</li> <li>swEtherCableDiagPair3Length</li> <li>swEtherCableDiagPair4Length</li> </ol>
Parameters	<p><i>Port</i> – Specify the port to be configured          &lt;portlist&gt; - A port or a range of ports          All – All ports</p> <p><i>State</i> – To configure the state of auto cable diagnostics feature          Enable – Enable auto cable diagnostics          Disable – disable auto cable diagnostics</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure auto cable diagnostics state:

**DGS-1210-28/ME:5# config autocable\_diag ports 7 state enable**  
**Command: config autocable\_diag ports 7 state enable**

**Success.**

DGS-1210-28/ME:5#

**show autocable\_diag**

Purpose	To display the status for auto cable diagnostics feature in port basis.
Syntax	<b>show autocable_diag port {&lt;portlist&gt;}</b>
Description	To display the status for auto cable diagnostics feature in port basis..
Parameters	<i>port {&lt;portlist&gt;}</i> – Specify a port or a range of ports.
Restrictions	None.

Example usage:

To display the auto cable diagnostics status:

<b>DGS-1210-28/ME:5# show autocable_diag ports 1-5</b>	
<b>Command: show autocable_diag ports 1-5</b>	
<b>Port</b>	<b>State</b>
-----	-----
1	Disabled
2	Disabled
3	Disabled
4	Disabled
5	Disabled
<b>Success.</b>	
<b>DGS-1210-28/ME:5#</b>	

**config syslogintimeout**

Purpose	To configure the system login timeout.
Syntax	<b>config syslogintimeout &lt;integer 3-30&gt;</b>
Description	The <b>config syslogintimeout</b> command is used to configure the system login timeout.
Parameters	<i>&lt;integer 3-30&gt;</i> – Specify the system login time. The range is between 3 and 30 minutes.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the system login timeout:

<b>DGS-1210-28MP/ME:5# config syslogintimeout 30</b>	
<b>Command: config syslogintimeout 30</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

**config sysgroupinterval**

Purpose	To configure the system group interval to optimal frequency.
Syntax	<b>config sysgroupinterval [&lt;integer 120-1225&gt;   0]</b>
Description	The <b>config sysgroupinterval</b> command is used to configure the system group interval to optimal frequency.
Parameters	<i>[&lt;integer 120-1225&gt;   0]</i> – Specify the system group interval. And the range is from 120 to 1225 seconds. 0 means disabling the reporting function.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the system group interval:

```
DGS-1210-28MP/ME:5# config sysgroupinterval 200
Command: config sysgroupinterval 200

Success.
DGS-1210-28MP/ME:5#
```

**show log\_software\_module**

Purpose	To display the protocols or applications which support the enhanced logs.
Syntax	<b>show log_software_module</b>
Description	The <b>show log_software_module</b> command is used to display the protocols or applications that support the enhanced logs.
Parameters	None.
Restrictions	None.

Example usage:

To display the protocols or applications that supports the enhanced log:

```
DGS-1210-28MP/ME:5# show log_software_module
Command: show log_software_module

LinkStatus  CLI  SYSTEM

DGS-1210-28MP/ME:5#
```

## POE COMMANDS

The PoE commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config poe ports	[all   <portlist>] [state {enable   disable}] [time_range <range_name 32>   clear_time_range   priority {High   Normal   low}   power_limit {Auto   class_1   class_2   class_3   class_4   user_define <value 1-30>}   delay_power_detect {enable   disable}]
config por system	[legacy_pd [enable   disable]   power_disconnect_method [deny_low_priority_port   deny_next_port]   power_limit <string>]
Config poe pd_alive ports	{all   <portlist>} ([state {enable   disable}] [pd ip <ipaddr>] [interval <sec (10-300)>] [retry <int (0-5)>] [waiting_time <sec (30-300)>] [action {reset   notify   both}])
show poe ports	[all   <portlist>]
show poe system	

Each command is listed in detail, as follows:

config poe ports	
Purpose	Used to configure the Power over Ethernet (PoE) functionality.
Syntax	<b>config poe ports</b> [all   <portlist>] [state {enable   disable}] [time_range <range_name 32>   clear_time_range   priority {High   Normal   low}   power_limit {Auto   class_1   class_2   class_3   class_4   user_define <value 1-30>}   delay_power_detect {enable   disable}]
Description	The config poe ports configures the Power over Ethernet (PoE) functionality of the Switch.
Parameters	<p><i>port</i> – Specify the port(s) for PoE parameters</p> <p><i>all</i> – Specify all ports</p> <p><i>&lt;portlist&gt;</i> – Specify the port, or a range of ports.</p> <p><i>state</i> –Specifies whether power will be supplied to the powered device connected to this port or not</p> <p><i>enable</i> - Specifies that PoE will be enabled of the specifies port(s).</p> <p><i>disable</i> - Specifies that PoE will be disabled of the specifies port(s).</p> <p><i>time_range &lt;range_name 32&gt;</i> - To configure the time-based PoE function on designated port(s).</p> <p><i>clear_time_range</i> – Used to delete the time range for specified port(s).</p> <p><i>priority</i> - Port priority determines the priority the system attempts to supply the power to the port.</p> <p><i>High</i> –Specifies that the priority value will be set to high.</p>

<p><i>Normal</i> –Specifies that the priority value will be set to normal.</p> <p><i>Low</i> - Specifies that the priority value will be set to low.</p> <p><i>power_limit</i> - Specifies the power limit with different class</p> <p><i>auto</i> –Automatic classification the PD’s power consumption.</p> <p><i>class_1</i> - Specifies that the power limit will be set to 4W</p> <p><i>class_2</i> - Specifies that the power limit will be set to 7W</p> <p><i>class_3</i> - Specifies that the power limit will be set to 15.4W</p> <p><i>class_4</i> –For 802.3at compliance PD devices. Supports up to 30W in this class.</p> <p><i>user_define</i> &lt;value 1-30&gt; –Specifies the user defined power limit value here. Maximum capability for power output is 30W (802.3AT)</p>	<p>Restrictions                      Only Administrator or operator-level users can issue this command.</p>
--	---

Example usage:

To configure PoE with ports 8-10:

```
DGS-1210-28MP/ME:5# config poe ports 8-10 power_limit Auto priority low state enable
Command: config poe ports 8-10 power_limit Auto priority low state enable

Success!

DGS-1210-28MP/ME:5#
```

## config poe system

Purpose	Used to configure the Power over Ethernet (PoE) parameter for entire system.
Syntax	<b>config poe system [legacy_pd [enable   disable]   power_disconnect_method [deny_low_priority_port   deny_next_port]   power_limit &lt;string&gt;]</b>
Description	The config poe system configures the Power over Ethernet (PoE) functionality of the Switch.
Parameters	<p><i>legacy_pd</i> - Specifies the legacy PDs detection status.</p> <p><i>enable</i> - Specifies that the legacy PDs detection status will be enabled.</p> <p><i>disable</i> - Specifies that the legacy PDs detection status will be disabled and can't detect the legacy PDs signal.</p> <p><i>power_disconnect_method</i> - Specifies the disconnection method that will be used when the power budget is running out.</p> <p><i>deny_low_priority_port</i> - The port with the lower priority will be shut down to allow the higher priority port to power up.</p> <p><i>deny_next_port</i> - When the power budget is exceeded, the next port attempting to power up is denied, regardless of the port priority.</p> <p><i>power_limit</i> &lt;string&gt; - Configure the system power budge. Different mdoel has different power limit. Please refer to hardware</p>



	specification.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure PoE System Power Limit:

<b>DGS-1210-28MP/ME:5# config poe system power_limit 193</b>
<b>Command: config poe system power_limit 193</b>
<b>Success!</b>
<b>DGS-1210-28MP/ME:5#</b>

## config poe pd-alive ports

Purpose	Used to configure pd-alive polling interval and state.
Syntax	<b>config poe pd-alive ports</b> {all   <portlist>} ([state {enable   disable}] [pd ip <ipaddr>] [interval <sec (10-300)>] [retry <int (0-5)>] [waiting_time <sec (30-300)>] [action {reset   notify   both}])
Description	The PD-Alive feature is ideal for IP surveillance networks, as it will automatically check to see if powered devices (PDs) connected to PoE ports are currently active or not.  It can actively reset PDs to help reconnect them to the network, wake them up, or reset devices due to network connectivity problems.
Parameters	<i>port</i> – Specify the port(s) for PoE parameters <i>all</i> – Specify all ports <i>&lt;portlist&gt;</i> – Specify the port, or a range of ports. <i>state</i> – Specifies whether pd-alive feature state by port. <i>enable</i> - Specifies that PD-Alive will be enabled of the specifies port(s). <i>disable</i> - Specifies that PD-Alive will be disabled of the specifies port(s). <i>pd ip &lt;ipaddr&gt;</i> - Set pd-alive detect pd IP address. <i>interval</i> - Specifies PD-Alive detect pd polling interval, settings range<sec (10-300)>, default 30 sec. <i>retry</i> - Specifies PD-Alive detect pd polling fail retry time, settings range<int (0-5)>, default 2 times. <i>waiting_time</i> - Specifies PD-Alive polling restart after pd-alive detect pd fail and restart pd PoE state, settings range<sec (30-300)>, default 180 sec. <i>action</i> - Specifies Switch reset PD or just send log or both after PD-Alive detect PD no reply, support three types {reset   notify   both}.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure PoE pd-alive address:

<b>DGS-1210-28MP/ME:5# config poe pd-alive ports 1 ip_address 10.90.90.11</b>
<b>Command: config poe pd-alive ports 1 ip_address 10.90.90.11</b>

**Success!**

**DGS-1210-28MP/ME:5#**

## show poe ports

Purpose	Used to display the ports of Power over Ethernet (PoE).
Syntax	<b>show poe ports [all   &lt;portlist&gt;]</b>
Description	The show poe ports displays the Power over Ethernet (PoE) ports of the Switch.
Parameters	<i>[all   &lt;portlist&gt;]</i> – Specifies the ports or all ports to be displayed.
Restrictions	None.

Example usage:

To display the PoE with ports 8:

**DGS-1210-28MP/ME:5# show poe ports 8**

**Command: show poe ports 8**

**Port: 8**

**State : Enable**

**Priority : Low**

**Power Limit : Auto**

**Power(W) : 0.0**

**Voltage(V) : 0.0**

**Current(mA) : 0.0**

**Status : POWER OFF**

**Time Range : N/A**

**Delay Power Detect : Disable**

**DGS-1210-28MP/ME:5#**

## show poe system

Purpose	Used to display the system information of Power over Ethernet (PoE).
Syntax	<b>show poe system</b>
Description	The show poe system displays the Power over Ethernet (PoE) system information of the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the PoE system of Switch:

**DGS-1210-28MP/ME:5# show poe system**

**Command: show poe system**

<b>Power Limit</b>	<b>: 193</b>
<b>Power Consumption</b>	<b>: 0</b>
<b>Power Remained</b>	<b>: 193</b>
<b>Power Disconnection Method</b>	<b>: Deny Next Port</b>
<b>Detection Legacy PD</b>	<b>: Disable</b>

**DGS-1210-28MP/ME:5#**

## SPANNING TREE COMMANDS

The Spanning Tree commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config stp	{maxage <value 6-40>   hellotime <value 1-10>   forwarddelay <value 4-30>   txholdcount <value 1-10>   maxhops <value 6-40>}
config stp ports	<portlist> {externalcost [auto   <value 1-200000000>]   edge [auto   true   false]   hellotime <value 1-2>   p2p [true   false   auto]   state [enable   disable]   fbpdu [enable   disable]   migrate [yes   no]   priority <value 0-240>   restricted_role [true   false]   restricted_tcn [true   false] }
config stp version	[mstp   rstp   stp]
config stp fbpdu	[enable   disable]
config stp priority	<value 0-61440> instance_id <value 0-15>
enable stp	
disable stp	
show stp	
show stp ports	{<portlist>}
show stp instance	<value 1-63>
show stp mst_config_id	
create stp instance_id	<value 1-63>
delete stp instance_id	<value 1-63>
config stp instance_id	<value 1-63> [add_vlan   remove_vlan] <vidlist>
config stp mst_config_id	[revision_level <int 0-65535>   name <string 32>]
config stp mst_ports	<portlist> instance_id <value 0-15> {internalCost [auto   value 1-200000000]   priority <value 0-240>}
config stp trap	{new_root [enable   disable]   topo_change [enable   disable]}

Each command is listed in detail, as follows:

config stp	
Purpose	To setup STP, RSTP and MSTP on the Switch.
Syntax	<b>config stp</b> {maxage <value 6-40>   hellotime <value 1-10>   forwarddelay <value 4-30>   txholdcount <value 1-10>   maxhops <value 6-40>}
Description	The <b>config stp</b> command configures the Spanning Tree Protocol (STP) for the entire switch. All commands here are implemented for

	the STP version that is currently set on the Switch.
Parameters	<p><i>maxage</i> &lt;value 6-40&gt; – This value may be set to ensure that old information does not endlessly circulate through redundant paths in the network, preventing the effective propagation of the new information. Set by the Root Bridge, this value aids in determining that the Switch has spanning tree configuration values consistent with other devices on the bridged LAN. If the value ages out and a BPDU has still not been received from the Root Bridge, the Switch starts sending its own BPDU to all other switches for permission to become the Root Bridge. If your switch has the lowest priority, it becomes the Root Bridge. The user may choose a time between 6 and 40 seconds. The default value is 20.</p> <p><i>hellotime</i> &lt;value 1-10&gt; – The user may set the time interval between transmission of configuration messages by the root device in STP, or by the DGSigned router, thus stating that the Switch is still functioning. The value may be between 1 and 10 seconds. The default value is 2 seconds.</p> <p><i>forwarddelay</i> &lt;value 4-30&gt; – The amount of time (in seconds) that the root device will wait before changing from Blocking to Listening, and from Listening to Learning states. The value may be between 4 and 30 seconds. The default is 15 seconds.</p> <p><i>txholdcount</i> &lt;value 1-10&gt; – The maximum number of BPDU Hello packets transmitted per interval. Default value = 3.</p> <p><i>maxhops</i> &lt;value 6-40&gt; – The maximum number of BPDU hops packets transmitted per interval. Default value = 20.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure STP with maxage 18 and hellotime 2:

```
DGS-1210-28MP/ME:5# config stp maxage 18 hellotime 2
Command: config stp maxage 18 hellotime 2
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config stp ports

Purpose	To setup STP on the port level.
Syntax	<b>config stp ports</b> <portlist> {externalcost [auto   <value 1-200000000>]   edge [auto   true   false]   hellotime <value 1-2>   p2p [true   false   auto]   state [enable   disable]   fbpdudisable [enable   disable]   migrate [yes   no]   priority <value 0-240>   restricted_role [true   false]   restricted_tcn [true   false] }
Description	The <b>config stp ports</b> command configures STP for a group of ports.
Parameters	<p>&lt;portlist&gt; – A port or range of ports to be configured. The port list is specified by listing switch number and the beginning port number on that switch, separated by a dash. Then the highest port number of the range is specified. The beginning and end of the port list range are separated by a dash.</p> <p><i>externalCost</i> – Defines a metric that indicates the relative cost of forwarding packets to the specified port list. Port cost can be set automatically or as a metric value. The default value is auto.</p> <ul style="list-style-type: none"> <li><i>auto</i> – Automatically sets the speed for forwarding packets</li> </ul>

to the specified port(s) in the list for optimal efficiency. Default port cost: 10Mbps port = 2000000. 100Mbps port = 200000. Gigabit port = 20000. Port-channel = 20000.

- *<value 1-200000000>* - Defines a value between 1 and 200000000 to determine the external cost. The lower the number, the greater the probability the port will be chosen to forward packets.

*edge [auto | true | false]* – *true* Designates the port as an edge port. Edge ports cannot create loops, however an edge port can lose edge port status if a topology change creates a potential for a loop. An edge port normally should not receive BPDU packets. If a BPDU packet is received it automatically loses edge port status. *false* indicates that the port does not have edge port status. The default setting for this parameter is *false*.

*hellotime <value 1-2>* – The time interval between transmission of configuration messages by the Designated port, to other devices on the bridged LAN, thus stating that the Switch is still functioning. The user may choose a time between 1 and 2 seconds. The default is 2 seconds.

*p2p [true | false | auto]* – *true* indicates a point-to-point (P2P) link. P2P ports transition to a forwarding state rapidly thus benefiting from RSTP. A *p2p* value of *false* indicates that the port cannot have *p2p* status. *auto* allows the port to have *p2p* status whenever possible and operate as if the *p2p* status were *true*. (A port that operates in full-duplex is assumed to be point-to-point, while a half-duplex port is considered as a shared port). If the port cannot maintain this status (for example if the port is forced to half-duplex operation) the *p2p* status changes to operate as if the *p2p* value were *false*. The default setting for this parameter is *auto*.

*state [enable | disable]* – Allows STP to be enabled or disabled for the ports specified in the port list. The default is *enable*.

*fbpdu [enable | disable | system]* – If *enable* - allows the forwarding of STP BPDU packets from other network devices. *Disable* – blocking STP BPDU packets from other network devices. *System* – indicates that port will behave as global switch's *fbpdu* value configured. *Fbpdu* value valid only when STP port state is disabled or global STP state is disabled. The default is *system*.

*migrate [yes | no]* – Setting this parameter as "yes" will set the ports to send out BPDU packets to other bridges, requesting information on their STP setting if the Switch is configured for RSTP, the port will be capable to migrate from 802.1D STP to 802.1w RSTP. If the Switch is configured for MSTP, the port is capable of migrating from 802.1D STP to 802.1s MSTP. RSTP and MSTP can coexist with standard STP, however the benefits of RSTP and MSTP are not realized on a port where and 802.1D network connects to and 802.1w or 802.1s enabled network. Migration should be set as *yes* on ports connected to network stations or segments that are capable of being upgraded to 802.1w RSTP or 802.1s MSTP on all or some portion of the segment.

*priority <value 0-240>* – Specifies the priority. The range is from 0 to 240.

*restricted\_role [true | false]* – To decide if this is to be selected as the Root Port. The default value is *false*.

*restricted\_tcn [true | false]* – To decide if this port is to propagate topology change. The default value is *false*.

#### Restrictions

Only administrator or operator-level users can issue this command.

Example usage:

To configure STP with path cost 19 and state enable for ports 1-3:

```
DGS-1210-28MP/ME:5# config stp ports 1-3 externalcost 19 state enable
Command: config stp ports 1-3 externalcost 19 state enable

Success.
DGS-1210-28MP/ME:5#
```

## config stp version

Purpose	To globally set the version of STP on the Switch.
Syntax	<b>config stp version [mstp   rstp   stp]</b>
Description	The <b>config stp version</b> command sets the version of the spanning tree to be implemented on the Switch.
Parameters	<p><i>mstp</i> – Sets the Multiple Spanning Tree Protocol (MSTP) globally on the Switch.</p> <p><i>rstp</i> – Sets the Rapid Spanning Tree Protocol (RSTP) globally on the Switch.</p> <p><i>stp</i> – Sets the Spanning Tree Protocol (STP) globally on the Switch.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the Switch globally for the Multiple Spanning Tree Protocol (MSTP):

```
DGS-1210-28MP/ME:5# config stp version mstp
Command: config stp version mstp

Success.
DGS-1210-28MP/ME:5#
```

## config stp fbpdu

Purpose	To globally set the fbpdu of STP on the Switch.
Syntax	<b>config stp fbpdu [enable   disable]</b>
Description	The <b>config stp fbpdu</b> command allows the forwarding of STP BPDU packets from other network devices when STP is disabled on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the Switch globally for the Spanning Tree Protocol (STP) fbpdu enable:

```
DGS-1210-28MP/ME:5# config stp fbpdu enable
Command: config stp fbpdu enable

Success.
DGS-1210-28MP/ME:5#
```

**config stp priority**

Purpose	To update the STP instance configuration.
Syntax	<b>config stp priority &lt;value 0-61440&gt; instance_id &lt;value 0-15&gt;</b>
Description	The <b>config stp priority</b> command updates the STP instance configuration settings on the Switch. The MSTP uses the priority in selecting the root bridge, root port and DGSigned port. Assigning higher priorities to STP regions instructs the Switch to give precedence to the selected instance_id for forwarding packets. A lower value indicates a higher priority.
Parameters	<i>priority &lt;value 0-61440&gt;</i> - The priority for a specified <i>instance_id</i> for forwarding packets. The value may be between 0 and 61440, and must be divisible by 4096. A lower value indicates a higher priority. <i>instance_id &lt;value 0-15&gt;</i> - The value of the previously configured instance id for which the user wishes to set the priority value. An instance_id of 0 denotes the default instance_id (CIST) internally set on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the priority value for instance\_id 2 as 4096:

```
DGS-1210-28MP/ME:5# config stp priority 4096 instance_id 2
Command: config stp priority 4096 instance_id 2

Success.
DGS-1210-28MP/ME:5#
```

**enable stp**

Purpose	To globally enable STP on the Switch.
Syntax	<b>enable stp</b>
Description	The <b>enable stp</b> command is used to set the Spanning Tree Protocol to be globally enabled on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable STP, globally, on the Switch:

```
DGS-1210-28MP/ME:5# enable stp
Command: enable stp

Success.
DGS-1210-28MP/ME:5#
```

**disable stp**

Purpose	To globally disable STP on the Switch.
Syntax	<b>disable stp</b>
Description	The <b>disable stp</b> command is used to set the Spanning Tree



	Protocol to be globally disabled on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable STP on the Switch:

```
DGS-1210-28MP/ME:5# disable stp
Command: disable stp

Success.
DGS-1210-28MP/ME:5#
```

## show stp

Purpose	To display the Switch's current STP configuration.
Syntax	<b>show stp</b>
Description	The <b>show stp</b> command displays the Switch's current STP configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display the status of STP on the Switch:

Status 1: STP enabled with STP compatible version

```
DGS-1210-28MP/ME:5# show stp
Command: show stp

STP Bridge Global Settings
-----
STP Status           : Enabled
STP Version          : RSTP
Bridge Priority       : 32768
Max Age              : 18
Hello Time           : 2
Forward Delay        : 15
TX Hold Count        : 6
Forward BPDU         : Enabled
Root Cost            : 0
Root Maximum Age     : 18
Root Forward Delay   : 15
Root Port            : 0
Root Bridge          : 80:00:9C:D6:43:60:4F:A4

DGS-1210-28MP/ME:5#
```

Status 2: STP enabled for RSTP

```

DGS-1210-28MP/ME:5# show stp
Command: show stp

STP Bridge Global Settings
-----
STP Status           : Enabled
STP Version          : RSTP
Bridge Priority       : 32768
Max Age              : 8
Hello Time           : 2
Forward Delay        : 15
TX Hold Count        : 6
Forward BPDU         : Enabled
Root Cost            : 0
Root Maximum Age     : 8
Root Forward Delay   : 15
Root Port            : 0
Root Bridge          : 80:00:9C:D6:43:60:4F:A4

DGS-1210-28MP/ME:5#

```

Status 3: STP enabled for MSTP

```

DGS-1210-28MP/ME:5# show stp
Command: show stp

STP Bridge Global Settings
-----
STP Status           : Enabled
STP Version          : MSTP
Bridge Priority       : 32768
Max Age              : 8
Hello Time           : 2
Forward Delay        : 15
TX Hold Count        : 6
Forward BPDU         : Enabled
Root Cost            : 0
Root Maximum Age     : 8
Root Forward Delay   : 15
Root Port            : 0
Root Bridge          : 80:00:9C:D6:43:60:4F:A4

DGS-1210-28MP/ME:5#

```

## show stp ports

Purpose	To display the Switch's current instance_id configuration.
Syntax	<b>show stp ports {&lt;portlist&gt;}</b>

Description	The <b>show stp ports</b> command displays the STP Instance Settings and STP Instance Operational Status currently implemented on the Switch.
Parameters	<i>&lt;portlist&gt;</i> – A port or range of ports to be configured. The port list is specified by listing switch number and the beginning port number on that switch, separated by a dash. Then the highest port number of the range is specified. The beginning and end of the port list range are separated by a dash.
Restrictions	None.

Example usage:

To show stp port 1 on switch one:

```
DGS-1210-28MP/ME:5# show stp ports 1
Command: show stp ports 1

MSTP    Port Information
-----
Port Index:1 , Port STP:Enabled , P2P:Auto ,
External PathCost : 19 , Edge Port:Auto ,
Port RestrictedRole:False , Port RestrictedTCN:False
Port Priority:128 , Port Forward BPDU:Enabled ,
MSTI DGSigned Bridge      Internal PathCost Prio Status  Role
-----
0      80:00:00:B2:FD:DA:EE:EB 200000          128 Disabled Disabled

DGS-1210-28MP/ME:5#
```

## show stp instance

Purpose	To display the Switch's STP instance configuration
Syntax	<b>show stp instance {&lt;value 1-63&gt;}</b>
Description	The <b>show stp instance</b> command displays the Switch's current STP Instance Settings and the STP Instance Operational Status.
Parameters	<i>&lt;value 1-63&gt;</i> - The value of the previously configured instance_id on the Switch. The value may be between 1 and 63.
Restrictions	None.

Example usage:

To display the STP instance configuration on the Switch:

```
DGS-1210-28MP/ME:5# show stp instance
Command: show stp instance

## CIST
Designated Root Bridge 00:00:00:00:00:00 Priority 0
                        We are the Root for CIST
                        Port 0 , path cost 0
Regional Root Bridge 00:00:00:00:00:00 Priority 0
                        Path cost 0
```

```

Designated Bridge    00:00:00:00:00:00  Priority 0
Configured Forward delay 15, Max age 20, Max hops 20
Operational Forward delay 15, Max age 20
Topology Changes Count : 0
Last Topology Change   : 0

Interface Role      Sts      Cost  Prio.Nbr Type
-----
DGS-1210-28MP/ME:5#
    
```

### show stp mst\_config\_id

Purpose	To display the MSTP configuration identification.
Syntax	<b>show stp mst_config_id</b>
Description	The <b>show stp mst_config_id</b> command displays the Switch's current MSTP configuration identification.
Parameters	None.
Restrictions	None.

Example usage:

To show the MSTP configuration identification currently set on the Switch:

```

DGS-1210-28MP/ME:5# show stp mst_config_id
Command: show stp mst_config_id

Name      [00:23:22:03:14:25]
Revision  0
Instance  Vlans mapped
-----
0         1-1024,1025-2048,2049-3072,3073-4094
-----
DGS-1210-28MP/ME:5#
    
```

### create stp instance\_id

Purpose	To create instance ID on the Switch.
Syntax	<b>create stp instance_id &lt;value 1-63&gt;</b>
Description	The <b>create stp instance_id</b> command creates an instance ID of STP on the Switch.
Parameters	<value 1-63> - The value of the instance ID to be created.
Restrictions	Only administrator-level users can issue this command.

To create instance id 1:

```

DGS-1210-28MP/ME:5# create stp instance_id 1
Command: create stp instance_id 1
    
```

**Warning: There is no VLAN mapping to this instance\_id!**

**Success.**

**DGS-1210-28MP/ME:5#**

## delete stp instance\_id

Purpose	To delete instance ID on the Switch.
Syntax	<b>delete stp instance_id &lt;value 1-63&gt;</b>
Description	The <b>delete stp instance_id</b> command removes the instance ID of STP on the Switch.
Parameters	<value 1-63> - The value of the instance ID to be removed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove instance id 2:

**DGS-1210-28MP/ME:5# delete stp instance\_id 1**

**Command: delete stp instance\_id 1**

**Success.**

**DGS-1210-28MP/ME:5#**

## config stp instance\_id

Purpose	To configure instance ID on the Switch.
Syntax	<b>config stp instance_id &lt;value 1-63&gt; [add_vlan   remove_vlan] &lt;vidlist&gt;</b>
Description	The <b>config stp instance_id</b> command is used to map VIDs (VLAN IDs) to previously configured STP instances on the Switch by creating an <i>instance_id</i> . A STP instance may have multiple members with the same MSTP configuration. There is no limit to the number of STP regions in a network but each region only supports a maximum of 16 spanning tree instances (one unchangeable default entry). VIDs can belong to only one spanning tree instance at a time.
Parameters	<p>&lt;value 1-63&gt; – Enter a number between 1 and 15 to define the <i>instance_id</i>. The Switch supports 63 STP instances with one unchangeable default instance ID set as 0.</p> <p><i>add_vlan</i> – Along with the <i>vid_range &lt;vidlist&gt;</i> parameter, this command will add VIDs to the previously configured STP <i>instance_id</i>.</p> <p><i>remove_vlan</i> – Along with the <i>vid_range &lt;vidlist&gt;</i> parameter, this command will remove VIDs to the previously configured STP <i>instance_id</i>.</p> <p>&lt;vidlist&gt; – Specify the VID range from configured VLANs set on the Switch. Supported VIDs on the Switch range from ID number 1 to 4094.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure instance ID 2 to add VID 10:

```
DGS-1210-28MP/ME:5# config stp instance_id 2 add_vlan 10
Command : config stp instance_id 2 add_vlan 10
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config stp mst\_config\_id

Purpose	To update the MSTP configuration identification.
Syntax	<b>config stp mst_config_id [revision_level &lt;int 0-65535&gt;   name &lt;string 32&gt;]</b>
Description	The <b>config stp mst_config_id</b> command uniquely identifies the MSTP configuration currently configured on the Switch. Information entered here is attached to BPDU packets as an identifier for the MSTP region to which it belongs. Switches having the same revision_level, name and identical vlans mapped for STP instance_ids are considered to be part of the same MSTP region.
Parameters	<p><i>revision_level</i> &lt;int 0-65535&gt;— The MSTP configuration revision number. The value may be between 0 and 65535. This value, along with the name and identical vlans mapped for STP instance_ids identifies the MSTP region configured on the Switch. The default setting is 0.</p> <p><i>name</i> &lt;string 32&gt; - A string of up to 32 alphanumeric characters to uniquely identify the MSTP region on the Switch. This name, along with the revision_level value and identical vlans mapped for STP instance_ids identifies the MSTP region configured on the Switch. If no name is entered, the default name is the MAC address of the device.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the MSTP region of the Switch with revision\_level 10 and the name 'Trinity':

```
DGS-1210-28MP/ME:5# config stp mst_config_id name Trinity revision_level 10
Command: config stp mst_config_id name Trinity revision_level 10
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config stp mst\_ports

Purpose	To update the port configuration for a MSTP instance.
Syntax	<b>config stp mst_ports &lt;portlist&gt; instance_id &lt;value 0-15&gt; {internalCost [auto   value 1-200000000]   priority &lt;value 0-240&gt;}</b>
Description	The <b>config stp mst_ports</b> command updates the port configuration for a STP instance_id. If a loop occurs, the MSTP function uses the port cost to select an interface to put into the forwarding state (if the switch isn't Root). If the switch is Root, then higher priority value for interfaces will influence on selected ports to be forwarding first at connected network devices. In instances where the priority value is identical, the MSTP function implements the lowest port number into the forwarding state and other interfaces are blocked. Remember that lower priority values mean higher priorities for forwarding

	packets.
Parameters	<p><i>&lt;portlist&gt;</i> – A port or range of ports to be configured. The port list is specified by listing switch number and the beginning port number on that switch, separated by a dash. Then the highest port number of the range is specified. The beginning and end of the port list range are separated by a dash.</p> <p><i>instance_id &lt;value 0-15&gt;</i> - The value may be between 0 and 15. An entry of 0 denotes the CIST (Common and Internal Spanning Tree).</p> <p><i>internalCost</i> – The relative cost of forwarding packets to specified ports when an interface is selected within an STP instance. The default setting is auto. There are two options:</p> <ul style="list-style-type: none"> <li>• <i>auto</i> – Specifies setting the quickest route automatically and optimally for an interface. The default value is derived from the media speed of the interface.</li> <li>• <i>value 1-200000000</i> – Specifies setting the quickest route when a loop occurs. The value may be in the range of 1-200000000. A lower internalCost represents a quicker transmission.</li> </ul> <p><i>priority &lt;value 0-240&gt;</i> - The priority for the port interface. The value may be between 0 and 240. A lower number denotes a higher priority. A higher priority designates the interface to forward packets first.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To designate ports 1 through 5 with instance ID 2, to have an auto internalCost and a priority of 16:

```
DGS-1210-28MP/ME:5# config stp mst_ports 1-5 instance_id 2 internalCost auto
priority 16
```

```
Command: config stp mst_ports 1-5 instance_id 2 internalCost auto priority 16
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config stp trap

Purpose	To configure the sending state for STP traps.
Syntax	<b>config stp trap {new_root [enable   disable]   topo_change [enable   disable]}</b>
Description	The <b>config stp mst_ports</b> command is used to configure the sending state for STP traps.
Parameters	<p><i>new_root [enable   disable]</i> – Enable or disable sending of new root trap. The default state is enabled.</p> <p><i>topo_change [enable   disable]</i> – Enable or disable sending of topology change trap. The default state is enabled.</p>
Restrictions	Only Administrator level users can issue this command.

Example usage:

To configure the new root and topo change to be enabled for STP trap:

```
DGS-1210-28MP/ME:5# config stp trap new_root disable topo_change enable  
Command: config stp trap new_root disable topo_change enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```



## FORWARDING DATABASE COMMANDS

The Forwarding Database commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create fdb	<vlan_name 32> <macaddr> port <port 1-28>
create multicast_fdb	<int 1-4094><macaddr>
config multicast_fdb	<integer 1-4094> <macaddr> [add   delete] <portlist>
config fdb aging_time	<sec 10-1000000>
delete fdb	<vlan_name 32> <macaddr>
enable flood_fdb	
disable flood_fdb	
show flood_fdb	
config flood_fdb	[log   trap] [enable   disable]
clear flood_fdb	
show fdb	{port <port 1-28>   [vlan <vlan_name 32>   vlanid <vidlist>]   mac_address <macaddr>   static   aging_time}
clear fdb	[all   port <port 1-28>   vlan <vlan_name 32>]
config multicast filter	[all   vlan] [filter   forward]
delete auto_fdb	<ipaddr>

Each command is listed in detail, as follows:

<b>create fdb</b>	
Purpose	To create a static entry in the unicast MAC address forwarding table (database)
Syntax	<b>create fdb &lt;vlan_name 32&gt; &lt;macaddr&gt; port &lt;port 1-28&gt;</b>
Description	The <b>create fdb</b> command creates a static entry in the Switch's unicast MAC address forwarding database.
Parameters	<p>&lt;vlan_name 32&gt; – The name of the VLAN on which the MAC address resides.</p> <p>&lt;macaddr&gt; – The MAC address to be added to the forwarding table.</p> <p>port &lt;port 1-28&gt; – The port number corresponding to the MAC destination address. The Switch will always forward traffic to the specified device through this port.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a unicast MAC FDB entry:

```
DGS-1210-28MP/ME:5# create fdb default 00-00-00-00-01-02 port 2
Command: create fdb default 00-00-00-00-01-02 port 2
```

**Success**

```
DGS-1210-28MP/ME:5#
```

## config fdb aging\_time

Purpose	To set the aging time of the forwarding database.
Syntax	<b>config fdb aging_time &lt;sec 10-1000000&gt;</b>
Description	The <b>config fdb aging_time</b> command sets the aging time of the forwarding database. The aging time affects the learning process of the Switch. Dynamic forwarding table entries, which are made up of the source MAC addresses and their associated port numbers, are deleted from the table if they are not accessed within the aging time. A very long aging time can result in dynamic forwarding table entries that are out-of-date or no longer exist. This may cause incorrect packet forwarding decisions by the Switch. If the aging time is too short however, many entries may be aged out too soon. This will result in a high percentage of received packets whose source addresses cannot be found in the forwarding table, in which case the Switch will broadcast the packet to all ports, negating many of the benefits of having a Switch.
Parameters	<sec 10-1000000> – The aging time for the MAC address forwarding database value, in seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To set the fdb aging time:

```
DGS-1210-28MP/ME:5# config fdb aging_time 300
Command: config fdb aging_time 300
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete fdb

Purpose	To delete an entry in the Switch's forwarding database.
Syntax	<b>delete fdb &lt;vlan_name 32&gt; &lt;macaddr&gt;</b>
Description	The <b>delete fdb</b> command deletes an entry in the Switch's MAC address forwarding database.
Parameters	<vlan_name 32> – The name of the VLAN on which the MAC address resides. <macaddr> – The MAC address to be removed from the forwarding table.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a permanent FDB entry:

```
DGS-1210-28MP/ME:5# delete fdb default 00-00-00-00-01-02
```

```
Command: delete fdb default 00-00-00-00-01-02
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## enable flood\_fdb

Purpose	To enable the Switch's forwarding database on the Switch.
Syntax	<b>enable flood_fdb</b>
Description	The <b>enable flood_fdb</b> command enables dynamically learned entries from the Switch's forwarding database.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable FDB dynamic entries:

```
DGS-1210-28MP/ME:5# enable flood_fdb
```

```
Command: enable flood_fdb
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## disable flood\_fdb

Purpose	To disable the Switch's forwarding database on the Switch.
Syntax	<b>disable flood_fdb</b>
Description	The <b>disable flood_fdb</b> command disables dynamically learned entries from the Switch's forwarding database.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable FDB dynamic entries:

```
DGS-1210-28MP/ME:5# disable flood_fdb
```

```
Command: disable flood_fdb
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config flood\_fdb

Purpose	To configure the Switch's forwarding database on the Switch.
Syntax	<b>config flood_fdb [log   trap] [enable   disable]</b>

Description	The <b>config flood_fdb</b> command configures dynamically learned entries from the Switch's forwarding database.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure FDB dynamic entries:

```
DGS-1210-28MP/ME:5# config flood_fdb trap disable log enable
Command: config flood_fdb trap disable log enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show flood\_fdb

Purpose	To display the Switch's forwarding database on the Switch.
Syntax	<b>show flood_fdb</b>
Description	The <b>show flood_fdb</b> command displays dynamically learned entries from the Switch's forwarding database.
Parameters	None.
Restrictions	None.

Example usage:

To display FDB dynamic entries:

```
DGS-1210-28MP/ME:5# show flood_fdb
Command: show flood_fdb
```

```
Flooding FDB State : Enabled
Log State           : Disabled
Trap State          : Disabled
```

```
Value VLAN ID  MAC Address      Time stamp
-----
-----
```

```
DGS-1210-28MP/ME:5#
```

## clear flood\_fdb

Purpose	To clear the Switch's forwarding database of all dynamically learned MAC addresses.
Syntax	<b>clear flood_fdb</b>
Description	The <b>clear flood_fdb</b> command clears dynamically learned entries from the Switch's forwarding database.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To clear all FDB dynamic entries:

```
DGS-1210-28MP/ME:5# clear flood_fdb
```

```
Command: clear flood_fdb
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show fdb

Purpose	To display the current unicast MAC address forwarding database.
Syntax	<b>show fdb {port &lt;port 1-28&gt;   [vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;]   mac_address &lt;macaddr&gt;   static   aging_time}</b>
Description	The <b>show fdb</b> command displays the current contents of the Switch's forwarding database.
Parameters	<p><i>&lt;port 1-28&gt;</i> – The port number corresponding to the MAC destination address. The Switch always forwards traffic to the specified device through this port.</p> <p><i>[vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;]</i> – The name of the VLAN or the vlan id on which the MAC address resides.</p> <p><i>&lt;macaddr&gt;</i> – The MAC address entry in the forwarding table.</p> <p><i>static</i> – Specifies that static MAC address entries are to be displayed.</p> <p><i>aging_time</i> – Displays the aging time for the MAC address forwarding database.</p>
Restrictions	None.

Example usage:

To display unicast MAC address table:

```
DGS-1210-28MP/ME:5# show fdb port 3
```

```
Command: show fdb port 3
```

VID	VLAN Name	MAC Address	Port Type
1	default	00-00-01-01-02-03	3 Permanent

```
Total Entries : 1
```

```
DGS-1210-28MP/ME:5#
```

To display the aging time:

```
DGS-1210-28MP/ME:5# show fdb aging_time
```

```
Command: show fdb aging_time
```

```
Unicast MAC Address Aging Time = 300 (seconds)
```

```
DGS-1210-28MP/ME:5#
```

**clear fdb**

Purpose	To clear the current unicast MAC address forwarding database.
Syntax	<b>clear fdb [all   port &lt;port 1-28&gt;   vlan &lt;vlan_name 32&gt;]</b>
Description	The <b>clear fdb</b> command clears the current contents of the Switch's forwarding database.
Parameters	<i>all</i> – Specifies to clear all unicast MAC address table. <port 1-28> - Specifies to clear unicast MAC address table of specified ports. <vlan_name 32> - Specifies to clear unicast MAC address table of specified VLAN.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To clear all unicast MAC address table:

```
DGS-1210-28MP/ME:5# clear fdb all
Command: clear fdb all

Success.
DGS-1210-28MP/ME:5#
```

**config multicast vlan\_filtering\_mode**

Purpose	To configure the multicast packet filtering mode for VLANs.
Syntax	<b>config multicast vlan_filtering_mode [all   vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;] [forward_all_groups   forward_unregistered_groups   filter_unregistered_groups]</b>
Description	The <b>config multicast filtering_mode</b> command enables filtering of multicast addresses.
Parameters	<i>all</i> - Specifies all configured VLANs. <vlan_name 32> - Specifies the name of the VLAN. The maximum name length is 32. <vidlist> - Specifies a list of VLANs to be configured <i>forward_all_groups</i> - Both the registered group and the unregistered group will be forwarded to all member ports of the specified VLAN where the multicast traffic comes in. <i>forward_unregistered_groups</i> - The unregistered group will be forwarded to all member ports of the VLAN where the multicast traffic comes in. <i>filter_unregistered_groups</i> - The unregistered group will be filtered.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the multicast packet filtering mode to filter all unregistered multicast groups for the VLAN 200 to 300:

```
DGS-1210-28MP/ME:5# config multicast vlan_filtering_mode vlanid 200-300
filter_unregistered_groups
Command: config multicast vlan_filtering_mode vlanid 200-300 filter_unregistered_groups
```

**Success.**

**DGS-1210-28MP/ME:5#**

## config multicast\_filtering\_mode

Purpose	To configure the multicast packet filtering mode.
Syntax	<b>config multicast_filtering_mode vlan &lt;vlan_name 32&gt; [filter_unregistered_groups   forward_unregistered_groups]</b>
Description	The <b>config multicast_filtering_mode</b> command enables filtering or forwarding of multicast addresses.
Parameters	<vlan_name 32> - Specifies the VLAN name. <i>[filter_unregistered_groups   forward_unregistered_groups]</i> – Specifies to filter or forward the unregistered groups of multicast address.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the multicast packet filtering mode to forward all unregistered multicast groups:

```

DGS-1210-28MP/ME:5# config multicast_filtering_mode vlan default
forward_unregistered_groups
Command: config multicast_filtering_mode vlan default
forward_unregistered_groups

Success.

DGS-1210-28MP/ME:5#

```

## delete auto\_fdb

Purpose	To delete a static entry in the auto forwarding table (database).
Syntax	<b>delete auto_fdb &lt;ipaddr&gt;</b>
Description	The <b>delete auto_fdb</b> command removes a static entry in the multicast MAC address forwarding table (database).
Parameters	<ipaddr> – The IP address to be deleted from the auto forwarding table.
Restrictions	None.

Example usage:

To delete auto forwarding table:

```

DGS-1210-28MP/ME:5# delete auto_fdb 172.21.47.13
Command: delete auto_fdb 172.21.47.13

Success.
DGS-1210-28MP/ME:5#

```

## BROADCAST STORM CONTROL COMMANDS

The Broadcast Storm Control commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config traffic control	[<portlist>   all] [broadcast {enable   disable}   multicast {enable   disable}   unicast {enable   disable}] action [drop   shutdown   dropbypps] threshold <value 0- 1024000> time_interval <time_interval 5-30> countdown {0   <minutes (5-30)>   disable}
config traffic control auto_recover_time	[0   <min 1-65535>]
show traffic control	{<portlist>}
config traffic trap	[storm_cleared   storm_occured   both   none]

Each command is listed in detail, as follows:

config traffic control	
Purpose	To configure broadcast / multicast / unknown unicast traffic control.
Syntax	<b>config traffic control</b> [<portlist>   all] [broadcast {enable   disable}   multicast {enable   disable}   unicast {enable   disable}] action [drop   shutdown   dropbypps] threshold <value 0- 1024000> time_interval <time_interval 5-30> countdown {0   <minutes (5-30)>   disable}
Description	The <b>config traffic control</b> command configures broadcast, multicast and unknown unicast storm control.
Parameters	<p>&lt;portlist&gt; - A port or range of ports to be configured.</p> <p><i>all</i> - Specifies all ports on the Switch are to be configured.</p> <p><i>action</i> - Specifies the traffic control action to be drop or shutdown. A traffic control trap is active only when the control action is configured as "shutdown". If the control action is "drop", there will no traps issue while storm event is detected.</p> <p><i>drop</i> - Drop the packet when ingress rate over the threshold configured. When "drop" seleted, the measurement unit of threshold is kbit/second.</p> <p><i>shutdown</i> - <i>Shutdown the specified ports</i> when ingress rate over the threshold configured. When "drop" seleted, the measurement unit of threshold is kbit/second.</p> <p><i>dropbypps</i> - Drop the packet when ingress rate over the threshold configured. When "drop" seleted, the measurement unit of threshold is packet/second.</p> <p><i>countdown</i> [0   &lt;minutes 5-30&gt;] - Specifies the countdown time of traffic control.</p> <p><i>broadcast</i> -- Specify the broadcast storm status.</p> <p><i>enable</i> - Enable broadcast storm control.</p>



<p><i>disable</i> - Disable broadcast storm control</p> <p><i>multicast</i> –Specify the multicast storm status.</p> <p><i>enable</i> - Enable multicast storm control.</p> <p><i>disable</i> - Disable multicast storm control</p> <p><i>unicast</i> –Specify the unicast packet storm status.</p> <p><i>enable</i> - Enable unicast packet storm control.</p> <p><i>disable</i> - Disable unicast packet storm control.</p> <p><i>threshold</i> &lt;value 0-1024000&gt; – The upper threshold at which the specified traffic control is switched on. The value is the number of broadcast/multicast/dlf packets, in Kbps, received by the Switch that will trigger the storm traffic control measures. The value ranges in size from 0 to 1024000 Kbps. The default setting is 64 Kbit/sec. When action “drop” selected, the measurement unit of threshold is packet/second.</p> <p>&lt;time_interval 5-30&gt; – Specifies the time interval of traffic control. Measurement unit is “minute”.</p>	<p>Restrictions            Only administrator or operator-level users can issue this command.</p>
--	---

Example usage:

To configure traffic control and enable broadcast storm control system wide:

```
DGS-1210-28MP/ME:5# config traffic control all multicast enable unicast disable
broadcast enable threshold 64
```

```
Command: config traffic control all multicast enable unicast disable broadcast e
nable threshold 64
```

\*Note: Setting count down for drop mode port was ignored.

Success.

```
DGS-1210-28MP/ME:5#
```

### config traffic control auto\_recover\_time

Purpose	To configure the traffic auto recover time that allowed for a port to recover from shutdown forever status.
Syntax	<b>config traffic control auto_recover_time [0   &lt;min 1-65535&gt;]</b>
Description	The <b>config traffic control auto_recover_time</b> command configures the auto recover time for traffic control.
Parameters	<i>[0   &lt;min 1-65535&gt;]</i> – Specifies the auto recover time for traffic control The value is or from 1 to 65535.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure auto recover time for traffic control:

```
DGS-1210-28MP/ME:5# config traffic control auto_recover_time 1000
```

```
Command: config traffic control auto_recover_time 1000
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show traffic control

Purpose	To display current traffic control settings.
Syntax	<b>show traffic control {&lt;portlist&gt;}</b>
Description	The <b>show traffic control</b> command displays the current storm traffic control configuration on the Switch.
Parameters	<portlist> - A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display traffic control setting for ports 1-3:

```
DGS-1210-28MP/ME:5# show traffic control 1-3
Command: show traffic control 1-3

Traffic Storm Control Trap : [None]

Port Thres Broadcast Multicast Unicast Action Count Time
  hold Storm Storm Storm          down Interval
-----
1  64   Enabled   Enabled  Disabled Drop    0    0
2  64   Enabled   Enabled  Disabled Drop    0    0
3  64   Enabled   Enabled  Disabled Drop    0    0

Total Entries : 3

DGS-1210-28MP/ME:5#
```

## config traffic trap

Purpose	To configure the traffic control trap on the Switch.
Syntax	<b>config traffic trap [storm_cleared   storm_occured   both   none]</b>
Description	The <b>config traffic trap</b> command configures the current storm traffic trap configuration on the Switch.
Parameters	<p><i>storm_cleared</i> – A notification will be generated when a storm event is cleared.</p> <p><i>storm_occured</i> – A notification will be generated when a storm event is detected.</p> <p><i>both</i> – A notification will be generated both when a storm event is detected and cleared.</p> <p><i>none</i> – No notification will be generated when storm event is detected or cleared.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure traffic trap setting:

```
DGS-1210-28MP/ME:5# config traffic trap storm_cleared
```

**Command: config traffic trap storm\_cleared**

**Success.**

**DGS-1210-28MP/ME:5#**

## PASSWORD RECOVERY COMMANDS

The Password Recovery commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable password_recovery	
disable password_recovery	
show password_recovery	

Each command is listed in detail, as follows:

### enable password\_recovery

Purpose	To enable the password recovery mode on the Switch.
Syntax	<b>enable password_recovery</b>
Description	The <b>enable password_recovery</b> command is used to enable the password recovery mode on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable the password recovery mode:

```
DGS-1210-28/ME:5# enable password_recovery
Command: enable password_recovery

Success.

DES-1210-52/ME:5#
```

### disable password\_recovery

Purpose	To disable the password recovery mode on the Switch.
Syntax	<b>disable password_recovery</b>
Description	The <b>disable password_recovery</b> command is used to disable the password recovery mode on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable the password recovery mode:

**DGS-1210-28/ME:5# disable password\_recovery**

**Command: disable password\_recovery**

**Success.**

**DES-1210-52/ME:5#**

## show password\_recovery

Purpose	To show the password recovery mode on the Switch.
Syntax	<b>show password_recovery</b>
Description	The <b>show password_recovery</b> command is used to display the password recovery mode on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the password recovery mode:

**DGS-1210-28/ME:5# show password\_recovery**

**Command: show password\_recovery**

**Password Recovery Mode : Enabled**

**DES-1210-52/ME:5#**

## QOS COMMANDS

The QoS commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config scheduling	<class_id 0-7> weight <value 1-55>
show scheduling	
config bandwidth_control	[<portlist>   all] {rx_rate [no_limit   <value 63-1000000>]   tx_rate [no_limit   <value 63-1000000>]}
show bandwidth_control	{[<portlist>   all]}
config per_queue bandwidth_control	ports [<portlist>   all] <cos_id_list> min_rate [no_limit   <value (64-10240000)>] max_rate [no_limit   <value (64-10240000)>]
show per_queue bandwidth_control	<portlist>
config cos mac_mapping	destination_addr <macaddr> class <class_id 0-7>
show cos mac_mapping	{destination_addr <macaddr>}
delete cos mac_mapping	destination_addr <macaddr>
config cos ip_mapping	destination_ip <ipaddr> class <class_id 0-7>
show cos ip_mapping	{destination_ip <ipaddr>}
delete cos ip_mapping	destination_ip <ipaddr>
config cos ipv6_mapping	destination_ipv6 <ipv6addr> class <class_id 0-7>
show cos ipv6_mapping	{destination_ipv6 <ipv6addr>}
delete cos ipv6_mapping	destination_ipv6 <ipv6addr>
config cos ipv6_tc_mapping	trafficclass <class_id 0-255> class <class_id 0-7>
delete cos ipv6_tc_mapping	trafficclass <class_id 0-255>
show cos ipv6_tc_mapping	{trafficclass <class_id 0-255>}
config cos mapping	port [<portlist>   all] [802.1p   dscp_tos   none]
show cos mapping	{port <portlist>}
config cos	protocol <ip_protocol 1-255> class <class_id 0-3>

Command	Parameter
protocol_mapping	
show cos protocol_mapping	{protocol <ip_protocol 1-255>}
delete cos protocol_mapping	protocol <ip_protocol 1-255>
config cos vlanid_mapping	vid <vlanid 1-4094> class <class_id 0-7>
show cos vlanid_mapping	{vid <vlanid 1-4094>}
delete cos vlanid_mapping	vid <vlanid 1-4094>
config cos tos value	<value 0-7> class <priority_id 0-7>
show cos tos	{value <value 0-7>}
config cos tcp_port_mapping	destination_port <value 0-65535> class <class_id 0-7>
show cos tcp_port_mapping	{destination_port <value 0-65535>}
delete cos tcp_port_mapping	destination_port <value 0-65535>
config cos udp_port_mapping	destination_port <value 0-65535> class <class_id 0-7>
show cos udp_port_mapping	{destination_port <value 0-65535>}
delete cos udp_port_mapping	destination_port <value 0-65535>
config 802.1p user_priority	<priority 0-7> <class_id 0-7>
show 802.1p user_priority	
config 802.1p default_priority	[<portlist>   all] <priority 0-7>
show 802.1p default_priority	{<portlist>}
config scheduling_mechanism	[strict   wrr   1st7wrr   2st6wrr]
show scheduling_mechanism	
config [dscp   tos] mode	
config dscp_mapping	dscp_value <value 0-63> class <priority 0-7>
show dscp_mapping	{dscp_value <value 0-63>}
enable hol_prevention	

Command	Parameter
disable hol_prevention	
show hol_prevention	
config mgmt_pkt_priority	[default   <priority (0-7)>]
show mgmt_pkt_priority	

Each command is listed in detail, as follows:

<b>config scheduling</b>	
Purpose	To configure traffic scheduling for each of the Switch's QoS queues.
Syntax	<b>config scheduling &lt;class_id 0-7&gt; weight &lt;value 1-55&gt;</b>
Description	<p>The config scheduling command configures traffic scheduling for each of the Switch's QoS queues.</p> <p>The Switch contains eight hardware classes of service. Incoming packets must be mapped to one of these eight hardware queues. This command is used to specify the rotation by which these eight hardware queues are emptied.</p> <p>The Switch's default (if the config scheduling command is not used) is to empty the hardware queues in order – from the highest priority queue (hardware class 7) to the lowest priority queue (hardware class 0). Each hardware queue transmits all of the packets in its buffer before allowing the next lower priority queue to transmit its packets. When the highest hardware priority queue has finished transmitting all of its packets, the lowest hardware priority queue can again transmit any packets it may have received.</p>
Parameters	<p><i>&lt;class_id 0-7&gt; – The hardware classes of service to which the config scheduling command is to be applied. The eight hardware classes of service are identified by number (from 0 to 7) with class 7 having the highest priority.</i></p> <p><i>weight &lt;value 1-55&gt; – Specifies the weight of packets the above specified priority class of service is allowed to transmit before allowing the next lower priority class of service to transmit its packets. The value may be between 1 and 55.</i></p>
Restrictions	Only administrator or operator-level users can issue this command. This command is usable only if the device was configured to work in round robin scheduling (config scheduling_mechanism)

Example usage:

To configure traffic scheduling:

```
DGS-1210-28MP/ME:5# config scheduling 1 weight 10
```

```
Command: config scheduling 1 weight 10
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```



## show scheduling

Purpose	To display the currently configured traffic scheduling on the Switch.
Syntax	<b>show scheduling</b>
Description	The <b>show scheduling</b> command displays the current configuration for the maximum number of packets ( <i>max_packet</i> ) value assigned to the four priority classes of service on the Switch. The Switch empties the four hardware queues in order, from the highest priority (class 7) to the lowest priority (class 0).
Parameters	None.
Restrictions	None.

Example usage:

To display the current scheduling configuration:

<b>DGS-1210-28MP/ME:5# show scheduling</b>	
<b>Command: show scheduling</b>	
<b>QOS Output Scheduling</b>	
<b>Class ID</b>	<b>Weight</b>
-----	-----
<b>Class-0</b>	<b>strict</b>
<b>Class-1</b>	<b>strict</b>
<b>Class-2</b>	<b>strict</b>
<b>Class-3</b>	<b>strict</b>
<b>Class-4</b>	<b>strict</b>
<b>Class-5</b>	<b>strict</b>
<b>Class-6</b>	<b>strict</b>
<b>Class-7</b>	<b>strict</b>
<b>DGS-1210-28MP/ME:5#</b>	

## config bandwidth\_control

Purpose	To configure bandwidth control on the Switch.
Syntax	<b>config bandwidth control [&lt;portlist&gt;   all] {rx_rate [no_limit   &lt;value 63-1000000&gt;]   tx_rate [no_limit   &lt;value 63-1000000&gt;]}</b>
Description	The <b>config bandwidth_control</b> command defines bandwidth control.
Parameters	<p><i>portlist</i> - A port or range of ports to be configured.</p> <p><i>all</i> - Specifies that the <b>config bandwidth_control</b> command applies to all ports on the Switch.</p> <p><i>rx_rate</i> - Enables ingress rate limiting</p> <ul style="list-style-type: none"> <li><i>no_limit</i> – Indicates no limit is defined.</li> <li><i>&lt;value 63-1000000&gt;</i> – Indicates a range between 63-1000000 kbps.</li> </ul> <p><i>tx_rate</i> – Enables egress rate limiting.</p> <ul style="list-style-type: none"> <li><i>no_limit</i> – Indicates no limit is defined.</li> </ul>

	<ul style="list-style-type: none"> <li><code>&lt;value 63-1000000&gt;]</code> – Indicates a range between 63-1000000 kbps.</li> </ul>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure bandwidth control configuration:

```
DGS-1210-28MP/ME:5# config bandwidth_control all rx_rate no_limit tx_rate
no_limit
Command: config bandwidth_control all rx_rate no_limit tx_rate no_limit

Success

DGS-1210-28MP/ME:5#
```

## show bandwidth\_control

Purpose	To display bandwidth control settings on the Switch.
Syntax	<b>show bandwidth_control</b> {[ <code>&lt;portlist&gt;</code>   <code>all</code> ]}
Description	The <b>show bandwidth_control</b> command displays bandwidth control.
Parameters	<code>&lt;portlist&gt;</code> – A port or range of ports to be configured. <code>all</code> – Specifies that the <b>show bandwidth_control</b> command applies to all ports on the Switch.
Restrictions	None.

Example usage:

To display the bandwidth control configuration:

```
DGS-1210-28MP/ME:5# show bandwidth_control
Command: show bandwidth_control

Port  RX Rate   Tx Rate   Effective Rx   Effective Tx
      (Kbit/sec) (Kbit/sec) (Kbit/sec)   (Kbit/sec)
-----
-----

Total entries : 0
DGS-1210-28MP/ME:5#
```

## config per\_queue bandwidth\_control

Purpose	To configure bandwidth control on the Switch.
Syntax	<b>config per_queue bandwidth_control</b> ports [ <code>&lt;portlist&gt;</code>   <code>all</code> ] <code>&lt;cos_id_list&gt;</code> <code>min_rate</code> [ <code>no_limit</code>   <code>&lt;value (64-10240000)&gt;</code> ] <code>max_rate</code> [ <code>no_limit</code>   <code>&lt;value (64-10240000)&gt;</code> ]
Description	This command is used to set the bandwidth control for each specific egress queue on specified ports. The maximum rate limits the bandwidth. When specified, packets transmitted from the queue will not exceed the specified limit even if extra bandwidth is available. The class mapping referring to 802.1p user priority.

Parameters	<p><i>&lt;portlist&gt;</i> - A port or range of ports to be configured.</p> <p><i>all</i> – The command applies to all ports.</p> <p><i>&lt;cos_id_list&gt;</i> - Specify the Class-of-Service level. The range is from 0-7.</p> <p><i>min_rate</i> - Specify that one of the parameters below will be applied to the minimum rate that the class specified above will be allowed to transmit packets at</p> <p><i>no_limit</i> – Indicates no limit is defined.</p> <p><i>&lt;value 64-10240000&gt;</i> – Indicates a range between 64-10240000 kbps.</p> <p><i>max_rate</i> –Specify one of the parameters below will be applied to the maximum rate that the class specified above will be allowed to transmit packets at..</p> <p><i>no_limit</i> – Indicates no limit is defined.</p> <p><i>&lt;value 64-10240000&gt;</i> – Indicates a range between 64-10240000 kbps.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure per-queue bandwidth control configuration:

```
DGS-1210-28/ME:5# config per_queue bandwidth_control ports 1 0 min_rate 64
max_rate 6400
Command: config per_queue bandwidth_control ports 1 0 min_rate 64 max_rate
6400

Success.

DGS-1210-28/ME:5#
```

## show per\_queue bandwidth\_control

Purpose	This command is used to display the bandwidth control setting of per egress queue for each port..
Syntax	<b>show per_queue bandwidth_control ports &lt;portlist&gt;</b>
Description	This command is used to display the bandwidth control setting of per egress queue for each port.
Parameters	<i>&lt;portlist&gt;</i> - A port or range of ports to be configured.
Restrictions	None

Example usage:

To display per-queue bandwidth control configuration:

```
DGS-1210-28/ME:5# show per_queue bandwidth_control 1
Command: show per_queue bandwidth_control 1

Class Bandwidth Control Table On Port: 1
```

Class	MinRate (Kbit/sec)	MaxRate (Kbit/sec)
0	64	6400
1	6400	12800
2	no-limit	no-limit
3	no-limit	no-limit
4	no-limit	no-limit
5	no-limit	no-limit
6	no-limit	no-limit
7	no-limit	no-limit

DGS-1210-28/ME:5#

### config cos mac\_mapping

Purpose	To configure the CoS MAC mapping method.
Syntax	<b>config cos mac_mapping destination_addr &lt;macaddr&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos mac_mapping</b> command is used to configure the CoS MAC mapping method on the Switch.
Parameters	<macaddr> - Specifies the MAC address to be mapped. For example, 01:00:5E:00:00:00. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS mac mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos mac_mapping destination_addr 00-01-c2-11-22-33 class 2
Command: config cos mac_mapping destination_addr 00-01-c2-11-22-33 class 2

Success.

DGS-1210-28MP/ME:5#
```

### show cos mac\_mapping

Purpose	To display the CoS MAC mapping method.
Syntax	<b>show cos mac_mapping {destination_addr &lt;macaddr&gt;}</b>
Description	The <b>show cos mac_mapping</b> command is used to display the CoS MAC mapping method on the Switch.
Parameters	<macaddr> - Specifies the MAC address to be removed.
Restrictions	None.

Example usage:

To display the CoS mac mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos mac_mapping
Command: show cos mac_mapping

MAC ADDRESS          Class
-----
00-01-C2-11-22-33    2

DGS-1210-28MP/ME:5#
```

### delete cos mac\_mapping

Purpose	To remove the CoS MAC mapping method.
Syntax	<b>delete cos mac_mapping destination_addr &lt;macaddr&gt;</b>
Description	The <b>delete cos mac_mapping</b> command is used to delete the CoS MAC mapping method on the Switch.
Parameters	<macaddr> - Specifies the MAC address to be removed.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS mac mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos mac_mapping destination_addr 00-01-c2-11-22-33
Command: delete cos mac_mapping destination_addr 00-01-c2-11-22-33

Success.
DGS-1210-28MP/ME:5#
```

### config cos ip\_mapping

Purpose	To configure the CoS IP mapping method.
Syntax	<b>config cos ip_mapping destination_ip &lt;ipaddr&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos ip_mapping</b> command is used to configure the CoS IP mapping method on the Switch.
Parameters	<ipaddr> - Specifies the IP address to be mapped. For example, 10.90.90.99. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS IP mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos ip_mapping destination_ip 10.0.0.56 class 1
Command: config cos ip_mapping destination_ip 10.0.0.56 class 1
```

**Success.**

**DGS-1210-28MP/ME:5#**

## show cos ip\_mapping

Purpose	To display the CoS IP mapping method.
Syntax	<b>show cos ip_mapping {destination_ip &lt;ipaddr&gt;}</b>
Description	The <b>show cos ip_mapping</b> command is used to display the CoS MAC mapping method on the Switch.
Parameters	<ipaddr> - Specifies the IP address to be displayed. For example, 10.90.90.99.
Restrictions	None.

Example usage:

To display the CoS ip mapping on the Switch:

**DGS-1210-28MP/ME:5# show cos ip\_mapping**

**Command: show cos ip\_mapping**

IP ADDRESS	Class
-----	
10.0.0.56	1

**DGS-1210-28MP/ME:5#**

## delete cos ip\_mapping

Purpose	To remove the CoS IP mapping method.
Syntax	<b>delete cos ip_mapping destination_ip &lt;ipaddr&gt;</b>
Description	The <b>delete cos ip_mapping</b> command is used to delete the CoS IP mapping method on the Switch.
Parameters	<ipaddr> - Specifies the IP address to be removed.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS ip mapping on the Switch:

**DGS-1210-28MP/ME:5# delete cos ip\_mapping destination\_ip 10.0.0.56**

**Command: delete cos ip\_mapping destination\_ip 10.0.0.56**

**Success.**

**DGS-1210-28MP/ME:5#**

**config cos ipv6\_mapping**

Purpose	To configure the CoS IPv6 mapping method.
Syntax	<b>config cos ipv6_mapping destination_ipv6 &lt;ipv6addr&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos ipv6_mapping</b> command is used to configure the CoS IPv6 mapping method on the Switch.
Parameters	<ipv6addr> - Specifies the IPv6 address to be mapped. For example, 3000::1. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS IPv6 mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos ipv6_mapping destination_ipv6 3000::1 class 1
Command: config cos ipv6_mapping destination_ipv6 3000::1 class 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**show cos ipv6\_mapping**

Purpose	To display the CoS IPv6 mapping method.
Syntax	<b>show cos ipv6_mapping {destination_ipv6 &lt;ipv6addr&gt;}</b>
Description	The <b>show cos ipv6_mapping</b> command is used to display the CoS MAC mapping method on the Switch.
Parameters	<ipv6addr> - Specifies the IPv6 address to be displayed. For example, 3000::1.
Restrictions	None.

Example usage:

To display the CoS ipv6 mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos ipv6_mapping destination_ipv6 3000::1
Command: show cos ipv6_mapping destination_ipv6 3000::1
```

IPv6 ADDRESS	Class
3000::1	1

```
DGS-1210-28MP/ME:5#
```

**delete cos ipv6\_mapping**

Purpose	To remove the CoS IPv6 mapping method.
Syntax	<b>delete cos ipv6_mapping destination_ipv6 &lt;ipv6addr&gt;</b>

Description	The <b>delete cos ipv6_mapping</b> command is used to delete the CoS IPv6 mapping method on the Switch.
Parameters	<i>&lt;ipv6addr&gt;</i> - Specifies the IPv6 address to be removed.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS ipv6 mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos ipv6_mapping destination_ipv6 3000::1
Command: delete cos ipv6_mapping destination_ipv6 3000::1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config cos ipv6\_tc\_mapping

Purpose	To configure the CoS IPv6 TC mapping method.
Syntax	<b>config cos ipv6_tc_mapping trafficclass &lt;class_id 0-255&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos ipv6_tc_mapping</b> command is used to configure the CoS IPv6 mapping method on the Switch.
Parameters	<i>trafficclass &lt;class_id 0-255&gt;&gt;</i> - Specifies the IPv6 traffic class to be mapped. The range is 0 to 255. <i>&lt;class_id 0-7&gt;</i> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS IPv6 TC mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos ipv6_tc_mapping trafficclass 1 class 2
Command: config cos ipv6_tc_mapping trafficclass 1 class 2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### delete cos ipv6\_tc\_mapping

Purpose	To remove the CoS IPv6 mapping method.
Syntax	<b>delete cos ipv6_tc_mapping trafficclass &lt;class_id 0-255&gt;</b>
Description	The <b>delete cos ipv6_tc_mapping</b> command is used to delete the CoS IPv6 TC mapping method on the Switch.
Parameters	<i>trafficclass &lt;class_id 0-255&gt;&gt;</i> - Specifies the IPv6 TC mapping traffic class to be removed.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS ipv6 TC mapping on the Switch:



```
DGS-1210-28MP/ME:5# delete cos ipv6_tc_mapping trafficclass 1
Command: delete cos ipv6_tc_mapping trafficclass 1
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show cos ipv6\_tc\_mapping

Purpose	To display the CoS IPv6 mapping method.
Syntax	<b>show cos ipv6_tc_mapping {trafficclass &lt;class_id 0-255&gt;}</b>
Description	The <b>show cos ipv6_tc_mapping</b> command is used to delete the CoS IPv6 TC mapping method on the Switch.
Parameters	<i>trafficclass &lt;class_id 0-255&gt;</i> - Specifies the IPv6 TC mapping traffic class to be removed.
Restrictions	None.

Example usage:

To display the CoS ipv6 TC mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos ipv6_tc_mapping trafficclass 10
Command: show cos ipv6_tc_mapping trafficclass 10
```

```
IPv6 Traffic TC      Class
-----
```

```
DGS-1210-28MP/ME:5#
```

## config cos mapping

Purpose	To configure the method of which incoming packets will be identified for the CoS to port mapping feature.
Syntax	<b>config cos mapping port [&lt;portlist&gt;   all] [802.1p   dscp_tos   none]</b>
Description	The <b>config cos mapping port</b> command is used to configure the method of which incoming packets will be identified for the CoS to port mapping feature on the Switch.
Parameters	<i>&lt;portlist&gt;</i> - A port or range of ports to be configured. <i>all</i> - Specifies all ports to be configured on the Switch. <i>[802.1p   dscp   none]</i> – Specified which incoming packets will be identified for the CoS.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos mapping port all 802.1p
Command: config cos mapping port all 802.1p
```

**Success.**

**DGS-1210-28MP/ME:5#**

## show cos mapping

Purpose	To display the information regarding CoS mapping enabled ports and their mapping method.
Syntax	<b>show cos mapping {port &lt;portlist&gt;}</b>
Description	The <b>show cos mapping</b> command displays the information regarding CoS mapping enabled ports and their mapping method.
Parameters	<portlist> - A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To display the CoS mapping on the Switch:

**DGS-1210-28MP/ME:5# show cos mapping port 1-5**

**Command: show cos mapping port 1-5**

Port	Ethernet_Priority	IP_Priority
1	802.1p	DSCP
2	802.1p	DSCP
3	802.1p	DSCP
4	802.1p	DSCP
5	802.1p	DSCP

**DGS-1210-28MP/ME:5#**

## config cos protocol\_mapping

Purpose	To configure the CoS protocol mapping method on the Switch.
Syntax	<b>config cos protocol_mapping protocol &lt;ip_protocol 1-255&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos protocol_mapping</b> command is used to configure the CoS protocol mapping method on the Switch.
Parameters	<ip_protocol 1-255> - Specifies the protocol IP to be mapped. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS mapping on the Switch:

**DGS-1210-28MP/ME:5# config cos protocol\_mapping protocol 10 class 1**

**Command: config cos protocol\_mapping protocol 10 class 1**

**Success.**  
**DGS-1210-28MP/ME:5#**

## show cos protocol\_mapping

Purpose	To display the CoS protocol mapping information between an incoming packet's 802.1p priority value.
Syntax	<b>show cos protocol_mapping {protocol &lt;ip_protocol 1-255&gt;}</b>
Description	The <b>show cos protocol_mapping</b> command is used to display the CoS protocol mapping information between an incoming packet's 802.1p priority value.
Parameters	<ip_protocol 1-255> - Specifies the mapped protocol IP to be displayed.
Restrictions	None.

Example usage:

To display the CoS protocol mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos protocol_mapping
Command: show cos protocol_mapping
```

IP Protocol	Class
-----	
10	1

```
DGS-1210-28MP/ME:5#
```

## delete cos protocol\_mapping

Purpose	To delete the CoS protocol mapping between an incoming packet's 802.1p priority value.
Syntax	<b>delete cos protocol_mapping protocol &lt;ip_protocol 1-255&gt;</b>
Description	The <b>delete cos protocol_mapping</b> command is used to delete the CoS protocol mapping between an incoming packet's 802.1p priority value.
Parameters	<ip_protocol 1-255> - Specifies the mapped protocol IP to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS protocol mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos protocol_mapping protocol 10
Command: delete cos protocol_mapping protocol 10
```

```
Success.
DGS-1210-28MP/ME:5#
```

**config cos vlanid\_mapping**

Purpose	To configure the CoS VLAN id mapping method on the Switch.
Syntax	<b>config cos vlanid_mapping vid &lt;vlanid 1-4094&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos vlanid_mapping</b> command is used to configure the CoS VLAN id mapping method on the Switch.
Parameters	<vlanid 1-4094> - Specifies the vlan id to be mapped. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure a CoS VLAN id mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos vlanid_mapping vid 100 class 2
Command: config cos vlanid_mapping vid 100 class 2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**show cos vlanid\_mapping**

Purpose	To display the CoS VLAN id mapping information between an incoming packet's 802.1p priority value.
Syntax	<b>show cos vlanid_mapping {vid &lt;vlanid 1-4094&gt;}</b>
Description	The <b>show cos vlanid_mapping</b> command is used to display the CoS VLAN id mapping information between an incoming packet's 802.1p priority value.
Parameters	<vlanid 1-4094> - Specifies the mapped vlan id information to be displayed.
Restrictions	None.

Example usage:

To display the CoS VLAN id mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos vlanid_mapping
Command: show cos vlanid_mapping
```

```

VLAN ID          Class
-----
100                2

```

```
DGS-1210-28MP/ME:5#
```

**delete cos vlanid\_mapping**

Purpose	To delete the mapping between an incoming packet's 802.1p priority
---------	--

	value.
Syntax	<b>delete cos vlanid_mapping vid &lt;vlanid 1-4094&gt;</b>
Description	The <b>delete cos vlanid_mapping</b> command is used to delete the mapping between an incoming packet's 802.1p priority value.
Parameters	<vlanid 1-4094> - Specifies the mapped vlan id information to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To deleted the CoS VLAN id mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos vlanid_mapping vid 100
Command: delete cos vlanid_mapping vid 100

Success.
DGS-1210-28MP/ME:5#
```

## config cos tos value

Purpose	To configure the CoS tos on the Switch.
Syntax	<b>config cos tos value &lt;value 0-7&gt; class &lt;priority_id 0-7&gt;</b>
Description	The <b>config cos tos value</b> command is used to configure the CoS tos on the Switch.
Parameters	<value 0-7> - Specifies the value of the Switch's tos queue. <priority 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure a CoS tos on the Switch:

```
DGS-1210-28MP/ME:5# config cos tos value 1 class 1
Command: config cos tos value 1 class 1

Success.
DGS-1210-28MP/ME:5#
```

## show cos tos

Purpose	To display the CoS tos mapping information between an incoming packet's 802.1p priority value.
Syntax	<b>show cos tos {value &lt;value 0-7&gt;}</b>
Description	The <b>show cos tos</b> command is used to display the CoS tos mapping information.
Parameters	<value 0-7> - Specifies the value of the Switch's tos queue.
Restrictions	None.

Example usage:

To display the CoS tos mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos tos
Command: show cos tos

TOS  Class
-----
0    0
1    1
2    0
3    0
4    0
5    0
6    0
7    0

DGS-1210-28MP/ME:5#
```

### config cos tcp\_port\_mapping

Purpose	To configure the CoS TCP port mapping on the Switch.
Syntax	<b>config cos tcp_port_mapping destination_port &lt;value 0-65535&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos tcp_port_mapping</b> command is used to configure the CoS TCP port mapping on the Switch.
Parameters	<value 0-65535> - Specifies the tcp port number to be mapped. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS TCP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos tcp_port_mapping destination_port 500 class 1
Command: config cos tcp_port_mapping destination_port 500 class 1

Success.

DGS-1210-28MP/ME:5#
```

### show cos tcp\_port\_mapping

Purpose	To displays the CoS TCP port mapping information on the Switch.
Syntax	<b>show cos tcp_port_mapping {destination_port &lt;value 0-65535&gt;}</b>
Description	The <b>show cos tcp_port_mapping</b> command is used to display the CoS TCP port mapping information on the Switch.
Parameters	<value 0-65535> - Specifies the mapped tcp port information to be

	displayed.
Restrictions	None.

Example usage:

To display the CoS TCP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos tcp_port_mapping
Command: show cos tcp_port_mapping

TCP Port      Class
-----
500           1

DGS-1210-28MP/ME:5#
```

### delete cos tcp\_port\_mapping

Purpose	To delete the CoS TCP port mapping information on the Switch.
Syntax	<b>delete cos tcp_port_mapping destination_port &lt;value 0-65535&gt;</b>
Description	The <b>delete cos tcp_port_mapping</b> command is used to delete the CoS TCP port mapping information on the Switch.
Parameters	<value 0-65535> - Specifies the mapped tcp port information to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS TCP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos tcp_port_mapping destination_port 500
Command: delete cos tcp_port_mapping destination_port 500

Success.

DGS-1210-28MP/ME:5#
```

### config cos udp\_port\_mapping

Purpose	To configure the CoS UDP port mapping on the Switch.
Syntax	<b>config cos udp_port_mapping destination_port &lt;value 0-65535&gt; class &lt;class_id 0-7&gt;</b>
Description	The <b>config cos udp_port_mapping</b> command is used to configure the CoS UDP port mapping on the Switch.
Parameters	<value 0-65535> - Specifies the udp port number to be mapped. <class_id 0-7> - Specifies the number of the Switch's hardware priority queue.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the CoS UDP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# config cos udp_port_mapping Ddestination_port 500 class 2
Command: config cos udp_port_mapping destination_port 500 class 2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show cos udp\_port\_mapping

Purpose	To displays the CoS UDP port mapping information on the Switch.
Syntax	<b>show cos udp_port_mapping {destination_port &lt;value 0-65535&gt;}</b>
Description	The <b>show cos udp_port_mapping</b> command is used to display the CoS UDP port mapping information on the Switch.
Parameters	<value 0-65535> - Specifies the mapped udp port information to be displayed.
Restrictions	None.

Example usage:

To display the CoS UDP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# show cos udp_port_mapping
Command: show cos udp_port_mapping
```

```
UDP Port      Class
-----
500           2
```

```
DGS-1210-28MP/ME:5#
```

## delete cos udp\_port\_mapping

Purpose	To delete the CoS UDP port mapping information on the Switch.
Syntax	<b>delete cos udp_port_mapping destination_port &lt;value 0-65535&gt;</b>
Description	The <b>delete udp tcp_port_mapping</b> command is used to delete the CoS TCP port mapping information on the Switch.
Parameters	<value 0-65535> - Specifies the mapped udp port information to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the CoS UDP port mapping on the Switch:

```
DGS-1210-28MP/ME:5# delete cos udp_port_mapping destination_port 500
Command: delete cos udp_port_mapping destination_port 500
```



**Success.**  
**DGS-1210-28MP/ME:5#**

## config 802.1p user\_priority

Purpose	To map the 802.1p user priority of an incoming packet to one of the four hardware classes of service available on the Switch.																											
Syntax	<b>config 802.1p user_priority &lt;priority 0-7&gt; &lt;class_id 0-7&gt;</b>																											
Description	The <b>config 802.1p user_priority</b> command configures the way the Switch maps an incoming packet, based on its 802.1p user priority tag, to one of the four hardware priority classes of service available on the Switch. The Switch's default is to map the incoming 802.1p priority values to the four hardware classes of service according to the following chart: <table border="1" data-bbox="550 716 1364 1097"> <thead> <tr> <th>802.1p value</th> <th>Switch Priority Queue</th> <th>Switch Priority Queue(stack)</th> </tr> </thead> <tbody> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>2</td><td>0</td><td>0</td></tr> <tr><td>3</td><td>1</td><td>0</td></tr> <tr><td>4</td><td>2</td><td>1</td></tr> <tr><td>5</td><td>2</td><td>1</td></tr> <tr><td>6</td><td>3</td><td>2</td></tr> <tr><td>7</td><td>3</td><td>2</td></tr> </tbody> </table>	802.1p value	Switch Priority Queue	Switch Priority Queue(stack)	0	1	0	1	0	0	2	0	0	3	1	0	4	2	1	5	2	1	6	3	2	7	3	2
802.1p value	Switch Priority Queue	Switch Priority Queue(stack)																										
0	1	0																										
1	0	0																										
2	0	0																										
3	1	0																										
4	2	1																										
5	2	1																										
6	3	2																										
7	3	2																										
Parameters	<i>&lt;priority 0-7&gt;</i> – The 802.1p priority value (0 to 7) to map to one of the Switch's four hardware priority classes of service. <i>&lt;class_id 0-7&gt;</i> – The Switch's hardware priority class of service (0 to 7) to map to the 802.1p priority value specified above.																											
Restrictions	Only administrator or operator level users can issue this command.																											

Example usage:

To configure 802.1p user priority on the Switch:

**DGS-1210-28MP/ME:5# config 802.1p user\_priority 2 0**

**Command: config 802.1p user\_priority 2 0**

**Success.**  
**DGS-1210-28MP/ME:5#**

## show 802.1p user\_priority

Purpose	To display the current mapping between an incoming packet's 802.1p priority value and one of the Switch's eight hardware priority classes of service.
Syntax	<b>show 802.1p user_priority</b>
Description	The <b>show 802.1p user_priority</b> command displays the current mapping of an incoming packet's 802.1p priority value to one of the Switch's four hardware priority queues.
Parameters	None.

Restrictions	None.
--------------	-------

Example usage:

To show 802.1p user priority:

```
DGS-1210-28/ME:5# show 802.1p user_priority
```

```
Command: show 802.1p user_priority
```

```
DGS-1210-28/ME:5# show 802.1p user_priority
```

```
Command: show 802.1p user_priority
```

#### QOS Class of Traffic

```
Priority-0 -> <Class-2>
```

```
Priority-1 -> <Class-0>
```

```
Priority-2 -> <Class-1>
```

```
Priority-3 -> <Class-3>
```

```
Priority-4 -> <Class-4>
```

```
Priority-5 -> <Class-5>
```

```
Priority-6 -> <Class-6>
```

```
Priority-7 -> <Class-7>
```

```
DGS-1210-28/ME:5#
```

### config 802.1p default\_priority

Purpose	To assign an 802.1p priority tag to an incoming untagged packet that has no 802.1p priority tag.
Syntax	<b>config 802.1p default_priority</b> [<portlist>   all] <priority 0-7>
Description	The <b>config 802.1p default_priority</b> command specifies the 802.1p priority value an untagged, incoming packet is assigned before being forwarded to its destination.
Parameters	<p>&lt;portlist&gt; – A port or range of ports to be configured.</p> <p>all – Specifies that the config 802.1p default_priority command applies to all ports on the Switch.</p> <p>&lt;priority 0-7&gt; – The 802.1p priority value that an untagged, incoming packet is granted before being forwarded to its destination.</p>
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To configure 802.1p default priority on the Switch:

```
DGS-1210-28MP/ME:5# config 802.1p default_priority all 4
```

```
Command: config 802.1p default_priority all 4
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**show 802.1p default\_priority**

Purpose	To display the currently configured 802.1p priority value that is assigned to an incoming, untagged packet before being forwarded to its destination.
Syntax	<b>show 802.1p default_priority</b> {<portlist>}
Description	The <b>show 802.1p default_priority</b> command displays the currently configured 802.1p priority value that is assigned to an incoming, untagged packet before being forwarded to its destination.
Parameters	<portlist> – A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To display the current port 1-5 802.1p default priority configuration on the Switch:

```
DGS-1210-28MP/ME:5# show 802.1p default_priority 1-5
Command: show 802.1p default_priority 1-5
```

Port	Default Priority	Effective Priority
1	0	4
2	0	4
3	0	4
4	0	4
5	0	4

```
DGS-1210-28MP/ME:5#
```

**config scheduling\_mechanism**

Purpose	To configure the scheduling mechanism for the QoS function.
Syntax	<b>config scheduling_mechanism</b> [strict   wrr   1st7wrr   2st6wrr]
Description	<p>The <b>config scheduling_mechanism</b> command configures the scheduling mechanism for the QoS function. It allows the user to select between a round robin (WRR) and a strict mechanism for emptying the priority classes of service of the QoS function. The Switch contains four hardware priority classes of service. Incoming packets must be mapped to one of these four hardware priority classes of service, or queues. This command is used to specify the rotation by which these four hardware priority queues are emptied.</p> <p>The Switch's default is to empty the four hardware priority queues in order – from the highest priority hardware queue (class 7) to the lowest priority hardware queue (class 0). Each queue will transmit all of the packets in its buffer before allowing the next lower priority queue to transmit its packets. A lower priority hardware queue will be pre-empted from emptying its queue if a packet is received on a higher priority hardware queue. The packet received on the higher priority hardware queue transmits its packet before allowing the lower priority hardware queue to resume clearing its queue.</p>
Parameters	<i>strict</i> – Specifies that the highest class of service is the first to be processed. That is, the highest class of service should finish emptying before the others begin.

	<p><i>wrr</i> – Specifies that the priority classes of service are to empty packets in a weighted roundrobin (WRR) order.</p> <p><i>1st7wrr</i> – Specifies that the highest priority queue of service to be a strict mechanism and be the first to be processed. Others will be the round robin (WRR) mode.</p> <p><i>2st6wrr</i> – Specifies that the first and second highest priority queue of service to be strict mechanism, others will be the round robin (WRR) mode.</p>
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To configure the traffic scheduling mechanism for each COS queue:

<b>DGS-1210-28MP/ME:5# config scheduling_mechanism strict</b>
<b>Command: config scheduling_mechanism strict</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>show scheduling_mechanism</b>	
Purpose	To display the current traffic scheduling mechanisms in use on the Switch.
Syntax	<b>show scheduling_mechanism</b>
Description	The <b>show scheduling_mechanism</b> command displays the current traffic scheduling mechanisms in use on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To show the scheduling mechanism:

<b>DGS-1210-28MP/ME:5# show scheduling_mechanism</b>
<b>Command: show scheduling_mechanism</b>
<b>QOS Scheduling_mechanism</b>
<b>scheduling_mechanism : Strict Priority</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>config [dscp   tos] mode</b>	
Purpose	To enable setting the DSCP or ToS mode on the Switch.
Syntax	<b>config [dscp   tos] mode</b>
Description	The <b>config [dscp   tos] mode</b> command enables the DSCP or ToS mode on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To enable the DSCP mode:

```
DGS-1210-28MP/ME:5# config dscp mode
Command: config dscp mode

DSCP mode success.

Success.

DGS-1210-28MP/ME:5#
```

## config dscp\_mapping

Purpose	To enable setting the DSCP User Priority.
Syntax	<b>config dscp_mapping dscp_value &lt;value 0-63&gt; class &lt;priority 0-7&gt;</b>
Description	The <b>config dscp_mapping</b> command enables mapping the DSCP value (the priority) to a specific queue (the class_id).
Parameters	<value 0-63> –The selected value of priority. The value may be between 0 and 63. <priority 0-7> – The class_id (queue) mapped to the priority. The value may be between 0 and 7.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the DSCP mapping with value 10 and class 1:

```
DGS-1210-28MP/ME:5# config dscp_mapping dscp_value 10 class 1
Command: config dscp_mapping dscp_value 10 class 1

Success.

DGS-1210-28MP/ME:5#
```

## show dscp\_mapping

Purpose	To display the setting of DSCP mapping.
Syntax	<b>show dscp_mapping {dscp_value &lt;value 0-63&gt;}</b>
Description	The <b>show dscp_mapping</b> command displays the mapping of DSCP value.
Parameters	<i>dscp_value</i> <value 0-63> - The selected value of priority will be displayed. The value may be between 0 and 63.
Restrictions	None.

Example usage:

To display the DSCP mapping with value 10:

```
DGS-1210-28MP/ME:5# show dscp_mapping dscp_value 10
Command: show dscp_mapping dscp_value 10
```

**DSCP Priority**

-----  
**10      1**

**DGS-1210-28MP/ME:5#****enable hol\_prevention**

Purpose	To enable head of line prevention on the Switch.
Syntax	<b>enable hol_prevention</b>
Description	The <b>enable hol_prevention</b> command is used to enable head of line prevention on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable HOL prevention on the Switch:

```
DGS-1210-28MP/ME:5# enable hol_prevention
Command: enable hol_prevention
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**disable hol\_prevention**

Purpose	To disable head of line prevention on the Switch.
Syntax	<b>disable hol_prevention</b>
Description	The <b>disable hol_prevention</b> command is used to disable head of line prevention on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable HOL prevention on the Switch:

```
DGS-1210-28MP/ME:5# disable hol_prevention
Command: disable hol_prevention
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**show hol\_prevention**

Purpose	To display head of line prevention state on the Switch.
Syntax	<b>show hol_prevention</b>
Description	The <b>show hol_prevention</b> command is used to display head of line prevention state on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display HOL prevention on the Switch:

```
DGS-1210-28MP/ME:5# show hol_prevention
Command: show hol_prevention

Device HOL Prevention State: Enabled.

Success.

DGS-1210-28MP/ME:5#
```

**config mgmt\_pkt\_priority**

Purpose	To configure the priority for the packet toward Switch.
Syntax	<b>config mgmt_pkt_priority [default   &lt;priority (0-7)&gt;}</b>
Description	The packets, for example: ICMP report, IGMP request, BPDU, LLDPDU, etc., are all considered as management packets. This feature allow user to configure the priority of these types of packets for switch internal process.
Parameters	<i>default</i> – The default value of priority. The value is 7. <priority (0-7)> - Speify the priority of management packets. The value is 0-7.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the priotiy of management packets to 0:

```
DGS-1210-28/ME:5# config mgmt_pkt_priority 0
Command: config mgmt_pkt_priority 0

Success.
DGS-1210-28/ME:5#
```

**show mgmt\_pkt\_priority**

Purpose	To display the priority configuration of management packets.
---------	--

Syntax	<b>config mgmt_pkt_priority [default   &lt;priority (0-7)&gt;}</b>
Description	To display the priority configuration of management packets.
Parameters	None
Restrictions	None

Example usage:

To display the priority configuration of management packets 0:

```
DGS-1210-28/ME:5# show mgmt_pkt_priority  
Command: show mgmt_pkt_priority  
  
Management Packet Priority:0  
DGS-1210-28/ME:5#
```



## REBOOT SCHEDULE COMMANDS

The Reboot Schedule commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config reboot schedule	[in <value1-43200>   at <string 16> date <string 16>] {save_before_reboot [yes   no]}
show reboot schedule	
delete reboot schedule	

Each command is listed in detail, as follows:

config reboot schedule	
Purpose	Used to configure reboot time and save parameters for the reboot schedule on the Switch. There are three parameters setting here. Users can configure the reboot time in two ways. The first way is to configure the reboot after a specific interval time and the other way is to configure the reboot at a specific date and time. The third parameter determines whether to save the configuration or not before the reboot. The reboot schedule won't be saved to the configuration file. After a reboot or shutdown, the reboot schedule will be deleted automatically. Even when the system is saved by using the <b>save</b> command, the configuration of the reboot schedule also won't be saved.
Syntax	<b>config reboot schedule [in &lt;value1-43200&gt;   at &lt;string 16&gt; date &lt;string 16&gt;] {save_before_reboot [yes   no]}</b>
Description	The <b>config reboot schedule</b> command is used to configure reboot time and save parameters for the reboot schedule on the Switch.
Parameters	<i>in &lt;value 1-43200&gt;</i> - Specify that the reboot will start after this time interval has passed. Enter the time value, and this value must be between 1 and 43200 minutes. <i>at</i> – Specify that the reboot will take place on the specified time and date. If the date is not specified, the reboot takes place at the specified time on the current day if the specified time is later than the current time or on the next day if the specified time is earlier than the current time. <ul style="list-style-type: none"> <li>• <i>&lt;string 16&gt;</i> - Enter the time with format hh:mm.</li> <li>• <i>date &lt;string 16&gt;</i> - Enter the date with format ddmthyyy.</li> </ul> <i>save_before_reboot [yes   no]</i> – Specify that the device will first save all configurations before initiating the reboot.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To reboot the device after 10 minutes and not to save the configuration before doing so:

```
DGS-1210-28MP/ME:5# config reboot schedule in 10 save_before_reboot no
Command: config reboot schedule in 10 save_before_reboot no
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

To reboot the device at 7 July 2016 23:00 and save all configurations before rebooting:

```
DGS-1210-28MP/ME:5# config reboot schedule at 23:00 date 07jul2016
save_before_reboot yes
```

```
Command: config reboot schedule at 23:00 date 07jul2016 save_before_reboot yes
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show reboot schedule

Purpose	Used to display the reboot schedule status.
Syntax	<b>show reboot schedule</b>
Description	The <b>show reboot schedule</b> command is used to display the reboot schedule status.
Parameters	None.
Restrictions	None.

Example usage:

To display the reboot schedule status:

```
DGS-1210-28MP/ME:5# show reboot schedule
```

```
Command: show reboot schedule
```

```
Reboot Schedule Settings
```

```
-----
```

```
Reboot Schedule at 7 JUL 2016 22:59:00 (in 3201 minutes)
```

```
Save before reboot: YES
```

```
DGS-1210-28MP/ME:5#
```

## delete reboot schedule

Purpose	Used to delete the reboot schedule.
Syntax	<b>delete reboot schedule</b>
Description	The <b>delete reboot schedule</b> command is used to delete the reboot schedule.

Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete the reboot schedule:

```
DGS-1210-28MP/ME:5# delete reboot schedule
```

```
Command: delete reboot schedule
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## RMON COMMANDS

The RMON commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable rmon	
disable rmon	
create rmon alarm	<alarm_index 1-65535> <OID_variable 255> <interval 1-2147482647> [absolute   delta] rising-threshold <value 0-2147483647> <rising_event_index 1-65535> falling-threshold <value 0-2147483647> <falling_event_index 1-65535> {{owner <owner_string 32>}}
delete rmon alarm	<alarm_index 1-65535>
show rmon alarm	{events   history {<hist_index 1-65535>   overview}}
create rmon collection stats	<stats_index 1-65535> port <ifindex> owner <owner_string 32>
delete rmon collection stats	<stats_index 1-65535>
create rmon collection history	<hist_index 1-65535> port <ifindex> {buckets <buckets_req 1-50> interval <interval 1-3600> owner <owner_string 32>}
delete rmon collection history	<hist_index 1-65535>
create rmon event	<event_index 1-65535> description <DGSc_string 128> {[log   owner <owner_string 32>   trap <community_string 32>]}
delete rmon event	<event_index 1-65535>
show rmon	{event   history {<hist_index 1-65535>   overview}}
show rmon statistics	{<stats_index 1-65535>}

Each command is listed in detail, as follows:

enable rmon	
Purpose	To enable remote monitoring (RMON) status for the SNMP function.
Syntax	<b>enable rmon</b>
Description	The <b>enable rmon</b> command enables remote monitoring (RMON) status for the SNMP function on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the RMON feature on the Switch:

**DGS-1210-28MP/ME:5# enable rmon**

**Command: enable rmon**

**Success.**

**DGS-1210-28MP/ME:5#**

## disable rmon

Purpose	To disable remote monitoring (RMON) status for the SNMP function.
Syntax	<b>disable rmon</b>
Description	The <b>disable rmon</b> command disables remote monitoring (RMON) status for the SNMP function on the Switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the RMON feature on the Switch:

**DGS-1210-28MP/ME:5# disable rmon**

**Command: disable rmon**

**Success.**

**DGS-1210-28MP/ME:5#**

## create rmon alarm

Purpose	To allow the user to configure the network alarms. Network alarms occur when a network problem, or event, is detected.
Syntax	<b>create rmon alarm &lt;alarm_index 1-65535&gt; &lt;OID_variable 255&gt; &lt;interval 1-2147482647&gt; [absolute   delta] rising-threshold &lt;value 0-2147483647&gt; &lt;rising_event_index 1-65535&gt; falling-threshold &lt;value 0-2147483647&gt; &lt;falling_event_index 1-65535&gt; {[owner &lt;owner_string 32&gt;]}</b>
Description	The <b>create rmon alarm</b> command allows the user to configure the network alarms. Network alarms occur when a network problem, or event, is detected.
Parameters	<p><i>&lt;alarm_index&gt;</i> – Specifies the alarm number.</p> <p><i>&lt;OID_variable 255&gt;</i> – Specifies the MIB variable value.</p> <p><i>&lt;interval 1-2147482647&gt;</i> – Specifies the alarm interval time in seconds.</p> <p><i>[absolute   delta]</i> – Specifies the sampling method for the selected variable and comparing the value against the thresholds. The possible values are absolute and delta:</p> <ul style="list-style-type: none"> <li>• <i>absolute</i> –Compares the values directly with the thresholds at the end of the sampling interval.</li> <li>• <i>delta</i> –Subtracts the last sampled value from the current value. The difference in the values is compared to the</li> </ul>

	<p>threshold.</p> <p><i>rising-threshold</i> &lt;value 0-2147483647&gt; – Specifies the rising counter value that triggers the rising threshold alarm.</p> <p>&lt;<i>rising_event_index</i> 1-65535&gt; – Specifies the event that triggers the specific alarm.</p> <p><i>falling-threshold</i> &lt;value 0-2147483647&gt; – Specifies the falling counter value that triggers the falling threshold alarm.</p> <p>&lt;<i>falling_event_index</i> 1-65535&gt; – Specifies the event that triggers the specific alarm. The possible field values are user defined RMON events.</p> <p><i>owner</i> &lt;<i>owner_string</i> 32&gt; – Specifies the device or user that defined the alarm.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a RMON alarm on the Switch:

```
DGS-1210-28MP/ME:5# create rmon alarm 20 1 absolute rising-threshold 200 2
falling-threshold 100 1 owner dlink
Command: create rmon alarm 20 1 absolute rising-threshold 200 2 falling-threshold
100 1 owner dlink

Success.
DGS-1210-28MP/ME:5#
```

## delete rmon alarm

Purpose	To remove the network alarms.
Syntax	<b>delete rmon alarm &lt;alarm_index 1-65535&gt;</b>
Description	The <b>delete rmon alarm</b> command removes the network alarms.
Parameters	< <i>alarm_index</i> 1-65535> – Specifies the alarm number to be removed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a RMON alarm on the Switch:

```
DGS-1210-28MP/ME:5# delete rmon alarm 100
Command: delete rmon alarm 100

Success.
DGS-1210-28MP/ME:5#
```

## show rmon alarm

Purpose	To display remote monitoring (RMON) alarm status for the SNMP function.
Syntax	<b>show rmon alarm {events   history {&lt;hist_index 1-65535&gt;   overview}}</b>

Description	The <b>show rmon alarm</b> command displays remote monitoring (RMON) alarm status for the SNMP function on the Switch.
Parameters	<i>event</i> – Specifies the event of RMON alarm to be displayed. <i>history {&lt;hist_index 1-65535&gt;   overview}</i> – Specifies the history of RMON alarm to be displayed. Specifies the history index or overview of RMON alarm.
Restrictions	None.

Example usage:

To display the RMON alarm feature on the Switch:

```
DGS-1210-28MP/ME:5# show rmon alarms events history overview
Command: show rmon alarms events history overview

RMON is enabled
Alarm table is empty
Event table is empty
History Ether table is empty

Success.
DGS-1210-28MP/ME:5#
```

### create rmon collection stats

Purpose	To allow user to configure the rmon stats settings on the Switch.
Syntax	<b>create rmon collection stats &lt;stats_index 1-65535&gt; port &lt;ifindex&gt; owner &lt;owner_string 32&gt;</b>
Description	The <b>create rmon collection stats</b> command allows user to configure the rmon stats settings on the Switch.
Parameters	<i>&lt;stats_index 1-65535&gt;</i> – Specifies the stats number. <i>port &lt;ifindex&gt;</i> – Specifies the port from which the RMON information was taken. <i>owner &lt;owner_string 32&gt;</i> – Specifies the device or user that defined the stats.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a RMON collection stats on the Switch:

```
DGS-1210-28MP/ME:5# create rmon collection stats 100 port 2 owner dlink
Command: create rmon collection stats 100 port 2 owner dlink

Success.
DGS-1210-28MP/ME:5#
```

**delete rmon collection stats**

Purpose	To remove the network collection stats.
Syntax	<b>delete rmon collection stats &lt;stats_index 1-65535&gt;</b>
Description	The <b>delete rmon collection stats</b> command removes the network collection stats on the Switch.
Parameters	<stats_index 1-65535> – Specifies the stats number to be removed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a RMON collection stats on the Switch:

```
DGS-1210-28MP/ME:5# delete rmon collection stats 2
```

```
Command: delete rmon collection stats 2
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**create rmon collection history**

Purpose	To allow user to configure the rmon history settings on the Switch.
Syntax	<b>create rmon collection history &lt;hist_index 1-65535&gt; port &lt;ifindex&gt; {buckets &lt;buckets_req 1-50&gt; interval &lt;interval 1-3600&gt; owner &lt;owner_string 32&gt;}</b>
Description	The <b>create rmon collection history</b> command allows user to configure the rmon history settings on the Switch.
Parameters	<hist_index 1-65535> – Indicates the history control entry number. port <ifindex> – Specifies the port from which the RMON information was taken. buckets <buckets_req 1-50> – Specifies the number of buckets that the device saves. interval <interval 1-3600> – Specifies in seconds the time period that samplings are taken from the ports. The field range is 1-3600. The default is 1800 seconds (equal to 30 minutes). owner <owner_string 32> – Specifies the RMON station or user that requested the RMON information.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a RMON collection history on the Switch:

```
DGS-1210-28MP/ME:5# create rmon collection history 120 port 2 buckets 25
```

```
Command: create rmon collection history 120 port 2 buckets 25
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```



## delete rmon collection history

Purpose	To remove the network collection history.
Syntax	<b>delete rmon collection history &lt;hist_index 1-65535&gt;</b>
Description	The <b>delete rmon collection history</b> command removes the network collection history on the Switch.
Parameters	<i>&lt;hist_index 1-65535&gt;</i> – Specifies the alarm history number to be removed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a RMON collection history on the Switch:

```
DGS-1210-28MP/ME:5# delete rmon collection history 2
Command: delete rmon collection history 2
```

```
Success.
DGS-1210-28MP/ME:5#
```

## create rmon event

Purpose	To provide user to configure the settings of rmon event on the Switch.
Syntax	<b>create rmon event &lt;event_index 1-65535&gt; description &lt;desc_string 128&gt; {[log   owner &lt;owner_string 32&gt;   trap &lt;community_string 32&gt;]}</b>
Description	The <b>create rmon event</b> command allows user to provides user to configure the settings of rmon event on the Switch.
Parameters	<i>&lt;event_index 1-65535&gt;</i> – Specifies the event number. <i>description &lt;desc_string 128&gt;</i> – Specifies the user-defined event description. <i>log</i> – Indicates that the event is a log entry. <i>owner &lt;owner_string 32&gt;</i> – Specifies the time that the event occurred. <i>trap &lt;community_string 32&gt;</i> – Specifies the community to which the event belongs.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a RMON collection history on the Switch:

```
DGS-1210-28MP/ME:5# create rmon event 125 description linkrmon owner dlink
Command: create rmon event 125 description linkrmon owner dlink
```

```
Success.
DGS-1210-28MP/ME:5#
```

## delete rmon event

Purpose	To remove the network event.
Syntax	<b>delete rmon event &lt;event_index 1-65535&gt;</b>
Description	The <b>delete rmon event</b> command removes the network event on the Switch.
Parameters	<i>&lt;event_index 1-65535&gt;</i> – Specifies the event number to be removed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a RMON event on the Switch:

```
DGS-1210-28MP/ME:5# delete rmon event 2
```

```
Command: delete rmon event 2
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show rmon

Purpose	To display remote monitoring (RMON) status for the SNMP function.
Syntax	<b>show rmon {event   history {&lt;hist_index 1-65535&gt;   overview}}</b>
Description	The <b>show rmon</b> command displays remote monitoring (RMON) status for the SNMP function on the Switch.
Parameters	<i>event</i> – Specifies the event of RMON to be displayed. <i>history {&lt;hist_index 1-65535&gt;   overview}</i> – Specifies the history of RMON to be displayed. Specifies the history index or overview of RMON.
Restrictions	None.

Example usage:

To display the RMON feature on the Switch:

```
DGS-1210-28MP/ME:5# show rmon
```

```
Command: show rmon
```

```
RMON is enabled
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show rmon statistics

Purpose	To display remote monitoring (RMON) statistics for the SNMP function.
Syntax	<b>show rmon statistics {&lt;stats_index 1-65535&gt;}</b>
Description	The <b>show rmon</b> command displays remote monitoring (RMON) status for the SNMP function on the Switch.

Parameters	<stats_index 1-65535> – Specifies the statistics index of RMON to be displayed.
Restrictions	None.

Example usage:

To display the RMON statistics on the Switch:

```
DGS-1210-28MP/ME:5# show rmon statistics
```

```
Command: show rmon statistics
```

```
RMON is enabled
```

```
Ethernet Statistics table is empty
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## PORT MIRRORING COMMANDS

The Port Mirroring commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable mirror	
disable mirror	
config mirror target	<port 1-28> [add   delete] source ports <portlist> [both   rx   tx]
show mirror	

Each command is listed in detail, as follows:

### enable mirror

Purpose	Used to enable a previously entered port mirroring configuration.
Syntax	<b>enable mirror</b>
Description	The <b>enable mirror</b> command, combined with the disable mirror command below, allows the user to enter a port mirroring configuration into the Switch, and then turn the port mirroring on and off without having to modify the port mirroring configuration.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the mirroring feature:

```
DGS-1210-28MP/ME:5# enable mirror
```

```
Command: enable mirror
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

### disable mirror

Purpose	Used to disable a previously entered port mirroring configuration.
Syntax	<b>disable mirror</b>
Description	The <b>disable mirror</b> command, combined with the enable mirror command above, allows the user to enter a port mirroring configuration into the Switch, and then turn the port mirroring on and off without having to modify the port mirroring configuration.

Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable mirroring configurations:

```
DGS-1210-28MP/ME:5# disable mirror
Command: disable mirror

Success.

DGS-1210-28MP/ME:5#
```

## config mirror target

Purpose	To configure a mirror port – source port pair on the Switch.
Syntax	<b>config mirror target &lt;port 1-28&gt; [add   delete] source ports &lt;portlist&gt; [both   rx   tx]</b>
Description	The <b>config mirror target</b> command allows a port to have all of its traffic also sent to a DGSigned port, where a network sniffer or other device can monitor the network traffic. In addition, one can specify that only traffic received by or sent by one or both is mirrored to the target port.
Parameters	<p><i>target &lt;port 1-28&gt;</i> – Specifies the port that mirrors traffic forwarding.</p> <p><i>[add   delete]</i> – Specifies to add or delete the target port.</p> <p><i>source ports &lt;portlist&gt;</i> – Specifies the port or ports being mirrored. This cannot include the target port.</p> <p><i>rx</i> – Allows mirroring of packets received by (flowing into) the source port.</p> <p><i>tx</i> – Allows mirroring of packets sent to (flowing out of) the source port.</p> <p><i>both</i> – Allows mirroring of all the packets received or sent by the source port.</p> <p><i>Comment:</i> The user can define up to 8 source ports and one destination port. One source port can be configured each time using one CLI command, So in order to configure multiple source ports, multiple CLI commands should be used.</p>
Restrictions	A target port cannot be listed as a source port. Only Administrator or operator-level users can issue this command.

Example usage:

To add the mirroring ports:

```
DGS-1210-28MP/ME:5# config mirror target 3 add source ports 2 both
Command: config mirror target 3 add source ports 2 both

Success.

DGS-1210-28MP/ME:5#
```

**show mirror**

Purpose	To show the current port mirroring configuration on the Switch.
Syntax	<b>show mirror</b>
Description	The <b>show mirror</b> command displays the current port mirroring configuration on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display mirroring configuration:

```
DGS-1210-28MP/ME:5# show mirror
```

```
Command: show mirror
```

```
Port Mirror is enabled
```

```
Target Port : 3
```

```
Source Port : 2
```

```
Direction : Both
```

```
DGS-1210-28MP/ME:5#
```

## ERPS COMMANDS

The Ethernet Ring Protection Switching (ERPS) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable erps	
diabile erps	
create erps raps_vlan	<vlanid 1-4094>
config erps raps_vlan	<vlanid 1-4094> ring_mel <value 0-7>
config erps raps_vlan	<vlanid 1-4094> ring_port [west [<port>   virtual_channel]   east [<port>   virtual_channel]]
config erps raps_vlan	<vlanid 1-4094> [rpl_port [west   east   none]   rpl_owner [enable   disable]]
config erps raps_vlan	<vlanid 1-4094> protected_vlan [add   delete] vlanid <vidlist>
config erps raps_vlan	<vlanid 1-4094> timer [holdoff_time <integer 0-1000>   guard_time <integer 10-2000>   wtr_time <integer 1-12>]
config erps raps_vlan	<vlanid 1-4094> state [enable   disable]
config erps raps_vlan	<vlanid 1-4094> [add   delete] sub_ring raps_vlan <vlanid 1-4094>
config erps raps_vlan	sub_ring raps_vlan <vlanid 1-4094> tc_propagation state [enable   disable]
config erps raps_vlan	<vlanid 1-4094> revertive [enable   disable]
delete erps raps_vlan	<vlanid 1-4094>
show erps	{[raps_vlan <vlanid 1-4094>] {sub_ring}}
config erps log	[enable   disable]
config erps trap	[enable   disable]
create erps ring	<string 32>
config erps ring	<string 32> ring_id <value 1-239>
config erps ring	<string 32> [add   delete] instance <value 1-16>
config erps ring	<string 32> ring_type [major_ring   sub_ring]
config erps ring	<string 32> ring_port [west [<port>   virtual_channel]   east [<port>   virtual_channel]]
show erps ring	<string 32>
delete erps ring	<string 32>
config erps instance	<value 1-16> state [enable   disable]
config erps instance	<value 1-16> [add   delete] sub_ring_instance <value 1-16>
config erps instance	<value 1-16> tc_propagation to instance <value 1-16> state [enable   disable]
config erps instance	<value 1-16> raps_vlan <vlanid 1-4094>

Command	Parameter
config erps instance	<value 1-16> mel <value 0-7>
config erps instance	<value 1-16> [rpl_port [west   east   none]   rpl_role [owner   neighbor   none]]
config erps instance	<value 1-16> protected_vlan [add   delete] vlanid <vidlist>
config erps instance	<value 1-16> timer [holdoff_time <integer 0-1000>   guard_time <integer 10-2000>   wtr_time <integer 1-12>]
config erps instance	<value 1-16> revertive [enable   disable]
show erps instance	<value 1-16> {sub_ring_instance}
erps clear instance	<value 1-16>
erps force switch instance	<value 1-16> ring_port [west   east]
erps manual switch instance	<value 1-16> ring_port [west   east]
config erps version	[g.8032v1   g.8032v2]

Each command is listed in detail, as follows:

<b>enable erps</b>	
Purpose	Used to enable the global ERPS function on a switch. When both the global state and the specified ring ERPS state are enabled, the specified ring will be activated.
Syntax	<b>enable erps</b>
Description	The <b>enable erps</b> is used to enable the ERPS function on a switch. STP and LBD should be disabled on the ring ports before enabling ERPS. ERPS cannot be enabled before the R-APS VLAN is created, and ring ports, and RPL port, and RPL owner, are configured. Note that these parameters cannot be changed when ERPS is enabled. In order to guarantee correct operation, the following integrity will be checked when ERPS is enabled.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable ERPS:

<p><b>DGS-1210-28MP/ME:5# enable erps</b>  <b>Command: enable erps</b></p> <p><b>Success.</b></p> <p><b>DGS-1210-28MP/ME:5#</b></p>
---



**disable erps**

Purpose	Used to disable the ERPS function on a switch.
Syntax	<b>disable erps</b>
Description	The <b>disable erps</b> is used to disable the ERPS function on a switch.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To disable ERPS:

```
DGS-1210-28MP/ME:5# disable erps
```

```
Command: disable erps
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**create erps raps\_vlan**

Purpose	Used to create an R-APS VLAN on the switch. Only one R-APS VLAN should be used to transfer R-APS messages.
Syntax	<b>create erps raps_vlan &lt;vlanid 1-4094&gt;</b>
Description	The <b>create erps raps_vlan</b> is used to create the R-APS VLAN on the switch. There should be only one R-APS VLAN used to transfer R-APS messages. Note that the R-APS VLAN must already have been created by the create vlan command. This command can only be issued when this ring is disabled or ERPS is global disabled.
Parameters	<vlanid 1-4094> - Specify the VLAN ID that will be the R-APS VLAN.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create an R-APS VLAN with aVLAN ID of 4094:

```
DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5# create erps raps_vlan 4094
```

```
Command: create erps raps_vlan 4094
```

```
Success.
```

```
DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#
```

**config erps raps\_vlan ring\_mel**

Purpose	Used to configure the ring MEL for an R-APS VLAN.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; ring_mel &lt;value 0-7&gt;</b>

Description	<p>The <b>config erps raps_vlan ring_mel</b> is used to configure the ring MEL for an R-APS VLAN.</p> <p>The ring MEL is one field in the R-APS PDU. Note that if CFM (Connectivity Fault Management) and ERPS are used at the same time, R-APS PDU is one of a suite of Ethernet OAM PDU. The behavior for forwarding of R-APS PDU should follow the Ethernet OAM. If the ring MEL is not higher than the highest MEL of the MEPs on the ring ports, the R-APS PDU cannot be forwarded on the ring.</p>
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specify the VLAN ID to be configured.</p> <p><i>ring_mel &lt;value 0-7&gt;</i> – Specifies the ring MEL of the R-APS function. The value is between 0 and 7. The default ring MEL is 1.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the ring MEL of ERPS RAPS:

<p><b>DGS-1210-28MP/ME:5# config erps raps_vlan 1 ring_mel 1</b></p> <p><b>Command: config erps raps_vlan 1 ring_mel 1</b></p>
<p><b>Success.</b></p>
<p><b>DGS-1210-28MP/ME:5#</b></p>

<b>config erps raps_vlan ring_port</b>	
Purpose	Used to configure the ports of the ERPS ring for a specific R-APS VLAN.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; ring_port [west [&lt;port&gt;   virtual_channel]   east [&lt;port&gt;   virtual_channel]]</b>
Description	<p>The <b>config erps raps_vlan ring_port</b> is used to configure the port that participates in the ERPS ring.</p> <p>Restrictions apply for ports that are included in a link aggregation group. A link aggregation group can be configured as a ring port by specifying the master port of the link aggregation port. Only the master port can be specified as a ring port. If the specified link aggregation group is eliminated, the master port retains its ring port status. If the ring port is configured on a virtual channel, the ring that the port is connected to will be considered as a sub-ring.</p> <p>Note that modifying the ring port number may not take effect immediately when ERPS function is enabled. The ring will run the old configuration's protocol if the follow conditions are not met:</p> <ul style="list-style-type: none"> <li>· The Ring port is a tagged member port of the R-APS VLAN.</li> <li>· The RPL port is not virtual channel.</li> </ul> <p>The Ring port is the master port if it belongs to a link aggregation group.</p>
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specify the VLAN ID to be configured.</p> <p><i>west [&lt;port&gt;   virtual_channel]</i> – Specifies a port as the west ring port or a west port on the virtual channel.</p> <p><i>east [&lt;port&gt;   virtual_channel]</i> – Specifies a port as the east ring port</p>

	or a east port on the virtual channel.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To set the R-APS east ring port parameter to 1:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 ring_port east 1
Command: config erps raps_vlan 4094 ring_port east 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config erps raps\_vlan rpl

Purpose	Used to configure the RPL port or the RPL owner for a specific R-APS VLAN.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; [rpl_port [west   east   none]   rpl_owner [enable   disable]]</b>
Description	<p>The <b>config erps raps_vlan rpl</b> is used to configure the RPL port and the RPL owner.</p> <ul style="list-style-type: none"> <li>• RPL port – Specifies one of the R-APS VLAN ring ports as the RPL port. To remove and RPL port from the ring’s default instance, use the none designation for rpl_port.</li> <li>• RPL owner – Specifies the node as the RPL owner.</li> </ul> <p>Note that modifying the RPL port and RPL owner may not take effect immediately when the ERPS function is enabled. The ring will run the old configuration’s protocol if the following conditions are not met:</p> <ul style="list-style-type: none"> <li>• The RPL port is specified if the RPL owner is enabled.</li> <li>• The RPL port is not virtual channel.</li> </ul>
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specify the VLAN ID to be configured.</p> <p><i>rpl_port [west   east   none]</i> – Specifies that the west or east ring port to be the RPL port. Selects none that no RPL port on this node. By default, the node has no RPL port.</p> <p><i>rpl_owner [enable   disable]</i> – Specifies the RPL owner. Select enable to specify the specified ring port as the RPL port. By default, the RPL owner is disabled.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To set the R-APS RPL configuration:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 rpl_port west
Command: config erps raps_vlan 4094 rpl_port west
```

**Success.**

DGS-1210-28MP/ME:5#

## config erps raps\_vlan protected\_vlan

Purpose	Used to configure the protected VLAN for a specific R-APS VLAN.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; protected_vlan [add   delete] vlanid &lt;vidlist&gt;</b>
Description	The <b>config erps raps_vlan protected_vlan</b> is used to configure the VLANs that are protected by the ERPS function. The R-APS VLAN cannot be the protected VLAN. The protected VLAN can be one that has already been created, or it can be used for a VLAN that has not yet been created.
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specify the VLAN ID to be configured.</p> <p><i>protected_vlan [add   delete]</i> – Specifies VLANs that are protected by the ERPS function. The R-APS VLAN cannot be the protected VLAN. The protected VLAN can be one that has already been created, or it can be used for a VLAN that has not yet been created. Specifies to add or delete VLANs from the protected VLAN group.</p> <p><i>vlanid &lt;vidlist&gt;</i> - Specifies the range of VLAN to be configured.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To set the R-APS protected VLAN parameter:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 protected_vlan add vlanid 10-20
Command: config erps raps_vlan 4094 protected_vlan add vlanid 10-20

Success.

DGS-1210-28MP/ME:5#
```

## config erps raps\_vlan timer

Purpose	Used to configure the ERPS timers for a specific R-APS VLAN.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; timer [holdoff_time &lt;integer 0-1000&gt;   guard_time &lt;integer 10-2000&gt;   wtr_time &lt;integer 1-12&gt;]</b>
Description	<p>The <b>config erps raps_vlan timer</b> is used to configure the ERPS timers for a specific R-APS VLAN.</p> <ul style="list-style-type: none"> <li>• Holdoff Timer – The Holdoff Timer is used to filter out intermittent link faults when link failures occur during the protection switching process. When a ring node detects a link failure, it will start the holdoff timer and report the link failure event (R-APS BPDU with SF flag) after the link failure is confirmed within the specified time period.</li> <li>• Guard Timer – Guard Timer is used to prevent ring nodes from receiving outdated R-APS messages. This timer is used during the protection switching process after recovering from a link failure. When the link node detects a link recovery, it will report the link failure recovery event (R-APS PDU with NR flag) and start the guard timer. Before the guard timer expires, all</li> </ul>

	<p>received R-APS messages will be ignored by this ring node, except in the case where there is a burst of three R-APS event messages. This indicates that the sub-ring topology has changed, meaning that the node needs to flush the FDB that has been received on the node. In this case, the recovered link will not go into a blocking state. The Guard Timer should be greater than the maximum expected forwarding delay for which one R-APS message circles around the ring.</p> <ul style="list-style-type: none"> <li>WTR Timer –The WTR Timer is used to prevent the frequent operation of the protection switch due to an intermittent defect. This timer is used during the protection switching process when recovering from a link failure. It is only used by the RPL owner. When an RPL owner in the protection state receives an R-APS PDU with an NR flag, it will start the WTR timer. The RPL owner will block the original unblocked RPL port and start to send an R-APS PDU with an RB flag after the link recovery is confirmed within this period of time.</li> </ul>
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specify the VLAN ID to be configured.</p> <p><i>holdoff_time &lt;integer 0-1000&gt;</i> – Specifies the holdoff time of the R-APS function. The range is between 0 and 1000, and the default is 0.</p> <p><i>guard_time &lt;integer 10-2000&gt;</i> – Specifies the guard time of the R-APS function. The range is between 10 and 2000 milliseconds, and the default is 500.</p> <p><i>wtr_time &lt;integer 1-12&gt;</i> – Specifies the WTR time of the R-APS function. The range is between 1 and 12 minutes.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

## Example usage:

To configure the hold off time to be 100 milliseconds, the guard time to be 1000 milliseconds, and the WTR time to be 10 minutes for R-APS VLAN 4094:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 holdoff_time 100 guard_time 1000 wtr_time 10
Command: config erps raps_vlan 4094 holdoff_time 100 guard_time 1000 wtr_time 10

Success.

DGS-1210-28MP/ME:5#
```

### config erps raps\_vlan state

Purpose	Used to configure the state of the specified ring.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; state [enable   disable]</b>
Description	<p>The <b>config erps raps_vlan state</b> command is used to configure the ring state of the specified ring's default instance. When both the global state and the specified ring's default instance ERPS state are enabled, the specified ring will be activated. STP and LBD should be disabled on the ring ports before the specified ring's default instance is activated.</p> <p>The ring default instance cannot be enabled before the R-APS VLAN is created and the ring ports, RPL ports and the RPL owner</p>

	<p>are configured. Note that these parameters cannot be changed when the ring is activated.</p> <p>In order to guarantee correct operation, the following integrity will be checked when the ring instance is enabled and the global ERPS state is enabled.</p> <ol style="list-style-type: none"> <li>1. R-APS VLAN is created.</li> <li>2. The Ring port is the tagged member port of the R-APS VLAN.</li> <li>3. The RPL port is specified if RPL owner is enabled.</li> <li>4. The RPL port is not virtual channel.</li> <li>5. The Ring port is the master port if it belongs to a link aggregation group.</li> </ol>
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specifies the VLAN id to be configured.</p> <p><i>state [enable   disable]</i> – Specifies to enable or disable the state of the specified ring.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable the ERPS ring state:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 state enable
Command: config erps raps_vlan 4094 state enable

Success.

DGS-1210-28MP/ME:5#
```

### config erps raps\_vlan sub\_ring

Purpose	Used to configure a sub-ring connected to another ring.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; [add   delete] sub_ring raps_vlan &lt;vlanid 1-4094&gt;</b>
Description	The <b>config erps raps_vlan sub_ring</b> command is used to configure a sub-ring's default instance connected to another ring's default instance. This command is applied on the interconnection node.
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specifies the R-APS VLAN id to be configured.</p> <p><i>[add   delete]</i> – Specifies add to connect the sub-ring to another ring. Or specify delete to disconnect the sub-ring from the connected ring.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure a sub-ring connected to another ring:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 add sub_ring raps_vlan 2
Command: config erps raps_vlan 4094 add sub_ring raps_vlan 2

Success.
```

DGS-1210-28MP/ME:5#

## config erps raps\_vlan tc\_propagation

Purpose	Used to configure the state of the topology change propagation for the sub-ring.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; sub_ring raps_vlan &lt;vlanid 1-4094&gt; tc_propagation state [enable   disable]</b>
Description	The <b>config erps raps_vlan tc_propagation</b> command is used to configure the state of the topology change propagation for the sub-ring default instance. This command is applied on the interconnection node.
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specifies the R-APS VLAN id to be configured.</p> <p><i>sub_ring raps_vlan &lt;vlanid 1-4094&gt;</i> - Specifies the sub-ring R-APS VLAN to be configured.</p> <p><i>state [enable   disable]</i> – Specified to enable or disable the propagation state of the topology change for the sub-ring. The default value is disabled.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable topology change propagation on R-APS VLAN 4094 for sub-ring 2:

```
DGS-1210-28MP/ME:5# config erps raps_vlan 4094 sub_ring raps_vlan 2
tc_propagation state enable
```

```
Command: config erps raps_vlan 4094 sub_ring raps_vlan 2 tc_propagation state
enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config erps raps\_vlan revertive

Purpose	Used to configure the revertive mode.
Syntax	<b>config erps raps_vlan &lt;vlanid 1-4094&gt; revertive [enable   disable]</b>
Description	The <b>config erps raps_vlan revertive</b> command is used to configure the revertive mode for specified ring's default instance. When revertive is enabled, the traffic link is restored to the working transport link. When revertive is disabled, the traffic link is allowed to use the RPL, after recovering from a failure.
Parameters	<p><i>&lt;vlanid 1-4094&gt;</i> - Specifies the R-APS VLAN id to be configured.</p> <p><i>revertive [enable   disable]</i> – Specified to enable or disable revertive. The default value is enabled.</p>

Restrictions	Only Administrator, operator and power user-level users can issue this command.
--------------	---

Example usage:

To disable the revertive of R-APS VLAN 4094:

**DGS-1210-28MP/ME:5# config erps raps\_vlan 4094 revertive disable**

**Command: config erps raps\_vlan 4094 revertive disable**

**Success.**

**DGS-1210-28MP/ME:5#**

## delete erps raps\_vlan

Purpose	Used to delete an R-APS VLAN on the switch. When an R-APS VLAN is deleted, all parameters related to this R-APS VLAN will also be deleted. This command can only be issued when the ring is not active.
Syntax	<b>delete erps raps_vlan &lt;vlanid 1-4094&gt;</b>
Description	The <b>delete erps raps_vlan</b> is used to delete the R-APS VLAN on the switch.
Parameters	<vlanid 1-4094> - Specify the VLAN ID .
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete an ERPS RAPS VLAN:

**DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5# delete erps raps\_vlan 4094**

**Command: delete erps raps\_vlan 4094**

**Success.**

**DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#**

## show erps

Purpose	Used to display ERPS configuration and operation information.
	The port state of the ring port may be as "Forwarding", "Blocking", "Signal Fail". "Forwarding" indicates that traffic is able to be forwarded. "Blocking" indicates that traffic is blocked by ERPS and a signal failure is not detected on the port. "Signal Fail" indicates that a signal failure is detected on the port and traffic is blocked by ERPS.
	The RPL owner administrative state could be configured to "Enabled" or "Disabled". But the RPL owner operational state may be different from the RPL owner administrative state, for example, the RPL owner conflict occurs. "Active" is used to indicate that the



	RPL owner administrative state is enabled and the device is operated as the active RPL owner. "Inactive" is used to indicate that the RPL owner administrative state is enabled, but the device is operated as the inactive RPL owner.
Syntax	<b>show erps</b> <b>{[raps_vlan &lt;valnid 1-4094&gt;] {sub_ring}}</b>
Description	The <b>show erps</b> is used to display ERPS configuration and operation information.
Parameters	<i>raps_vlan</i> <vlanid 1-4094> - Specifies the R-APS VLAN to be displayed. <i>{sub_ring}</i> – Specifies to display the sub-ring configuration information.
Restrictions	None.

Example usage:

To display ERPS information:

```
DGS-1210-28MP/ME:5# show erps
Command: show erps

Global Status   : Disabled
Log Status      : Disabled
Trap Status     : Disabled
Global Version  : G.8032v2
-----
Ethernet Ring   : rdd1
West            : 0
East           : 0
Ring Type       : Major ring
Ring ID        : 0
DGS-1210-28MP/ME:5#
```

## config erps log

Purpose	Used to enable or disable the ERPS log status on the switch.
Syntax	<b>config erps log</b> <b>[enable   disable]</b>
Description	The <b>config erps log</b> command is used to enable or disable the ERPS log status on the switch.
Parameters	<i>[enable   disable]</i> – Specify to enable or disable the ERPS log status.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable an ERPS log:

```
DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5# config erps log enable
Command: config erps log enable

Success.
```

DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#

## config erps trap

Purpose	Used to enable or disable the ERPS trap on the switch.
Syntax	<b>config erps trap [enable   disable]</b>
Description	The <b>config erps trap</b> command is used to enable or disable the trap of ERPS VLAN on the switch.
Parameters	<i>[enable   disable]</i> – Specify to enable or disable the trap of ERPS VLAN.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable an ERPS trap:

DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5# **config erps trap enable**

**Command: config erps trap enable**

**Success.**

DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#

## create erps ring

Purpose	Used to create an ERPS ring on the switch.
Syntax	<b>create erps ring &lt;string 32&gt;</b>
Description	The <b>create erps ring</b> command is used to create the ERPS ring on the switch.
Parameters	<i>&lt;string 32&gt;</i> - Specify the ring.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create an ERPS ring:

DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5# **create erps ring ring2**

**Command: create erps ring ring2**

**Success.**

DGS-1210-28MP/ME:5#

## config erps ring ring\_id

Purpose	Used to configure the ring ID of a specific physical ring.
---------	--

Syntax	<b>config erps ring &lt;string 32&gt; ring_id &lt;value 1-239&gt;</b>
Description	The <b>config erps ring ring_id</b> command is used to configure the ring ID of a specific physical ring.
Parameters	<i>&lt;string 32&gt;</i> - Specifies the name for a specified physical ring. <i>ring_id &lt;value 1-239&gt;</i> - Specifies the identifier of a physical ring. The valid range is from 1 to 239.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the ring value 2 of the ring "ring2:

```
DGS-1210-28MP/ME:5# config erps ring ring2 ring_id 2
Command: config erps ring ring2 ring_id 2

Success.

DGS-1210-28MP/ME:5#
```

### config erps ring instance

Purpose	Used to add or delete the instance ID of the ring ID of a physical ring.
Syntax	<b>config erps ring &lt;string 32&gt; [add   delete] instance &lt;value 1-16&gt;</b>
Description	The <b>config erps ring instance</b> command is used to add or delete the instance ID of the ring ID of a physical ring.
Parameters	<i>&lt;string 32&gt;</i> - Specify the ring to be configured. <i>[add   delete]</i> - Specifies the instance which specified of the ring to be added or deleted. <i>instance &lt;value 1-16&gt;</i> - Specifies the instance ID to be configured.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the ring value 2 of the ring "ring2:

```
DGS-1210-28MP/ME:5# config erps ring ring2 add instance 2
Command: config erps ring ring2 add instance 2

Success.

DGS-1210-28MP/ME:5#
```

### config erps ring ring\_type

Purpose	Used to configure the ring type of a physical ring.
Syntax	<b>config erps ring &lt;string 32&gt; ring_type [major_ring   sub_ring]</b>

Description	The <b>config erps ring ring_type</b> command is used to specify the ring type of a physical ring.
Parameters	<i>&lt;string 32&gt;</i> - Specify the ring to be configured. <i>ring_type [major_ring   sub_ring]</i> - Specifies the ERPS ring as a major-ring or sub-ring. By default, the ERPS ring is major-ring.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the ring “ring2 as a sub-ring:

```
DGS-1210-28MP/ME:5# config erps ring ring2 ring_type sub_ring
Command: config erps ring ring2 ring_type sub_ring

Success.

DGS-1210-28MP/ME:5#
```

### config erps ring ring\_port

Purpose	Used to configure ring port parameter for a specific physical ring.
Syntax	<b>config erps ring &lt;string 32&gt; ring_port [west [&lt;port&gt;   virtual_channel]   east [&lt;port&gt;   virtual_channel]]</b>
Description	The <b>config erps ring ring_port</b> command is used to configure ring port parameter for a specific physical ring.
Parameters	<i>&lt;string 32&gt;</i> - Specify the ring to be configured. <i>west [&lt;port&gt;   virtual_channel]</i> – Specifies the port to be added to and ERPS ring west. Or specifies west port virtual channel to indicate that the interconnect node is a local node endpoint of and sub_ring. <i>east [&lt;port&gt;   virtual_channel]</i> – Specifies the port to be added to and ERPS ring east. Or specifies west port virtual channel to indicate that the interconnect node is a local node endpoint of and sub_ring.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the ring port to be virtual channel of west for ring “ring2:

```
DGS-1210-28MP/ME:5# config erps ring ring2 ring_port west virtual_channel
Command: config erps ring ring2 ring_port west virtual_channel

Success.

DGS-1210-28MP/ME:5#
```

**show erps ring**

Purpose	Used to display the ERPS ring on the switch.
Syntax	<b>show erps ring &lt;string 32&gt;</b>
Description	The <b>show erps ring</b> is used to display ERPS configuration and operation information.
Parameters	<string 32> - Specify the ring to be displayed.
Restrictions	None.

Example usage:

To display an ERPS ring – rdd2 information:

```
DGS-1210-28MP/ME:5# show erps ring rdd2
```

```
Command: show erps ring rdd2
```

```
Ethernet Ring : rdd2
West          : 0
East          : 0
Ring Type     : Major ring
Ring ID       : 0
```

```
DGS-1210-28MP/ME:5#
```

**delete erps ring**

Purpose	Used to delete the ERPS ring on the switch.
Syntax	<b>delete erps ring &lt;string 32&gt;</b>
Description	The <b>delete erps ring</b> command is used to remove the ERPS ring on the switch.
Parameters	<string 32> - Specify the ring to be removed.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To remove an ERPS ring – rdd2:

```
DGS-1210-28MP/ME:5# delete erps ring rdd2
```

```
Command: delete erps ring rdd2
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config erps instance state**

Purpose	Used to configure the state of the specified ring.
Syntax	<b>config erps instance &lt;value 1-16&gt; state [enable   disable]</b>
Description	The <b>config erps instance state</b> command is used to configure

	<p>the ring state of the specified instance. When the specified ring instance state is enabled, the specified ring instance will be activated. STP and LBD should be disabled on the physical ring ports before the specified ring instance is activated.</p> <p>The instance cannot be enabled before the R-APS VLAN is designated, and physical ring ports, RPL port, RPL owner, are configured. Note that these parameters cannot be changed when the instance is activated.</p>
	<p>In order to guarantee correct operation, the following integrity will be checked when the instance is enabled:</p> <ul style="list-style-type: none"> <li>• R-APS VLAN is designated.</li> <li>• The physical ring port is the tagged member port of the R-APS VLAN.</li> <li>• The RPL port is specified if RPL owner or neighbor is designated.</li> <li>• STP or LBD enabled on the physical ring port.</li> <li>• The instance is sub ring instance but the virtual channel is not existed</li> <li>• The Ring port is the master port if it belongs to a link aggregation group.</li> <li>• The default state of the instance is disabled.</li> </ul>
Parameters	<p><i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured.</p> <p><i>state [enable   disable]</i> – Specifies to enable or disable the state of the specified ring instance. The default value is disabled.</p>
Restrictions	<p>Only Administrator, operator and power user-level users can issue this command.</p>

Example usage:

To enable ring instance 1 state:

<b>DGS-1210-28MP/ME:5# config erps instance 1 state enable</b>	
<b>Command: config erps instance 1 state enable</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

<b>config erps instance sub_ring_instance</b>	
Purpose	Used to configure a sub-ring instance connected to another ring instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; [add   delete] sub_ring_instance &lt;value 1-16&gt;</b>
Description	The <b>config erps instance sub_ring_instance</b> command is used to configure a sub-ring instance connected to another ring instance. This command is applied on the interconnection node.
Parameters	<p><i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured.</p> <p><i>[add   delete]</i> – Specifies add to connect the sub-ring instance to another ring instance. Specifies delete to disconnect the sub-ring</p>

	instance from the connected another ring instance. <i>sub_ring_instance</i> <value 1-16> – Specifies the sub ring instance ID to be configured.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the instance ID 1 to connect to a sub-ring:

<b>DGS-1210-28MP/ME:5# config erps instance 1 add sub_ring_instance 2</b>	
<b>Command: config erps instance 1 add sub_ring_instance 2</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

### config erps instance tc\_propagation

Purpose	Used to configure the state of the topology change propagation for the sub-ring instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; tc_propagation to instance &lt;value 1-16&gt; state [enable   disable]</b>
Description	The <b>config erps instance tc_propagation</b> command is used to configure the state of the topology change propagation for the sub-ring instance.
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured. <i>tc_propagation to instance &lt;value 1-16&gt;</i> – Specifies the instance. <i>state [enable   disable]</i> – Specifies to enable or disable the propagation state of the topology change for the sub-ring. The default value is disabled.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable topology change propagation on instance 2 for sub-ring instance 1:

<b>DGS-1210-28MP/ME:5# config erps instance 1 tc_propagation to instance 2 state enable</b>	
<b>Command: config erps instance 1 add sub_ring_instance 2</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

### config erps instance raps\_vlan

Purpose	Used to configure instance raps VLAN.
Syntax	<b>config erps instance &lt;value 1-16&gt; raps_vlan &lt;vlanid 1-4094&gt;</b>

Description	The <b>config erps instance raps_vlan</b> command is used to transfer R-APS messages.
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured. <i>raps_vlan &lt;value 1-4094&gt;</i> – To designate raps_vlan for a specific instance.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the R-APS VLAN 4094 for a specific instance:

<b>DGS-1210-28MP/ME:5# config erps instance 1 raps_vlan 4094</b>
<b>Command: config erps instance 1 raps_vlan 4094</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>config erps instance mel</b>	
Purpose	Used to configure the MEL of the ERPS instance for a specific R-APS VLAN.
Syntax	<b>config erps instance &lt;value 1-16&gt; mel &lt;value 0-7&gt;</b>
Description	The <b>config erps instance mel</b> command is used to configure the instance MEL for a R-APS VLAN. The instance MEL is one field in the R-APS PDU.  Note that if CFM (Connectivity Fault Management) and ERPS are used at the same time, the R-APS PDU is one of a suite of Ethernet OAM PDU. The behavior for forwarding of R-APS PDU should follow the Ethernet OAM. If the MEL of R-APS PDU is not higher than the level of the MEP with the same VLAN on the ring ports, the R-APS PDU cannot be forwarded on the ring.
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured. <i>mel &lt;value 0-7&gt;</i> – Specifies the ring MEL of the R-APS function. The default ring MEL is 1.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the MEL of the ERPS instance for a specific instance:

<b>DGS-1210-28MP/ME:5# config erps instance 1 mel 2</b>
<b>Command: config erps instance 1 mel 2</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>



**config erps instance rpl**

Purpose	Used to configure the RPL port or the RPL role for a specific erps instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; [rpl_port [west   east   none]   rpl_role [owner   neighbour   none]]</b>
Description	The <b>config erps instance rpl</b> command is used to configure the RPL port, the RPL owner and neighbour. <ul style="list-style-type: none"> <li>• RPL port – Specifies one of the instance ring ports as the RPL port. To remove an RPL port from an instance, use the none designation for rpl_port.</li> <li>• RPL role – Specifies the node's role. Note that the RPL port, RPL role cannot be modified when ERPS instance is enabled; and the virtual channel cannot be configured as RPL port. For example, if a ring port is configured on the virtual channel and the instance ring port is configured as an RPL port, an error message will be displayed and the configuration will fail.</li> </ul>
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured. <i>rpl_port [west   east   none]</i> – Specifies the west-ring port or east-ring port as the RPL port. Select none to specify that no RPL port on this node. By default, the node has no RPL port. <i>rpl_role [owner   neighbour   none]</i> – Specifies the device as an RPL owner node or neighbor node. Select none to specify that no RPL role on this node. By default, the RPL rpl_role is none.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the instance 1 so that the west port will act as the RPL port and configure the switch as an RPL owner node:

```
DGS-1210-28MP/ME:5# config erps instance 1 rpl_role owner
```

```
Command: config erps instance 1 rpl_role owner
```

**Success.**

```
DGS-1210-28MP/ME:5# config erps instance 1 rpl_port west
```

```
Command: config erps instance 1 rpl_port west
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**config erps instance protected\_vlan**

Purpose	Used to configure the protected VLAN for a specific instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; protected_vlan [add   delete] vlanid &lt;vidlist&gt;</b>

Description	The <b>config erps instance protected_vlan</b> command is used to configure the VLANs that are protected by the ERPS function. The instance R-APS VLAN cannot be the protected VLAN. The protected VLAN can be one that has already been created, or it can be used for a VLAN that has not yet been created.
Parameters	<i>protected_vlan [add   delete]</i> – Specifies to add VLANs to the protected VLAN group, or delete VLANs from the protected VLAN group.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the protected VLAN for a specific instance:

```
DGS-1210-28MP/ME:5# config erps instance 1 protected_vlan add vlanid 10-20
Command: config erps instance 1 protected_vlan add vlanid 10-20
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config erps instance timer

Purpose	Used to configure the ERPS timers for a specific physical ring's instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; timer [[ holdoff_time &lt;integer 0-10000&gt;]   [ guard_time &lt;integer 10-2000&gt;]   [ wtr_time &lt;integer 1-12&gt;]]</b>
Description	<p>The <b>config erps instance timer</b> command is used to configure the protocol timers.</p> <ul style="list-style-type: none"> <li>• <b>Holdoff Timer</b> – The Holdoff Timer is used to filter out intermittent link faults when link failures occur during the protection switching process. When a ring node detects a link failure, it will start the holdoff timer and report the link failure event (R-APS BPDU with SF flag) after the link failure is confirmed within the specified time period.</li> <li>• <b>Guard Timer</b> – Guard Timer is used to prevent ring nodes from receiving outdated R-APS messages. This timer is used during the protection switching process after recovering from a link failure. When the link node detects a link recovery, it will report the link failure recovery event (R-APS PDU with NR flag) and start the guard timer. Before the guard timer expires, all received R-APS messages will be ignored by this ring node, except in the case where there is a burst of three R-APS event messages. This indicates that the sub-ring topology has changed, meaning that the node needs to flush the FDB that has been received on the node. In this case, the recovered link will not go into a blocking state. The Guard Timer should be greater than the maximum expected forwarding delay for which one R-APS message circles around the ring.</li> <li>• <b>WTR Timer</b> – The WTR Timer is used to prevent the frequent operation of the protection switch due to an intermittent defect. This timer is used during the protection switching process</li> </ul>

	when recovering from a link failure. It is only used by the RPL owner. When an RPL owner in the protection state receives an R-APS PDU with an NR flag, it will start the WTR timer. The RPL owner will block the original unblocked RPL port and start to send an R-APS PDU with an RB flag after the link recovery is confirmed within this period of time.
Parameters	<p><i>holdoff_time</i> &lt;integer 0-10000&gt; - Specifies the holdofftime of the R-APS function. The range is between 0 and 10000 milliseconds, and the default holdofftime is 0.</p> <p><i>guard_time</i> &lt;integer 10-2000&gt; - Specifies the guard time of the R-APS function. The range is between 10 and 200, and the default guard time is 500 milliseconds.</p> <p><i>wtr_time</i> &lt;integer 1-12&gt; - Specifies the WTR time of the R-APS function. The range is between 1 and 12 minutes, and the default WTR time is 5 minutes.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the holdoff time to be 100 milliseconds, the guard time to be 1000 milliseconds, and the WTR time to be 10 minutes for instance 1:

```
DGS-1210-28MP/ME:5# config erps instance 1 holdoff_time 100 guard_time 1000
wtr_time 10
Command: config erps instance 1 holdoff_time 100 guard_time 1000 wtr_time 10

Success.

DGS-1210-28MP/ME:5#
```

### config erps instance revertive mode

Purpose	Used to configure the revertive mode for specified ring's default instance.
Syntax	<b>config erps instance &lt;value 1-16&gt; revertive [enable   disable]</b>
Description	The <b>config erps instance revertive</b> command is used to configure the revertive mode for specified ring's instance. When revertive is enabled, the traffic link is restored to the working transport link. When revertive is disabled, the traffic link is allowed to use the RPL, after recovering from a failure.
Parameters	<i>revertive</i> [enable   disable] - Specifies the holdofftime of the R-APS function. The range is between 0 and 10000 milliseconds, and the default holdofftime is 0.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To disable the revertive of instance 1:

```
DGS-1210-28MP/ME:5# config erps instance 1 revertive disable
Command: config erps instance 1 revertive disable
```

**Success.**

**DGS-1210-28MP/ME:5#**

## show erps instance

Purpose	Used to display the ERPS instance information on the switch.
Syntax	<b>show erps instance &lt;value 1-16&gt; {sub_ring_instance}</b>
Description	The <b>show erps instance</b> is used to display ERPS instance information on the switch.
Parameters	<value 1-16> – Specifies the instance ID to be displayed. {sub_ring_instance} – Specifies the sub-ring instance to be displayed.
Restrictions	None.

Example usage:

To display the instance 3 of ERP:

**DGS-1210-28MP/ME:5# show erps instance 3**

**Command: show erps instance 3**

```

Instance                : 3
Instance Status         : Disabled
Instance R-APS VLAN    : 0
West                    : virtual_channel(Forwarding)
East                    : 0 (Forwarding)
RPL Port                : -
RPL Role                : None
Protected VLANs        :
Instance MEL           : 1
Holdoff Time            : 0 milli-seconds
Guard Time             : 500 milli-seconds
WTR Time               : 5 minutes
Revertive Mode         : Enabled
Current Instance State  : Deactivated

```

**DGS-1210-28MP/ME:5#**

## erps clear instance

Purpose	Used to clear ERPS instance.
Syntax	<b>erps clear instance &lt;value 1-16&gt;</b>
Description	The <b>erps clear instance</b> is used to clear ERPS instance on the switch.
Parameters	<value 1-16> – Specifies the instance ID to be cleared.

Restrictions	Only Administrator, operator and power user-level users can issue this command.
--------------	---

Example usage:

To clear the instance 3 of ERP on the Switch:

```
DGS-1210-28MP/ME:5# erps clear instance 3
```

```
Command: erps clear instance 3
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## erps force switch instance

Purpose	Used to block an ERP instance port.
Syntax	<b>erps force switch instance &lt;value 1-16&gt; ring_port [west   east]</b>
Description	The <b>erps force switch instance</b> command forcibly blocks an instance port immediately after force is configured, irrespective of whether link failures have occurred.
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID to be configured. <i>ring_port [west   east]</i> – Specified the west or east will be blocked.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To force the major ring, instance 1, west into blocking:

```
DGS-1210-28MP/ME:5# erps force switch instance 1 ring_port west
```

```
Command: erps force switch instance 1 ring_port west
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## erps manual switch instance

Purpose	Used to configure an instance ring port blocking mode.
Syntax	<b>erps manual switch instance &lt;value 1-16&gt; ring_port [west   east]</b>
Description	The <b>erps manual switch instance</b> is used to configure an instance ring port blocking mode.
Parameters	<i>&lt;value 1-16&gt;</i> – Specifies the instance ID. <i>ring_port [west   east]</i> – Manual ERPS instance westblocked or eastblocked.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To specify the ring-port to be east for ERPS instance ID 1:

```
DGS-1210-28MP/ME:5# erps manual switch instance 1 ring_port east
Command: erps manual switch instance 1 ring_port east
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config erps version

Purpose	Used to specify the ERPs version on the switch.
Syntax	<b>config erps version {g.8032v1   g.8032v2}</b>
Description	The <b>config erps version</b> is used to specify the ERPS version on the switch.
Parameters	<p>{g.8032v1   g.8032v2} – Specify to use the G.8032v1 or G.8032v2 ERP version. By default, G.8032v2 is used.</p> <p>G.8032v2 fully provides the following enhanced functions:</p> <ul style="list-style-type: none"> <li>· Supports multi-instance in a physical ring.</li> <li>· Supports operation commands: manual, force, and clear</li> <li>· Support the configuration of the sending of a R-APS PDU destination address with the physical ring's ring ID.</li> </ul> <p>Before specifying G.8032v1 for a G.8032v2 device, changing the ERPS version will lead to the restart of the running protocol.</p> <p>If Ethernet ring nodes running ITU-T G.8032v1 and ITU-T G.8032v2 co-exist on an Ethernet ring, the following configurations should be met on the G.8032v2 device:</p> <ul style="list-style-type: none"> <li>· All physical ring IDs have the default value of 1.</li> <li>· Interconnection node 's major ring and sub-ring instances must have different R-APS VIDs.</li> <li>· Manual switch or force switch commands not exist.</li> <li>· Physical rings have only one instance.</li> </ul>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To specify the ERPS version:

```
DGS-1210-28MP/ME:5# config erps version g.8032v2
Command: config erps version g.8032v2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## VLAN COMMANDS

The VLAN commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create vlan	create vlan [<string 32> tag <int 2-4094> {[type_1q_vlan_advertisement   private_vlan]}]   [vlanid <vidlist> {[type_1q_vlan_advertisement   private_vlan]}]
delete vlan	[<vlan_name 32>   vlanid <vidlist>]
config vlan	[<vlan_name 32>   vlanid <vidlist>] [[add [tagged   untagged   forbidden]   delete ] [<portlist>   name <vlan_name 32>] {advertisement [enable   disable]}]
config private_vlan	[vlan <vlan_name 32>   vlanid <int 1-4094>] [[add [isolated   community]   remove ] [<vlan_name 32>   vlanid <vlanid_list>]
config private_vlan trunk	[promiscuous   secondary] [add   remove] ports <portlist>
show private_vlan	{vlan <vlan_name 32>   vlanid <vlanid_list>}
config gvrp	[state [enable   disable]   ingress_checking [enable   disable]   acceptable_frame [Tagged_Only   All_Frames]   pvid <vlanid 1-4094>]
config gvrp timer	[join_timer <sec 100-100000>   leave_timer <sec 100-100000>   leave-all_timer <sec 100-100000>]
enable gvrp	
disable gvrp	
show vlan	{<vlan_name 32>   vlanid <vidlist>   ports <portlist>}
create dot1v_protocol_group group_id <id 1-16>	{group_name <name 32>}
config dot1v_protocol_group	[group_id <id 1-6>   group_name <name 32>] [add   delete] protocol [ethernet_2 <hex 0x0-0sffff>   ieee802.3_snap <hex 0x0-0xffff>]
delete dot1v_protocol_group	[group_id <id 1-16>   group_name <name 32>   all]
show dot1v_protocol_group	{group_id <id 1-16>   group_name <name 32>}
config port dot1v ports	{[<portlist>   all]} [add   delete] protocol_group [group_name <name 32>   group_id <id 1-16>] [vlan <vlan_name 32>   vlanid <id 1-4094>]
show port dot1v	{ports <portlist>}
show gvrp	{<portlist>}
show gvrp timer	
enable vlan_trunk	
disable vlan_trunk	

Command	Parameter
show vlan_trunk	
config vlan_trunk ports	[<portlist>   all] state [enable   disable]
enable asymmetric_vlan	
disable asymmetric_vlan	
show asymmetric_vlan	
enable pvid auto_assign	
disable pvid auto_assign	
show pvid auto_assign	
create mac_based_vlan mac address	<macaddr> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>]
delete mac_based_vlan mac address	<macaddr> [vlan <vlan_name 32>   vlanid <vlanid 1-4094>]
show mac_based_vlan mac_address	<macaddr> [ mask <macmask 000000000000-ffffffff>   vlan <vlan_name 32>   vlanid <vlanid 1-4094>]
config vlan_auto_learn	vlanid <vidlist> [enable   disable]
show vlan_auto_learn	[all   vlanid <vidlist>]
enable voice_vlan	{ vlanid <vlanid (1-4094)>   < vlan_name (32) > }
disable voice_vlan	
config voice_vlan aging_time	<integer (1-120)>
config voice_vlan priority	<integer (0-7)>
config voice_vlan oui	{ add <macaddr> description <string (20)> [ mask <macmask> ]   delete <macaddr> }
config voice_vlan ports	<portlist> auto dectection { enable { tag   untag }   disable }
config voice_vlan log state	{ enable   disable }
show voice_vlan	[ { oui   ports <portlist>   { { lldp_med voice_device   voice_device } { all   ports <portlist> } } } ]

Each command is listed in detail, as follows:

<b>create vlan</b>	
Purpose	To create a VLAN on the Switch.
Syntax	<b>create vlan</b> [<string 32> tag <int 2-4094> <b>{[type_1q_vlan_advertisement   private_vlan]}</b> ]   [vlanid



	<b>&lt;vidlist&gt; {[type_1q_vlan_advertisement   private_vlan]}</b>
Description	The <b>create vlan</b> command creates a VLAN on the Switch.
Parameters	<p><i>&lt;string 32&gt;</i> – The name of the VLAN to be created.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The VLAN id to be created.</p> <p><i>tag &lt;int 2-4094&gt;</i> – The VLAN ID of the VLAN to be created. The value ranges from 2 to 4094.</p> <p><i>type_1q_vlan_advertisement</i> – Specifies the 1q vlan advertisement on the Switch.</p> <p><i>private_vlan</i> – To configure the specified vlan to be private VLAN on the Switch.</p>
Restrictions	<p>Each VLAN name can be up to 32 characters. If the VLAN is not given a tag, it will be a port-based VLAN.</p> <p>Only Administrator and Operator and Power-User-level users can issue this command.</p>

Example usage:

To create a VLAN vlnrd2, tag 200 with 1Q VLAN advertisement:

```
DGS-1210-28MP/ME:5# create vlan vlnrd2 tag 200 type_1q_vlan_advertisement
Command: create vlan vlnrd2 tag 200 type_1q_vlan_advertisement
```

Success.

```
DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#DGS-1210-28MP/ME:5#
```

Example usage:

To create a VLAN ID 3 with private VLAN:

```
DGS-1210-28MP/ME:5# create vlan vlanid 3 private_vlan
Command: create vlan vlanid 3 private_vlan
```

Success.

```
DGS-1210-28MP/ME:5#
```

## delete vlan

Purpose	To delete a previously configured VLAN on the Switch.
Syntax	<b>delete vlan [&lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;]</b>
Description	The <b>delete vlan</b> command deletes a previously configured VLAN on the Switch.
Parameters	<p><i>&lt;vlan_name 32&gt;</i> – The name of the VLAN to be deleted.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The VLAN of the VLAN to be deleted. The range is between 2-4092.</p>
Restrictions	<p>Only administrator or operator-level users can issue this command.</p> <p>A user is required to disable Guest VLAN before deleting a VLAN.</p>

Example usage:

To remove a vlan which VLAN ID is 2:

```
DGS-1210-28MP/ME:5# delete vlan vlanid 2
Command: delete vlan vlanid 2

Success.
DGS-1210-28MP/ME:5#
```

## config vlan

Purpose	To add additional ports to a previously configured VLAN and to modify a VLAN name.
Syntax	<b>config vlan</b> [ <b>&lt;vlan_name 32&gt;</b>   <b>vlanid &lt;vidlist&gt;</b> ] <b>[[add [tagged   untagged   forbidden]   delete ] [&lt;portlist&gt;   name &lt;vlan_name 32&gt;] {advertisement [enable   disable]}]</b>
Description	The <b>config vlan</b> command allows the user to add or delete ports to the port list of a previously configured VLAN. You can specify the additional ports as tagging, untagging, or forbidden. The default is to assign the ports as untagged.
Parameters	<p><i>&lt;vlan_name 32&gt;</i> – The name of the VLAN to be configure.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The ID of the VLAN to which to add ports.</p> <p><i>add</i> – Specifies that ports are to be added to a previously created vlan.</p> <p><i>delete</i> – Specifies that ports are to be deleted from a previously created vlan.</p> <p><i>tagged</i> – Specifies the additional ports as tagged.</p> <p><i>untagged</i> – Specifies the additional ports as untagged.</p> <p><i>forbidden</i> – Specifies the additional ports as forbidden.</p> <p><i>&lt;portlist&gt;</i> – A port or range of ports to be added to or deleted from the VLAN.</p> <p><i>name &lt;vlan_name 32&gt;</i> – Enter the vlan name for the specified vlan id.</p> <p><i>advertisement [enable   disable]</i> – Specifies that the vlan advertisement is enabled or disabled.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To add ports 4 through 8 as tagged ports to the VLAN 3:

```
DGS-1210-28MP/ME:5# config vlan vlanid 3 add tagged 4-8
Command: config vlan vlanid 3 add tagged 4-8

Success
DGS-1210-28MP/ME:5#
```

## config private\_vlan

Purpose	To configure the private VLAN on the Switch.
Syntax	<b>config private_vlan</b> [ <b>vlan &lt;vlan_name 32&gt;</b>   <b>vlanid &lt;int 1-4094&gt;</b> ] <b>[[add [isolated   community]   remove ] [&lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;]</b>

Description	A private VLAN is comprised of a primary VLAN, up to one isolated VLAN, and a number of community VLANs. A private VLAN ID is presented by the VLAN ID of the primary VLAN. The command used to associate or de-associate a secondary VLAN with a primary VLAN. A primary VLAN is created via the command <b>create vlan type private_vlan</b> . A secondary VLAN is created via the command <b>create vlan type 1q_vlan</b> . A secondary VLAN cannot be associated with multiple primary VLANs. The untagged member port of the primary VLAN is named as the promiscuous port. The tagged member port of the primary VLAN is named as the trunk port. A promiscuous port of a private VLAN cannot be promiscuous port of other private VLANs. The primary VLAN member port cannot be a secondary VLAN member at the same time, or vice versa. A secondary VLAN can only have the untagged member port. The member port of a secondary VLAN cannot be member port of other secondary VLAN at the same time. When a VLAN is associated with a primary VLAN as the secondary VLAN, the promiscuous port of the primary VLAN will behave as the untagged member of the secondary VLAN, and the trunk port of the primary VLAN will behave as the tagged member of the secondary VLAN. A secondary VLAN cannot be specified with advertisement. Only the primary VLAN can be configured as a layer 3 interface. The private VLAN member port cannot be configured with the traffic segmentation function.
Parameters	<p><i>&lt;vlan_name 32&gt;</i> – The name of the VLAN to be configured.</p> <p><i>vlanid &lt;int 1-4094&gt;</i> – The ID of the VLAN to which to add ports.</p> <p><i>add</i> – Specifies to add the secondary VLAN as an isolated VLAN or community VLAN.</p> <p><i>remove</i> – Specifies to remove the specified private VLAN.</p> <p><i>&lt;vlan_name 32&gt;</i> – Specifies the VLAN of a range of secondary VLANs to add to the private VLAN or remove from it. The maximum length is 32 characters.</p> <p><i>vlanid &lt;vlanid_list&gt;</i> – Specifies a range of the second VLAN IDs to add to the private VLAN or remove from it.</p>
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To associate secondary VLAN to private VLAN vlanrd2:

```
DGS-1210-28MP/ME:5# config private_vlan vlan vlanrd2 add community vlanid 2-5
Command: config private_vlan vlan vlanrd2 add community vlanid 2-5
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config private\_vlan trunk

Purpose	To configure the private VLAN trunk ports on the Switch.
Syntax	<b>config private_vlan trunk [promiscuous   secondary] [add   remove] ports &lt;portlist&gt;</b>
Description	The <b>config private_vlan trunk</b> command is used to configure private VLAN trunk ports on the Switch.

Parameters	<i>[promiscuous   secondary]</i> – To specify the promiscuous or secondary trunk ports to the specified private VLAN. <i>[add   remove]</i> – Specifies to add or remove specified ports for private vlan trunk. <i>ports &lt;portlist&gt;</i> – To specify a port or ports to be configured.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To specify ports 1 ~ 8 to be promiscuous port for private VLAN trunk:

```
DGS-1210-28MP/ME:5# config private_vlan trunk promiscuous add ports 1-8
Command: config private_vlan trunk promiscuous add ports 1-8
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show private\_vlan

Purpose	To display private VLAN information on the Switch.
Syntax	<b>show private_vlan {vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;}</b>
Description	The <b>show private_vlan</b> command is used to display private VLAN information on the Switch.
Parameters	<i>&lt;vlan_name 32&gt;</i> – Specifies the name of the private VLAN to be displayed. <i>vlanid &lt;vlanid_list&gt;</i> – Specifies the VLAN ID of the private VLAN to be displayed.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To display the private VLAN information for VLAN ID 2:

```
DGS-1210-28MP/ME:5# show private_vlan vlanid 2
Command: show private_vlan vlanid 2
```

```
Primary Vlan ID: 2
```

```
-----
```

```
Promiscuous Ports :
```

```
Community Ports  : 1-28    Community VLAN: 1
```

```
Total Entries : 1
```

```
DGS-1210-28MP/ME:5#
```

**config gvrp**

Purpose	To configure configures the Group VLAN Registration Protocol on the Switch. The user can configure ingress checking and acceptable frame tagged only, the sending and receiving of GVRP information, and the Port VLAN ID (PVID).
Syntax	<b>config gvrp</b> [ <b>&lt;portlist&gt;</b>   <b>all</b> ] [ <b>state</b> [ <b>enable</b>   <b>disable</b> ]   <b>ingress_checking</b> [ <b>enable</b>   <b>disable</b> ]   <b>acceptable_frame</b> [ <b>Tagged_Only</b>   <b>All_Frames</b> ]   <b>pvid</b> <b>&lt;vlanid 1-4094&gt;</b> ]
Description	The <b>config gvrp</b> command configures the Group VLAN Registration Protocol on the Switch. The user can configure ingress checking and acceptable frame tagged only, the sending and receiving of GVRP information, and the Port VLAN ID (PVID).
Parameters	<b>&lt;portlist&gt;</b> – A port or range of ports for which to configure GVRP. <b>all</b> – configure GVRP on ports. <b>state</b> [ <b>enable</b>   <b>disable</b> ] - enable and disable GVRP <b>ingress_checking</b> [ <b>enable</b>   <b>disable</b> ] – Enables or disables ingress checking for the specified port list. <b>acceptable_frame</b> [ <b>tagged_only</b>   <b>admit_all</b> ] – Defines the type of frame accepted. Acceptable frames can be limited to tagged frames only ( <b>tagged_only</b> ) or can accept tagged and untagged ( <b>admit_all</b> ). <b>pvid</b> <b>&lt;vlanid 1-4094&gt;</b> – Specifies the default VLAN associated with the port, by VLAN ID.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To set the ingress checking status:

```
DGS-1210-28MP/ME:5# config gvrp all ingress_checking enable
Command: config gvrp all ingress_checking enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config gvrp timer**

Purpose	To configure GVRP timer on the Switch.
Syntax	<b>config gvrp timer</b> [ <b>join_timer</b> <b>&lt;sec 100-100000&gt;</b>   <b>leave_timer</b> <b>&lt;sec 100-100000&gt;</b>   <b>leave-all_timer</b> <b>&lt;sec 100-100000&gt;</b> ]
Description	The <b>config gvrp timer</b> command configures the Group VLAN Registration Protocol on the Switch. The user can configure ingress checking and acceptable frame tagged only, the sending and receiving of GVRP information, and the Port VLAN ID (PVID).
Parameters	<b>join_timer</b> <b>&lt;sec 100-100000&gt;</b> – Specifies the join time for the GVRP on the Switch. The time range is from 100 to 100000 seconds. <b>leave_timer</b> <b>&lt;sec 100-100000&gt;</b> – Specifies the leave time for the GVRP on the Switch. The time range is from 100 to 100000 seconds. <b>leave-all_timer</b> <b>&lt;sec 100-100000&gt;</b> – Specifies the leave all time for the GVRP on the Switch. The time range is from 100 to 100000 seconds.

Restrictions	Only administrator or operator-level users can issue this command.
--------------	--

Example usage:

To set the GVRP packet join time:

```
DGS-1210-28MP/ME:5# config gvrp timer join_timer 100
Command: config gvrp timer join_timer 100

Success.

DGS-1210-28MP/ME:5#
```

## enable gvrp

Purpose	To enable GVRP on the Switch.
Syntax	<b>enable gvrp</b>
Description	The <b>enable gvrp</b> command, along with the <b>disable gvrp</b> command below, is used to enable and disable GVRP on the Switch, without changing the GVRP configuration on the ports and the LAGs.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable the generic VLAN Registration Protocol (GVRP):

```
DGS-1210-28MP/ME:5# enable gvrp
Command: enable gvrp

Success.

DGS-1210-28MP/ME:5#
```

## disable gvrp

Purpose	To disable GVRP on the Switch.
Syntax	<b>disable gvrp</b>
Description	The <b>disable gvrp</b> command, along with the <b>enable gvrp</b> command above, is used to enable and disable GVRP on the Switch, without changing the GVRP configuration on the ports and the LAGs.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable the Generic VLAN Registration Protocol (GVRP):

```
DGS-1210-28MP/ME:5# disable gvrp
Command: disable gvrp

Success.

DGS-1210-28MP/ME:5#
```

## show vlan

Purpose	To display the current VLAN configuration on the Switch
Syntax	<b>show vlan {&lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;   ports &lt;portlist&gt;}</b>
Description	The <b>show vlan</b> command displays summary information about each VLAN including the VLAN ID, VLAN name, the Tagging/Untagging status, and the Member/Non-member/Forbidden status of each port that is a member of the VLAN.
Parameters	<i>&lt;vlan_name 32&gt;</i> - Specify the VLAN name to be displayed. <i>vlanid &lt;vidlist&gt;</i> - Specify the VLAN id to be displayed. <i>ports &lt;portlist&gt;</i> - Specify the ports to be displayed.
Restrictions	None.

Example usage:

To display the Switch's current VLAN settings:

```
DGS-1210-28MP/ME:5# show vlan
Command: show vlan

VID          : 1      VLAN NAME    : default
VLAN Type    : Static
VLAN Advertisement : Disabled
Member Ports : 1-28
Untagged Ports : 1-28
Forbidden Ports :

VID          : 3      VLAN NAME    : v1
VLAN Type    : Static
VLAN Advertisement : Disabled
Member Ports :
Untagged Ports :
Forbidden Ports :

DGS-1210-28MP/ME:5#
```

## create dot1v\_protocol\_group

Purpose	To create a protocol group for protocol VLAN function.
Syntax	<b>create dot1v_protocol_group group_id &lt;id 1-16&gt; {group_name &lt;name 32&gt;}</b>
Description	The <b>create dot1v_protocol_group</b> command creates a protocol group for protocol VLAN function.
Parameters	<i>group_id &lt;id 1-16&gt;</i> - The ID of a protocol group which is used to identify a set of protocols. <i>group_name &lt;name 32&gt;</i> - The name of the protocol group. The maximum length is 32 characters.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To create a protocol group:

```
DGS-1210-28MP/ME:5# create dot1v_protocol_group group_id 1 group_name group1
Command: create dot1v_protocol_group group_id 1 group_name group1
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config dot1v\_protocol\_group

Purpose	To add/delete a protocol to/from a protocol group.
Syntax	<b>config dot1v_protocol_group [group_id &lt;id 1-6&gt;   group_name &lt;name 32&gt;] [add   delete] protocol [ethernet_2 &lt;hex 0x0-0xffff&gt;   ieee802.3_snap &lt;hex 0x0-0xffff&gt;]</b>
Description	The <b>config dot1v_protocol_group</b> command adds/deletes a protocol to/from a protocol group. The selection of a protocol can be a pre-defined protocol type or a user specified protocol type.
Parameters	<i>group_id &lt;id 1-6&gt;</i> – The ID of protocol group which is used to identify a set of protocols. <i>group_name &lt;name 32&gt;</i> – The name of the protocol group. The maximum length is 32 chars. <i>&lt;hex 0x0-0xffff&gt;</i> – The protocol value is used to identify a protocol of the frame type specified. Depending on the frame type, the octet string will have one of the following values: The form of the input is 0x0 to 0xffff.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To add a protocol IPv6 to protocol group 1:

```
DGS-1210-28MP/ME:5# config dot1v_protocol_group group_id 1 add protocol ethernet_2 0x86DD
```

**Command: config dot1v\_protocol\_group group\_id 1 add protocol ethernet\_2 0x86DD**

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete dot1v\_protocol\_group

Purpose	To delete a protocol group.
Syntax	<b>delete dot1v_protocol_group [group_id &lt;id 1-16&gt;   group_name &lt;name 32&gt;   all]</b>
Description	The <b>delete dot1v_protocol_group</b> command deletes a protocol group.
Parameters	<i>group_id &lt;id 1-16&gt;</i> – Specifies the group ID to be deleted. <i>group_name &lt;name 32&gt;</i> – The name of the protocol group. The maximum length is 32 characters.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To delete a protocol group 1:



```
DGS-1210-28MP/ME:5# delete dot1v_protocol_group all
Command: delete dot1v_protocol_group all
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show dot1v\_protocol\_group

Purpose	To display the protocols defined in a protocol group.
Syntax	<b>show dot1v_protocol_group {group_id &lt;id 1-16&gt;   group_name &lt;name 32&gt;}</b>
Description	The <b>show dot1v_protocol_group</b> command displays the protocols defined in protocol groups.
Parameters	<i>group_id &lt;id 1-16&gt;</i> – Specifies the group ID to be displayed. <i>group_name &lt;name 32&gt;</i> – The name of the protocol group. The maximum length is 32 characters.
Restrictions	None.

Example usage:

To display the protocol group:

```
DGS-1210-28MP/ME:5# show dot1v_protocol_group
Command: show dot1v_protocol_group
```

```
Group ID Protocol Group Name          Frame Type  Protocol Value
-----
```

```
Total Entries: 0
```

```
DGS-1210-28MP/ME:5#
```

## config port dot1v ports

Purpose	To assign the VLAN for untagged packets ingress from the portlist based on the protocol group configured.
Syntax	<b>config port dot1v ports {[&lt;portlist&gt;   all]} [add   delete] protocol_group [group_name &lt;name 32&gt;   group_id &lt;id 1-16&gt;] [vlan &lt;vlan_name 32&gt;   vlanid &lt;id 1-4094&gt;]</b>
Description	The <b>config port dot1v ports all</b> command assign the VLAN for untagged packets ingress from the portlist based on the protocol group configured.
Parameters	<i>{[&lt;portlist&gt;   all]}</i> – Specify the ports or all ports to be configured. <i>[add   delete]</i> – Specify to add or delete a protocol group. <i>group_name &lt;name 32&gt;</i> – The name of the protocol group. The maximum length is 32 chars. <i>group_id &lt;id 1-16&gt;</i> – The ID of protocol group which is used to identify a set of protocols. <i>&lt;vlan_name 32&gt;</i> – Specify the VLAN name to be configured.

Restrictions	<p><i>&lt;id 1-4094&gt;</i> – Specify the VLAN id to be configured.</p> <p>Only Administrator and Operator and Power-User-level users can issue this command.</p>
--------------	---

Example usage:

To configure the group ID 4 to be associated with VLAN 2:

<pre>DGS-1210-28MP/ME:5#config port dot1v ports all add protocol_group group_id 4 vlan vlan2 Command: config port dot1v ports all add protocol_group group_id 4 vlan vlan2  Success.  DGS-1210-28MP/ME:5#</pre>
---

## show port dot1v

Purpose	To display the VLAN to be associated with untagged packets ingressed from a port based on the protocol group.
Syntax	<b>show port dot1v {ports &lt;portlist&gt;}</b>
Description	The <b>show port dot1v</b> command is used to display the VLAN to be associated with untagged packets ingressed from a port based on the protocol group.
Parameters	<i>ports &lt;portlist&gt;</i> – Specify a range of ports to be displayed. If not specified, information for all ports will be displayed.
Restrictions	None.

Example usage:

To display the protocol VLAN information for ports 1 to 2:

<pre>DGS-1210-28MP/ME:5# show port dot1v ports 1-2 Command: show port dot1v ports 1-2  Port: 1 No valid dot1v entry!  Port: 2 No valid dot1v entry!  Total Entries: 0  DGS-1210-28MP/ME:5#</pre>
--

## show gvrp

Purpose	To display the GVRP status for a port list or port channel on the Switch.
Syntax	<b>show gvrp {&lt;portlist&gt;}</b>

Description	The <b>show gvrp</b> command displays the GVRP status for a port list or a port channel on the Switch.
Parameters	<portlist> – Specifies a port or range of ports for which the GVRP status is to be displayed.
Restrictions	None.

Example usage:

To display GVRP port 5~8 status:

```
DGS-1210-28MP/ME:5# show gvrp 5-8
Command: show gvrp 5-8

Global GVRP : Enable
```

Port	PVID	GVRP State	Ingress Checking	Acceptable Frame Type
----	----	-----	-----	-----
5	1	Enable	Enable	All Frames
6	1	Enable	Enable	All Frames
7	1	Enable	Enable	All Frames
8	1	Enable	Enable	All Frames

```
Total Entries : 4

DGS-1210-28MP/ME:5#
```

## show gvrp timer

Purpose	To display the GVRP timer information on the Switch.
Syntax	<b>show gvrp timer</b>
Description	The <b>show gvrp</b> command displays the GVRP timer on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display GVRP timer information:

```
DGS-1210-28MP/ME:5# show gvrp timer
Command: show gvrp timer

Garp Timer Info (in milli seconds)
-----
```

Join-time	Leave-time	Leave-all-time
-----	-----	-----
100	600	10000

```
DGS-1210-28MP/ME:5#
```

**enable vlan\_trunk**

Purpose	To enable VLAN trunking on the switch.
Syntax	<b>enable vlan_trunk</b>
Description	The <b>enable vlan_trunk</b> command, along with the <b>disable vlan_trunk</b> command below, is used to enable and disable VLAN trunking on the Switch, without changing the VLAN trunking configuration on the ports.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable vlan\_trunk on the switch:

```
DGS-1210-28MP/ME:5#enable vlan_trunk
Command: enable vlan_trunk

Success.
DGS-1210-28MP/ME:5#
```

**disable vlan\_trunk**

Purpose	To disable VLAN Trunking on the switch.
Syntax	<b>disable vlan_trunk</b>
Description	The <b>disable vlan_trunk</b> command, along with the <b>enable vlan_trunk</b> command below, is used to disable and enable VLAN Trunking on the Switch, without changing the VLAN Trunking configuration on the ports.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable vlan\_trunk on the switch:

```
DGS-1210-28MP/ME:5# disable vlan_trunk
Command: disable vlan_trunk

Success.
DGS-1210-28MP/ME:5#
```

**show vlan\_trunk**

Purpose	To display the current VLAN Trunking configuration on the Switch.
Syntax	<b>show vlan_trunk</b>
Description	The <b>show vlan_trunk</b> command displays summary information about VLAN trunking status and configured ports.
Parameters	None.
Restrictions	None.

Example usage:

To display the Switch's current VLAN\_trunk settings:

```
DGS-1210-28MP/ME:5# show vlan_trunk
Command: show vlan_trunk

VLAN Trunk Status    :Enable
Member Ports        :None

DGS-1210-28MP/ME:5#
```

### config vlan\_trunk ports

Purpose	To configure VLAN Trunking port settings on the Switch.
Syntax	<b>config vlan_trunk ports [&lt;portlist&gt;   all] state [enable   disable]</b>
Description	The <b>config vlan_trunk ports</b> command configures the VLAN trunking port settings on the Switch. The user can enable VLAN Trunking and define ports to be added to the VLAN Trunking settings.
Parameters	<i>&lt;portlist&gt;   all</i> – A port, range of ports or all ports for which to configure VLAN Trunking. <i>state [enable   disable]</i> – enable and disable VLAN trunking.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To define VLAN Trunking:

```
DGS-1210-28MP/ME:5# config vlan_trunk ports all state enable
Command: config vlan_trunk ports all state enable

Success.
DGS-1210-28MP/ME:5#
```

### enable asymmetric\_vlan

Purpose	To enable Asymmetric VLAN on the switch.
Syntax	<b>enable asymmetric_vlan</b>
Description	The <b>enable asymmetric_vlan</b> command, along with the <b>disable enable asymmetric_vlan</b> command below, is used to enable and disable Asymmetric VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable Asymmetric VLAN on the switch:

```
DGS-1210-28MP/ME:5# enable asymmetric_vlan
Command: enable asymmetric_vlan

Success.
DGS-1210-28MP/ME:5#
```

**disable asymmetric\_vlan**

Purpose	To disable Asymmetric VLAN on the switch.
Syntax	<b>disable asymmetric_vlan</b>
Description	The <b>disable asymmetric_vlan</b> command, along with the <b>enable asymmetric_vlan</b> command below, is used to disable and enable Asymmetric VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable asymmetric\_vlan on the switch:

```
DGS-1210-28MP/ME:5# disable asymmetric_vlan
Command: disable asymmetric_vlan

Success.
DGS-1210-28MP/ME:5#
```

**show asymmetric\_vlan**

Purpose	To display the Asymmetric VLAN status on the Switch.
Syntax	<b>show asymmetric_vlan</b>
Description	The <b>show asymmetric_vlan</b> command displays the Asymmetric VLAN status on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display Asymmetric VLAN status:

```
DGS-1210-28MP/ME:5# show asymmetric_vlan
Command: show asymmetric_vlan

Asymmetric VLAN : Enable
DGS-1210-28MP/ME:5#
```

**enable pvid auto\_assign**

Purpose	To enable auto assignment of PVID.
Syntax	<b>enable pvid auto_assign</b>
Description	The <b>enable pvid auto_assign</b> command enables the auto-assign of PVID. When this is enabled, PVID will be possibly changed by PVID or VLAN configuration. When user configures a port to VLAN X's untagged membership, this port's PVID will be updated with VLAN X. In the form of VLAN list command, PVID is updated with last item of VLAN list. When user removes a port from the untagged membership of the PVID's VLAN, the port's PVID will be assigned with "default VLAN". The default setting is <i>enabled</i> .

Parameters	None.
Restrictions	Only Administrator, Operator and Power-User-level users can issue this command.

Example usage:

To enable the auto-assign PVID:

```
DGS-1210-28MP/ME:5# enable pvid auto_assign
Command: enable pvid auto_assign

Success.
DGS-1210-28MP/ME:5#
```

## disable pvid auto\_assign

Purpose	To disable auto assignment of PVID.
Syntax	<b>disable pvid auto_assign</b>
Description	The <b>disable pvid auto_assign</b> command disables the auto-assign of PVID. When it is disabled, PVID only be changed by PVID configuration (user changes explicitly). The VLAN configuration will not automatically change PVID. The default setting is <i>enabled</i> .
Parameters	None.
Restrictions	Only Administrator, Operator and Power-User-level users can issue this command.

Example usage:

To disable the auto-assign PVID:

```
DGS-1210-28MP/ME:5# disable pvid auto_assign
Command: disable pvid auto_assign

Success.
DGS-1210-28MP/ME:5#
```

## show pvid auto\_assign

Purpose	To show auto assignment of PVID.
Syntax	<b>show pvid auto_assign</b>
Description	The <b>show pvid auto_assign</b> command is used to show PVID auto-assignment state.
Parameters	None.
Restrictions	None.

Example usage:

To display the auto-assign PVID state:

```
DGS-1210-28MP/ME:5# show pvid auto_assign
Command: show pvid auto_assign

PVID Auto-assignment: Enabled
DGS-1210-28MP/ME:5#
```

**create mac\_based\_vlan mac\_address**

Purpose	To create a static MAC-based VLAN entry.
Syntax	<b>create mac_based_vlan mac_address &lt;macaddr&gt; [vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid 1-4094&gt;   mask[&lt;000000000000 - ffffffff&gt;]]</b>
Description	<p>This command only needs to be supported by the model which supports MAC-based VLAN.</p> <p>The user can use this command to create a static MAC-based VLAN entry.</p> <p>When a MAC-based VLAN entry is created for a user, the traffic from this user will be able to be serviced under the specified VLAN regardless of the authentication function operated on this port.</p> <p>There is a global limitation of the maximum entries up to 1024 for the static MAC-based entry.</p>
Parameters	<p>&lt;macaddr&gt; - Specifies the MAC address to be created.</p> <p>&lt;vlan_name 32&gt; - Specifies the VLAN name.</p> <p>&lt;vlanid 1-4094&gt; - Specifies the VLAN id.</p> <p>mask &lt;000000000000 - ffffffff&gt; - Specifies the mask.</p>
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command. .

Example usage:

To create a MAC-based VLAN entry:

```
DGS-1210-28MP/ME:5# create mac_based_vlan mac_address 00-00-00-11-22-33 vlan
default
Command: create mac_based_vlan mac_address 00-00-00-11-22-33 vlan default

Success.
DGS-1210-28MP/ME:5#
```

**delete mac\_based\_vlan mac address**

Purpose	To delete a static MAC-based VLAN entry.
Syntax	<b>delete mac_based_vlan mac address &lt;macaddr&gt; [vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid 1-4094&gt;]</b>
Description	The <b>delete mac_based_vlan mac address</b> command is used to delete a database entry. If the MAC address and VLAN is not specified, all static entries will be removed.
Parameters	<p>&lt;macaddr&gt; - Specifies the MAC address to be created.</p> <p>&lt;vlan_name 32&gt; - Specifies the VLAN name.</p> <p>&lt;vlanid 1-4094&gt; - Specifies the VLAN id.</p>
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command. .

Example usage:

To delete a static MAC-based VLAN entry:

```
DGS-1210-28MP/ME:5# delete mac_based_vlan mac_address 00-00-00-11-22-33 vlan
default
Command: delete mac_based_vlan mac_address 00-00-00-11-22-33 vlan default
```



```
Success.
DGS-1210-28MP/ME:5#
```

## show mac\_based\_vlan mac address

Purpose	To show the static or dynamic MAC-based VLAN entry.
Syntax	<b>show mac_based_vlan mac_address &lt;macaddr&gt; [ mask &lt;macmask 000000000000-ffffffff&gt;   vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid 1-4094&gt;]</b>
Description	The <b>show mac_based_vlan mac address</b> command is used to display the static or dynamic MAC-Based VLAN entry. If the MAC address and VLAN is not specified, all static and dynamic entries will be displayed.
Parameters	<macaddr> - Specifies the MAC address to be displayed. <macmask 000000000000-ffffffff> - Specifies the MAC mask to be displayed. <vlan_name 32> - Specifies the VLAN name. <vlanid 1-4094> - Specifies the VLAN id.
Restrictions	None.

Example usage:

To display the static or dynamic MAC-based VLAN entry:

```
DGS-1210-28MP/ME:5# show mac_based_vlan mac_address 00-00-00-11-22-33
Command: show mac_based_vlan mac_address 00-00-00-11-22-33

  MAC Address   MAC Address Mask   VLAN ID   Status   Type
  -----
00-00-00-11-22-33 FF-FF-FF-FF-FF-FF 1   Active   Static

Total Entries : 1

DGS-1210-28MP/ME:5#
```

## config vlan\_auto\_learn

Purpose	To configure MAC address autolearning on a VLAN to be enabled or disabled.
Syntax	<b>config vlan_auto_learn vlanid &lt;vidlist&gt; [enable   disable]</b>
Description	This <b>config vlan_auto_learn</b> command is used to configure MAC address autolearning on a VLAN to be enabled or disabled.
Parameters	<vidlist> - Specifies the VLAN id to be configured.
Restrictions	Only Administrator and Operator and Power-User-level users can issue this command.

Example usage:

To enable the VLAN ID 1of MAC address autolearning to be enabled:

```
DGS-1210-28MP/ME:5# config vlan_auto_learn vlanid 1 enable
Command: config vlan_auto_learn vlanid 1 enable
```

```
Success.
DGS-1210-28MP/ME:5#
```

## show vlan\_auto\_learn

Purpose	To display the MAC address autolearning state of a VLAN on the Switch.
Syntax	<b>show vlan_auto_learn vlanid [all   vlanid &lt;vidlist&gt;]</b>
Description	This <b>show vlan_auto_learn</b> command is used to display the MAC address autolearning state of a VLAN on the Switch.
Parameters	<i>all</i>   <i>vlanid</i> <vidlist> - Specifies all VLANs or VLAN id to be displayed.
Restrictions	None.

Example usage:

To display the VLAN ID 1of MAC address autolearning state:

```
DGS-1210-28MP/ME:5# config vlan_auto_learn vlanid 1 enable
Command: config vlan_auto_learn vlanid 1 enable
```

```
Success.
DGS-1210-28MP/ME:5#
```

## enable voice\_vlan

Purpose	To assign the particular VLAN as Voice VLAN.
Syntax	<b>enable voice_vlan [ vlanid &lt;vlanid (1-4094)&gt;   &lt;vlan_name (32) &gt; ]</b>
Description	Voice VLAN is a VLAN used to carry voice traffic from IP phone. The quality of service (QoS) for voice traffic shall be configured higher than normal traffic to ensure the quality of sound.
Parameters	<vlanid (1-4094)> - Specifies all VLANs or VLAN id to be displayed. <vlan_name> - Specifies the name of VLAN
Restrictions	None.

Example usage:

To assign the particular VLAN as Voice VLAN:

```
DGS-1210-28/ME:5# create vlan vlanid 5
Command: create vlan vlanid 5

Success.
DGS-1210-28/ME:5# enable voice_vlan vlanid 5
Command: enable voice_vlan vlanid 5

Success.
DGS-1210-28/ME:5# show voice_vlan
Command: show voice_vlan
```

```

Voice VLAN State   : Enabled
Voice VLAN        : 5
Priority           : 5
Aging Time        : 1 hours
Log State         : Disabled
Member Ports      :
Dynamic Member Ports :

```

```
DGS-1210-28/ME:5#
```

## disable voice\_vlan

Purpose	To disable Voice VLAN function.
Syntax	<b>disable voice_vlan</b>
Description	To disable Voice VLAN function
Parameters	None
Restrictions	None.

## config voice\_vlan aging\_time

Purpose	To specify the aging time of dynamic Voice VLAN member port.
Syntax	<b>config voice_vlan aging_time &lt;integer (1-120)&gt;</b>
Description	To specify the aging time of dynamic Voice VLAN member port
Parameters	<integer (1-120)> - in range of 1-120 hours
Restrictions	None.

Example usage:

To specify the aging time of dynamic Voice VLAN member port:

```

DGS-1210-28/ME:5# config voice_vlan aging_time 2
Command: config voice_vlan aging_time 2

```

Success.

```
DGS-1210-28/ME:5# show voice_vlan
```

```
Command: show voice_vlan
```

```

Voice VLAN State   : Enabled
Voice VLAN        : 5
Priority           : 5
Aging Time        : 2 hours
Log State         : Disabled
Member Ports      :
Dynamic Member Ports :

```

```
DGS-1210-28/ME:5#
```

**config voice\_vlan priority**

Purpose	To specify the 802.1p priority value used in voice traffic.
Syntax	<b>config voice_vlan priority &lt;integer (0-7)&gt;</b>
Description	To specify the 802.1p priority value used in voice traffic.
Parameters	<integer (0-7)> - in range of 0-7 of 802.1p priority value
Restrictions	None.

Example usage:

To specify the 802.1p priority value used in voice traffic:

```
DGS-1210-28/ME:5# config voice_vlan priority 7
Command: config voice_vlan priority 7
```

Success.

```
DGS-1210-28/ME:5# show voice_vlan
Command: show voice_vlan
```

```
Voice VLAN State   : Enabled
Voice VLAN        : 5
Priority           : 7
Aging Time        : 2 hours
Log State         : Disabled
Member Ports      : 8
Dynamic Member Ports : 1
```

```
DGS-1210-28/ME:5#
```

**config voice\_vlan oui**

Purpose	To specify the particular OUI (Organization Unique Identifier) values for Voice VLAN auto detection feature.
Syntax	<b>config voice_vlan oui [ add &lt;macaddr&gt; description &lt;string (20)&gt; { mask &lt;macmask&gt; }   delete &lt;macaddr&gt; ]</b>
Description	To specify the particular OUI (Organization Unique Identifier) values for Voice VLAN auto detection feature. The OUI can be determined as range list by configuring MAC mask.
Parameters	<macaddr> - To specify the MAC address either by XX:XX:XX:XX:XX:XX or XX-XX-XX-XX-XX-XX format <macmask> - To specify the mask of MAC address identified
Restrictions	None.

Example usage:

To specify the particular OUI (Organization Unique Identifier) values for Voice VLAN auto detection feature:

```
DGS-1210-28/ME:5# config voice_vlan oui add 00-12-34-00-00-00 description
DLINK_TEST
Command: config voice_vlan oui add 00-12-34-00-00-00 description DLINK_TEST
```

```

Success.
DGS-1210-28/ME:5# config voice_vlan oui add 00:23:45:00:00:01 description
DLINK_MASK mask ff:ff:ff:ff:ff
Command: config voice_vlan oui add 00:23:45:00:00:01 description DLINK_MASK mask
ff:ff:ff:ff:ff

Success.
DGS-1210-28/ME:5# show voice_vlan oui
Command: show voice_vlan oui

ID      Description      Telephony OUI      OUI Mask
--      -
1       DLINK_TEST       00-12-34-00-00-00  FF-FF-FF-00-00-00
2       DLINK_MASK       00-23-45-00-00-01  FF-FF-FF-FF-FF-FF

Total Entries : 2

DGS-1210-28/ME:5#

```

## config voice\_vlan ports

Purpose	To change the the state of auto detection feature in Voice VLAN.
Syntax	<b>config voice_vlan ports &lt;portlist&gt; auto detection [ enable { tag   untag }   disable ]</b>
Description	To change the the state of auto detection feature in Voice VLAN.
Parameters	<portlist> – A port, range of ports which would configured for Voice VLAN auto detection state. { tag   untag } – Determine the port rule once the MAC address (OUI) hits the value configured
Restrictions	None.

### Example usage:

To specify the particular OUI (Organization Unique Identifier) values for Voice VLAN auto detection feature:

```

DGS-1210-28/ME:5# config voice_vlan ports 1 auto dectection enable untag
Command: config voice_vlan ports 1 auto dectection enable untag

Success.

DGS-1210-28/ME:5# config voice_vlan ports 8 auto dectection enable tag
Command: config voice_vlan ports 8 auto dectection enable tag

Success.

DGS-1210-28/ME:5# show voice_vlan voice_device all

```

Command: show voice\_vlan voice\_device all

Ports Voice Device

```
-----
1    00-12-34-00-00-01
8    00-23-45-00-00-01
```

DGS-1210-28/ME:5# show vlan vlanid 5

Command: show vlan vlanid 5

```
VID          : 5      VLAN NAME    : VLAN5
VLAN Type    : Voice VLAN
VLAN Advertisement : Disabled
Member Ports : 1,8
Tagged Ports : 8
Untagged Ports : 1
Forbidden Ports : 1
```

## config voice\_vlan log state

Purpose	To change the the state of logging the event of Voice VLAN.
Syntax	<b>config voice_vlan log state [ enable   disable ]</b>
Description	To change the the state of logging the event of Voice VLAN.
Parameters	<i>enable</i> – Enable the logging machanism <i>disable</i> – Disable the logging mechanism
Restrictions	None.

Example usage:

To specify the particular OUI (Organization Unique Identifier) values for Voice VLAN auto detection feature:

DGS-1210-28/ME:5# config voice\_vlan log state enable

Command: config voice\_vlan log state enable

Success.

DGS-1210-28/ME:5# show log

Command: show log

```
Index Time          Log Text
-----
10 Mar 6 17:20:55:Voice Vlan-6: Port 8 add into voice VLAN 5
 9 Mar 6 17:20:55:Voice Vlan-6: New voice device detected (Port:8, MAC:0-23-45-0-0-1)
 8 Mar 6 17:20:54:Voice Vlan-6: Port 1 add into voice VLAN 5
 7 Mar 6 17:20:54:Voice Vlan-6: New voice device detected (Port:1, MAC:0-12-34-0-0-1)
```

```

6 Mar 6 17:20:40:LinkStatus-6: Port 8 link up, 100Mbps FULL duplex
5 Mar 6 17:20:38:Voice Vlan-6: Port 8 remove from voice VLAN 5
4 Mar 6 17:20:38:LinkStatus-6: port 8 link down
3 Mar 6 17:20:36:LinkStatus-6: Port 1 link up, 100Mbps FULL duplex
2 Mar 6 17:20:33:Voice Vlan-6: Port 1 remove from voice VLAN 5
1 Mar 6 17:20:33:LinkStatus-6: port 1 link down

DGS-1210-28/ME:5#
    
```

<b>show voice_vlan</b>	
Purpose	Used to show Voice VLAN global status, per port status, and dynamic learned device.
Syntax	<b>show voice_vlan [ { oui   ports &lt;portlist&gt;   { { lldp_med voice_device   voice_device } { all   ports &lt;portlist&gt; } } ]</b>
Description	To change the the state of logging the event of Voice VLAN.
Parameters	<i>oui</i> – Specify the Voice VLAN OUI parameters configured. <portlist> –A port, range of ports would be displayed <i>lldp_med voice_device</i> – Specify the dynamic device learned by LLDP-MED mechanism <i>voice_device</i> – Specify the dynamic devices learned by OUI.mechanism
Restrictions	None.

Example usage:

To show Voice VLAN global status, per port status, and dynamic learned device:

```

DGS-1210-28/ME:5# show voice_vlan oui
Command: show voice_vlan oui

ID      Description      Telephony OUI      OUI Mask
--      -
1      DLINK_TEST        00-12-34-00-00-00  FF-FF-FF-00-00-00
2      DLINK_MASK        00-23-45-00-00-01  FF-FF-FF-FF-FF-FF

Total Entries : 2
DGS-1210-28/ME:5# show voice_vlan voice_device all
Command: show voice_vlan voice_device all

Ports  Voice Device
-----
1      00-12-34-00-00-01
8      00-23-45-00-00-01

Total Entries : 2
    
```

## MAC-BASED ACCESS CONTROL COMMANDS

The MAC-Based Access Control commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable mac_based_access_control	
disable mac_based_access_control	
config mac_based_access_control password	<passwd 16>
config mac_based_access_control method	[local   radius]
config mac_based_access_control port	[<portlist>   all] {state [enable   disable]   aging_time [infinite   <value 1-1440>]   block_time <value 0-300>}
config mac_based_access_control trap state	[enable   disable]
config mac_based_access_control log state	[enable   disable]
config mac_based_access_control max_users	<value 1-1000>
create mac_based_access_control_local mac_address	<mac_addr> vlanid <int 1-4094>
show mac_based_access_control	{port [<portlist>   all]}
show mac_based_access_control_local	{mac_address <mac_addr>   vlanid <int 1-4094>}
show mac_based_access_control_local auth_state ports	[<portlist>   all]
delete mac_based_access_control_local mac_address	<mac_addr> vlanid <int 1-4094>

Each command is listed in detail, as follows:



**enable mac\_based\_access\_control**

Purpose	To enable MAC-based Access Control.
Syntax	<b>enable mac_based_access_control</b>
Description	The <b>enable mac_based_access_control</b> command will enable the MAC-based AC function.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable MAC-based AC function:

```
DGS-1210-28MP/ME:5# enable mac_based_access_control
Command: enable mac_based_access_control

Success.

DGS-1210-28MP/ME:5#
```

**disable mac\_based\_access\_control**

Purpose	To disable MAC-based Access Control.
Syntax	<b>disable mac_based_access_control</b>
Description	The <b>disable mac_based_access_control</b> command will disable the MAC-based AC function.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable MAC-based AC function:

```
DGS-1210-28MP/ME:5# disable mac_based_access_control
Command: disable mac_based_access_control

Success.

DGS-1210-28MP/ME:5#
```

**config mac\_based\_access\_control password**

Purpose	To configure the password of the MAC-based Access Control.
Syntax	<b>config mac_based_access_control password &lt;passwd 16&gt;</b>
Description	The <b>config mac_based_access_control password</b> command will set the password that will be used for authentication via RADIUS server.
Parameters	<passwd 16> - In RADIUS mode, the Switch communicate with RADIUS server use the password. The maximum length of the key

	is 16.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure MAC-based AC password:

```
DGS-1210-28MP/ME:5# config mac_based_access_control password 1234
Command: config mac_based_access_control password 1234
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config mac\_based\_access\_control method

Purpose	To configure the MAC-based AC authenticating method.
Syntax	<b>config mac_based_access_control method [local   radius]</b>
Description	The <b>config mac_based_access_control method</b> command is used to specify to authenticate via local database or via RADIUS server.
Parameters	<i>local</i> – Specifies to authenticate via local database. <i>radius</i> – Specifies to authenticate via RADIUS server
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure mac based access control authenticating method:

```
DGS-1210-28MP/ME:5# config mac_based_access_control method radius
Command: config mac_based_access_control method radius
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config mac\_based\_access\_control port

Purpose	To configure the parameter of the MAC-based access control.
Syntax	<b>config mac_based_access_control port [&lt;portlist&gt;   all] {state [enable   disable]   aging_time [infinite   &lt;value 1-1440&gt;]   block_time &lt;value 0-300&gt;}</b>
Description	The <b>config mac_based_access_control port</b> command is used to configure the parameter of the MAC-based access control.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a range of ports or all ports to be configured. <i>state [enable   disable]</i> – Specifies whether MAC-based AC function is enabled or disabled. <i>aging_time [infinite   &lt;value 1-1440&gt;]</i> – A time period during which an authenticated host will be kept in authenticated state. When the aging time is time-out, the host will be moved back to

	unauthenticated state. <i>block_time</i> <value 0-300> – If a host fails to pass the authentication, the next authentication will not started within <i>block_time</i> unless the user clears the entry state manually.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure port state:

DGS-1210-28MP/ME:5#	config mac_based_access_control port all aging_time 100
	Command: config mac_based_access_control port all aging_time 100
	Success.
DGS-1210-28MP/ME:5#	

### config mac\_based\_access\_control trap state

Purpose	To enable or disable sending of MAC-based Access Control traps.
Syntax	<b>config mac_based_access_control trap state [enable   disable]</b>
Description	The <b>config mac_based_access_control trap state</b> command is used to enable or disable sending of MAC-based Access Control traps.
Parameters	<i>[enable   disable]</i> - Specifies to enable or disable trap for MAC-based Access Control.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable trap state of MAC-based Access Control:

DGS-1210-28MP/ME:5#	config mac_based_access_control trap state enable
	Command: config mac_based_access_control trap state enable
	Success.
DGS-1210-28MP/ME:5#	

### config mac\_based\_access\_control log state

Purpose	To enable or disable generating of MAC-based Access Control logs.
Syntax	<b>config mac_based_access_control log state [enable   disable]</b>
Description	The <b>config mac_based_access_control log state</b> command is used to enable or disable generating of MAC-based Access Control logs.
Parameters	<i>[enable   disable]</i> - Specifies to enable or disable generating of MAC-based Access Control logs
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable log state of MAC-based Access Control:

```
DGS-1210-28MP/ME:5# config mac_based_access_control log state disable
Command: config mac_based_access_control log state disable

Success.

DGS-1210-28MP/ME:5#
```

### config mac\_based\_access\_control log max\_users

Purpose	To configure the maximum users of MAC-based Access Control.
Syntax	<b>config mac_based_access_control max_users &lt;value 1-1000&gt;</b>
Description	The <b>config mac_based_access_control log state</b> command is used to configure the maximum users of MAC-based Access Control.
Parameters	<value 1-1000> - Specifies the maximum users of MAC-based Access Control. The range is between 1 and 1000.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To specify the maximum users of MAC-based Access Control:

```
DGS-1210-28MP/ME:5# config mac_based_access_control max_users 100
Command: config mac_based_access_control max_users 100

Success.

DGS-1210-28MP/ME:5#
```

### create mac\_based\_access\_control\_local mac\_address

Purpose	To create the local database entry.
Syntax	<b>create mac_based_access_control_local mac_address &lt;mac_addr&gt; vlanid &lt;int 1-4094&gt;</b>
Description	The <b>create mac_based_access_control_local mac_address</b> command is used to create a database entry.
Parameters	<mac_addr> - Specifies MAC address that accesses accept by local mode. vlanid <int 1-4094> - Specifies the MAC address of the specified VLAN ID to be created.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To create a local database entry:

```
DGS-1210-28MP/ME:5# create mac_based_access_control_local mac_address 00-11-22-33-44-55 vlanid 1
Command: create mac_based_access_control_local mac_address 00-11-22-33-44-55 vlanid 1
```

Success.

DGS-1210-28MP/ME:5#

## show mac\_based\_access\_control

Purpose	To display mac_based_access_control setting.
Syntax	<b>show mac_based_access_control {port [&lt;portlist&gt;   all]}</b>
Description	The <b>show mac_based_access_control</b> command is used to display mac_based_access_control settings.
Parameters	<i>port [&lt;portlist&gt;   all]</i> - Specifies a range of ports or all ports to be displayed the mac_based_access_control settings.
Restrictions	None.

Example usage:

To display MAC-based Access Control settings:

```
DGS-1210-28MP/ME:5# show mac_based_access_control
```

```
Command: show mac_based_access_control
```

```
Global State      : Enable
```

```
Method           : Radius
```

```
Password         : 1234
```

```
Trap             : Enable
```

```
Log              : Disable
```

```
Max User         : 100
```

Success.

DGS-1210-28MP/ME:5#

## show mac\_based\_access\_control\_local

Purpose	To display mac_based_access_control local database.
Syntax	<b>show mac_based_access_control_local {mac_address &lt;mac_addr&gt;   vlanid &lt;int 1-4094&gt;}</b>
Description	The <b>show mac_based_access_control_local</b> command is used to display mac_based_access_control local database.
Parameters	<i>mac_address &lt;mac_addr&gt;</i> - Displays the MAC-based Access Control local database by this MAC address. <i>vlanid &lt;int 1-4094&gt;</i> - Displays the MAC-based Access Control local database by this VLAN ID.
Restrictions	None.

Example usage:

To display MAC-based Access Control local database entries:

```
DGS-1210-28MP/ME:5# show mac_based_access_control_local
```

```
Command: show mac_based_access_control_local
```

```
ID                : 1
MAC Address       : 00-11-22-33-44-55
Vlan ID          : 1
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show mac\_based\_access\_control\_auth\_state ports

Purpose	To display mac_based_access_control authentication status.
Syntax	<b>show mac_based_access_control_local auth_state ports</b> <b>[&lt;portlist&gt;   all]</b>
Description	The <b>show mac_based_access_control_local auth_state ports</b> command is used to display mac_based_access_control authentication status.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a range of ports or all ports to be displayed the MAC-based Access Control port state.
Restrictions	None.

Example usage:

To display mac based access control auth state:

```
DGS-1210-28MP/ME:5# show mac_based_access_control_auth_state ports 1-28
Command: show mac_based_access_control_auth_state ports 1-28
```

```
Empty Entry
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## delete mac\_based\_access\_control\_local

Purpose	To delete the local database entry.
Syntax	<b>delete mac_based_access_control_local mac_address</b> <b>&lt;mac_addr&gt; vlanid &lt;int 1-4094&gt;</b>
Description	The <b>delete mac_based_access_control_local</b> command is used to delete the local database entry.
Parameters	<i>&lt;mac_addr&gt;</i> - Specifies MAC address that accesses accept by local mode. <i>vlanid &lt;int 1-4094&gt;</i> - Specifies the MAC address of the specified VLAN ID to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete the local database entry by mac address with VLAN id 2:

```
DGS-1210-28MP/ME:5# delete mac_based_access_control_local mac 00-00-00-00-00-01 vlanid 2
```

```
Command: delete mac_based_access_control_local mac 00-00-00-00-00-01 vlanid 2
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## Q-IN-Q COMMANDS

The Link Aggregation commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable qinq	
disable qinq	
show qinq	{ports [<portlist>   inner_tpid]}
config qinq ports	[<portlist>   all] [role [nni   uni]   outer_tpid <hex 0x1 - 0xffff>   add_inner_tag <hex 0x1-0xffff>   missdrop [enable   disable]]
config qinq inner_tpid	<hex 0x1-0xffff>
create vlan_translation	ports <portlist> [add   replace] cvid <vidlist> svid <vlanid 1-4094> {priority <priority 0-7>}
show vlan_translation	{cvid <vidlist>}
delete vlan_translation	ports [<portlist>   all] {cvid [<vidlist>   all]}

Each command is listed in detail, as follows:

enable qinq	
Purpose	To enable the Q-in-Q mode.
Syntax	<b>enable qinq</b>
Description	<p>The <b>enable qinq</b> command creates a used to enable the Q-in-Q mode.</p> <p>When Q-in-Q is enabled, all network port roles will be NNI port and their outer TPID will be set to 88a8. All existing static VLANs will run as SP-VLAN. All dynamically learned L2 address will be cleared. GVRP and STP need to be disabled manually.</p> <p>If you need to run GVRP on the Switch, firstly enable GVRP manually. The default setting of Q-in-Q is disabled.</p>
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable Q-in-Q:

```
DGS-1210-28MP/ME:5# enable qinq
Command: enable qinq

Success.
DGS-1210-28MP/ME:5#
```



**disable qinq**

Purpose	To disable the Q-in-Q mode.
Syntax	<b>disable qinq</b>
Description	The <b>disable qinq</b> command creates a used to disable the Q-in-Q mode. All dynamically learned L2 address will be cleared. All dynamically registered VLAN entries will be cleared, GVRP will be disabled. If you need to run GVRP on the Switch, firstly enable GVRP manually. All existing SP-VLANs will run as static 1Q VLANs. The default setting of Q-in-Q is disabled.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable Q-in-Q:

```
DGS-1210-28MP/ME:5# disable qinq
Command: disable qinq
```

```
Success.
DGS-1210-28MP/ME:5#
```

**show qinq**

Purpose	To show global Q-in-Q and port Q-in-Q mode status.
Syntax	<b>show qinq {ports [&lt;portlist&gt;   inner_tpid]}</b>
Description	The <b>show qinq</b> command is used to show the global Q-in-Q status, including: port role in Q-in-Q mode and port outer TPID.
Parameters	<i>&lt;portlist&gt;</i> - Specifies a range of ports to be displayed. If no parameter is specified, the system will display all Q-in-Q port information. <i>Inner_tpid</i> – Specifies the inner tpid to be showed.
Restrictions	None.

Example usage:

To show the Q-in-Q status for ports 1 to 2:

```
DGS-1210-28MP/ME:5# show qinq ports 1-2
Command: show qinq ports 1-2
```

```
Port ID: 1
```

```
-----
Role:          UNI
Miss Drop:     Disabled
Outer Tpid:    0x8100
Add Inner Tag: Disabled
-----
```

Port ID: 2
-----
Role: UNI
Miss Drop: Disabled
Outer Tpid: 0x8100
Add Inner Tag: Disabled
-----
DGS-1210-28MP/ME:5#

## config qinq ports

Purpose	Used to configure Q-in-Q ports.
Syntax	<b>config qinq ports</b> [<portlist>   all] [role [nni   uni]   outer_tpid <hex 0x1 - 0xffff>   add_inner_tag <hex 0x1-0xffff>   missdrop [enable   disable]]
Description	The <b>config qinq ports</b> command is used to configure the port level setting for the Q-in-Q VLAN function. This setting is not effective when the Q-in-Q mode is disabled.
Parameters	<p>&lt;portlist&gt; - A range of ports to configure.</p> <p>all – Specifies all ports to be configure.</p> <p>role - Port role in Q-in-Q mode, it can be UNI port or NNI port.</p> <p>outer_tpid - TPID in the SP-VLAN tag.</p> <p>add_inner_tag - For inner tag packets.</p> <p>missdrop - If specified as enabled, the VLAN translation will be performed on the port. The setting is disabled by default.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure port list 1 to 4 as NNI port, set outer TPID to 0x88a8:

DGS-1210-28MP/ME:5# config qinq ports 1-3 role nni outer_tpid 0x88a8
Command: config qinq ports 1-3 role nni outer_tpid 0x88a8
Success.
DGS-1210-28MP/ME:5#

## config qinq inner\_tpid

Purpose	Used to configure Q-in-Q inner TPID of the Switch.
Syntax	<b>config qinq inner_tpid</b> <hex 0x1-0xffff>
Description	The <b>config qinq inner_tpid</b> command is used to configure the inner TPID for port.
Parameters	<hex 0x1-0xffff> - Specifies the inner-TPID of a port.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the inner TPID to 0x88a8:

```
DGS-1210-28MP/ME:5# config qinq inner_tpid 0x88a8
Command: config qinq inner_tpid 0x88a8

Success.

DGS-1210-28MP/ME:5#
```

## create vlan\_translation

Purpose	To create a VLAN translation rule that will be added as a new rule or replace a current rule.
Syntax	<b>create vlan_translation ports &lt;portlist&gt; [add   replace] cvid &lt;vidlist&gt; svid &lt;vlanid 1-4094&gt; {priority &lt;priority 0-7&gt;}</b>
Description	The <b>create vlan_translation cvid</b> command is used to create a VLAN translation rule to add to or replace the outgoing packet which is single S-tagged (the C-VID changes to S-VID and the packet's TPID changes to an outer TPID).
Parameters	<p><i>ports &lt;portlist&gt;</i> - A range of ports to be configure.</p> <p><i>cvid</i> - C-VLAN ID of packets that ingress from a UNI port.</p> <p><i>svid</i> - The S-VLAN ID that replaces the C-VLAN ID or is inserted in the packet.</p> <p><i>&lt;vlanid 1-4094&gt;</i> - A VLAN ID between 1 and 4094.</p> <p><i>priority &lt;priority 0-7&gt;</i> - Configure the priority of specified ports.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To create a VLAN translation on the Switch:

```
DGS-1210-28MP/ME:5# create vlan_translation ports 1 add cvid 2 svid 2
Command: create vlan_translation add ports 1 cvid 2 svid 2

Success.

DGS-1210-28MP/ME:5#
```

## show vlan\_translation

Purpose	To display the current VLAN translation rules on the Switch.
Syntax	<b>show vlan_translation {cvid &lt;vidlist&gt;}</b>
Description	The <b>show vlan_translation cvid</b> command display the current VLAN translation cvid on the Switch.
Parameters	<i>&lt;vidlist&gt;</i> - The Q-in-Q translation rules for the specified C-VID list.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To display the VLAN translation cvid on the Switch:

```
DGS-1210-28MP/ME:5# show vlan_translation cvid 1
Command: show vlan_translation cvid 1
```

Port	CVID	SPVID	Action	Priority
-----	-----	-----	-----	-----
Total Entries: 0				
DGS-1210-28MP/ME:5#				

## delete vlan\_translation ports

Purpose	To delete VLAN translation rules.
Syntax	<b>delete vlan_translation ports</b> [<portlist>   all] {cvid [<vidlist>   all]}
Description	The <b>delete vlan_translation cvid</b> command is used to delete VLAN translation rules.
Parameters	<i>ports</i> <portlist> - A range of ports to be deleted. <vidlist> - Specifies C-VID rules in VLAN translation. <i>all</i> – Specifies all C-VID rules to be deleted.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete all C-VID VLAN translation rules:

DGS-1210-28MP/ME:5# delete vlan_translation cvid all
Command: delete vlan_translation cvid all
Success.
DGS-1210-28MP/ME:5#

## LINK AGGREGATION COMMANDS

The Link Aggregation commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create link_aggregation	group_id <value 1-8> {type [lacp   static]}
delete link_aggregation	group_id <value 1-8>
config link_aggregation group_id	<value 1-8> master_port <port 1-28> ports <portlist>
config link_aggregation algorithm	[ip_source   ip_destination   ip_source_dest   mac_source   mac_destination   mac_source_dest]
config link_aggregation state	[enable   disable]
show link_aggregation	{group_id <value 1-8>   algorithm}

Each command is listed in detail, as follows:

create link_aggregation	
Purpose	To create a link aggregation group on the Switch.
Syntax	<b>create link_aggregation group_id &lt;value 1-8&gt; {type [lacp   static]}</b>
Description	The <b>create link_aggregation</b> command creates a link aggregation group with a unique identifier.
Parameters	<p><i>group_id</i> &lt;value 1-8&gt; – Specifies the group ID. The Switch allows up to 8 link aggregation groups to be configured. The group number identifies each of the groups.</p> <p><i>type</i> – Specify the type of link aggregation used for the group. If the type is not specified the default type is <i>static</i>.</p> <ul style="list-style-type: none"> <li>• <i>lacp</i> – This DGSignates the port group as LACP compliant. LACP allows dynamic adjustment to the aggregated port group. LACP compliant ports may be further configured (see config lacp_ports). LACP compliant must be connected to LACP compliant devices. The maximum ports that can be configure in the same LACP are 16.</li> <li>• <i>static</i> – This DGSignates the aggregated port group as static. Static port groups can not be changed as easily as LACP compliant port groups since both linked devices must be manually configured if the configuration of the trunked group is changed. If static link aggregation is used, be sure that both ends of the connection are properly configured and that all ports have the same speed/duplex settings. The maximum ports that can be configure in the same static LAG are 8</li> </ul>

Restrictions	Only administrator or operator-level users can issue this command.
--------------	--

Example usage:

To create a link aggregation group:

```
DGS-1210-28MP/ME:5# create link_aggregation group_id 1
Command: create link_aggregation group_id 1

Success.

DGS-1210-28MP/ME:5#
```

## delete link\_aggregation

Purpose	To delete a previously configured link aggregation group.
Syntax	<b>delete link_aggregation group_id &lt;value 1-8&gt;</b>
Description	The <b>delete link_aggregation group_id</b> command deletes a previously configured link aggregation group.
Parameters	<i>group_id &lt;value 1-8&gt;</i> – Specifies the group ID. The Switch allows up to 8 link aggregation groups to be configured. The group number identifies each of the groups.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete link aggregation group:

```
DGS-1210-28MP/ME:5# delete link_aggregation group_id 1
Command: delete link_aggregation group_id 1

LA channel 1 delete successful
DGS-1210-28MP/ME:5#
```

## config link\_aggregation group\_id

Purpose	To configure a previously created link aggregation group.
Syntax	<b>config link_aggregation group_id &lt;value 1-8&gt; master_port &lt;port 1-28&gt; ports &lt;portlist&gt;</b>
Description	The <b>config link_aggregation group_id</b> command configures a link aggregation group created with the <b>create link_aggregation</b> command above.
Parameters	<i>&lt;value 1-8&gt;</i> – Specifies the group ID. The Switch allows up to 8 link aggregation groups to be configured. The group number identifies each of the groups. <i>master_port &lt;port 1-28&gt;</i> – Specifies a list of ports to belong to the link aggregation group. Ports will be listed in only one aggregation group and link aggregation groups can not overlap to each other. The user must configure at list two ports in LAG. <i>ports &lt;portlist&gt;</i> – Specifies a list of ports to belong to the link aggregation group.
Restrictions	Only administrator or operator-level users can issue this command.

Link aggregation groups may not overlap.

Example usage:

To define a load-sharing group of ports, group-id 2 with group members ports 1-5:

```
DGS-1210-28MP/ME:5# config link_aggregation group_id 2 master_port 1 ports 1-5
Command: config link_aggregation group_id 2 master_port 1 ports 1-5

Success.
DGS-1210-28MP/ME:5#
```

## config link\_aggregation algorithm

Purpose	To configure the link aggregation algorithm.
Syntax	<b>config link_aggregation algorithm [ip_source   ip_destination   ip_source_dest   mac_source   mac_destination   mac_source_dest]</b>
Description	The <b>config link_aggregation algorithm</b> command is used to configure the part of the packet examined by the Switch when selecting the egress port for transmitting load-sharing data. This feature is only available using the address-based load-sharing algorithm.
Parameters	<p><i>ip_source</i> – Indicates that the Switch should examine the IP source address.</p> <p><i>ip_destination</i> – Indicates that the Switch should examine the IP destination address.</p> <p><i>ip_source_dest</i> – Indicates that the Switch should examine the IP source and destination addresses.</p> <p><i>mac_source</i> – Indicates that the Switch should examine the MAC source address.</p> <p><i>mac_destination</i> – Indicates that the Switch should examine the MAC destination address.</p> <p><i>mac_source_dest</i> – Indicates that the Switch should examine the MAC source and destination addresses.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure link aggregation algorithm for ip\_source:

```
DGS-1210-28MP/ME:5# config link_aggregation algorithm ip_source
Command: config link_aggregation algorithm ip_source

Success.
DGS-1210-28MP/ME:5#
```

## config link\_aggregation state

Purpose	To enable or disable the link aggregation state.
Syntax	<b>config link_aggregation state [enable   disable]</b>
Description	The <b>config link_aggregation state</b> command is used to enable or disable the link algorithm feature.

Parameters	<i>[enable   disable]</i> – Enables or disables the link aggregation state.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable the link aggregation feature:

```
DGS-1210-28MP/ME:5# config link_aggregation state enable
Command: config link_aggregation state enable

LA Module has been enable
DGS-1210-28MP/ME:5#
```

## show link\_aggregation

Purpose	To display the current link aggregation configuration on the Switch.
Syntax	<b>show link_aggregation {group_id &lt;value 1-8&gt;   algorithm}</b>
Description	The <b>show link_aggregation</b> command displays the current link aggregation configuration of the Switch.
Parameters	<i>group_id</i> <value 1-8> – Specifies the group ID. The Switch allows up to 8 link aggregation groups to be configured. The group number identifies each of the groups. <i>algorithm</i> – shows which hash Algorithm is used for link aggregation distribution.
Restrictions	None.

Example usage:

To display Link Aggregation configuration:

```
DGS-1210-28MP/ME:5# show link_aggregation algorithm
Command: show link_aggregation algorithm

Link Aggregation Algorithm = MAC_source

DGS-1210-28MP/ME:5#
```



## BASIC IP COMMANDS

The Basic IP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create ipif	<ipif_name 12> <network_address> <vlan_name 32> state [enable   disable]
delete ipif	[<ipif_name 12>   all]
enable ipif	[<ipif_name 12>   all]
disable ipif	[<ipif_name 12>   all]
config ipif	<ipif_name 12> { ( [ipaddress <network_address>] [vlan <vlan_name 32>] [state {enable   disable}] )   dhcp   ipv6 {ipv6address <ipv6networkaddr>   state {enable   disable}}   ipv4 state {enable   disable}   dhcp_option12 { hostname <hostname 63>   clear_hostname   state {enable   disable} }   dhcpv6_client {enable   disable} }
show ipif	<string>

Each command is listed in detail, as follows:

create ipif	
Purpose	To create an IP interface on the switch.
Syntax	<b>create ipif &lt;ipif_name 12&gt; &lt;network_address&gt; &lt;vlan_name 32&gt; state [enable   disable]</b>
Description	The <b>create ipif</b> command will create an IP interface.
Parameters	<p>&lt;ipif_name 12&gt; - Specifies the IP interface name to be created.</p> <p>&lt;network_address&gt; - IP address and netmask of the IP interface to be created.</p> <p>&lt;vlan_name 32&gt; - The name of the VLAN that will be associated with the above IP interface.</p> <p>state [enable   disable] – Specifies to enable or disable the IP interface.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create an IP interface:

```
DGS-1210-28MP/ME:5# create ipif ip2 10.1.2.3/255.0.0.0 default state enable
Command: create ipif ip2 10.1.2.3/255.0.0.0 default state enable

Success.
DGS-1210-28MP/ME:5#
```

**delete ipif**

Purpose	To delete an IP interface on the switch.
Syntax	<b>delete ipif [&lt;ipif_name 12&gt;   all]</b>
Description	The <b>delete ipif</b> command will delete an IP interface.
Parameters	<i>[&lt;ipif_name 12&gt;   all]</i> - Specifies the IP interface name or all IP interface to be deleted.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete an IP interface:

```
DGS-1210-28MP/ME:5# delete ipif all
Command: delete ipif all

Success.
DGS-1210-28MP/ME:5#
```

**enable ipif**

Purpose	To enable an IP interface on the switch.
Syntax	<b>enable ipif [&lt;ipif_name 12&gt;   all]</b>
Description	The <b>enable ipif</b> command will create an IP interface.
Parameters	<i>[&lt;ipif_name 12&gt;   all]</i> - Specifies the IP interface name or all IP interface to be enabled.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable all IP interface:

```
DGS-1210-28MP/ME:5# enable ipif all
Command: enable ipif all

Success.
DGS-1210-28MP/ME:5#
```

**disable ipif**

Purpose	To disable an IP interface on the switch.
Syntax	<b>disable ipif [&lt;ipif_name 12&gt;   all]</b>
Description	The <b>disable ipif</b> command will create an IP interface.
Parameters	<i>[&lt;ipif_name 12&gt;   all]</i> - Specifies the IP interface name or all IP interface to be disabled.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable all IP interface:

```
DGS-1210-28MP/ME:5# disable ipif all
Command: disable ipif all
```

```
Success.
DGS-1210-28MP/ME:5#
```

## config ipif

Purpose	To configure the DHCPv6 client state for the interface.
Syntax	<b>config ipif</b> <ipif_name 12> ( [ <b>ipaddress</b> <network_address>] [ <b>vlan</b> <vlan_name 32>] [ <b>state</b> [enable   disable]]   <b>dhcp</b>   <b>ipv6</b> { <b>ipv6address</b> <ipv6networkaddr>   <b>state</b> {enable   disable}}   <b>ipv4</b> <b>state</b> [enable   disable]   <b>dhcp_option12</b> { <b>hostname</b> <hostname 63>   <b>clear_hostname</b>   <b>state</b> [enable   disable] }   <b>dhcpv6_client</b> [enable   disable] }
Description	The <b>config ipif system</b> command is used to configure the DHCPv6 client state for one interface.
Parameters	<p>&lt;ipif_name 12&gt; – The IP interface name to be configured. The default IP Interface name on the Switch is ‘System’. All IP interface configurations done are executed through this interface name.</p> <p><i>dhcp</i> – Specifies the DHCP protocol for the assignment of an IP address to the Switch to use for the DHCP Protocol.</p> <p><i>hostname</i> &lt;hostname 63&gt; – Specifies the host name of DHCP.</p> <p><i>ipaddress</i> &lt;network_address&gt; – IP address and netmask of the IP interface to be created. The address and mask information may be specified by using the traditional format (for example, 10.1.2.3/255.0.0.0 or in CIDR format, 10.1.2.3/16).</p> <p><i>gateway</i> &lt;ipaddr&gt; – IP address of gateway to be created.</p> <p><i>state</i> [enable   disable] – Enables or disables the IP interface.</p> <p><i>ipv6 ipv6address</i> &lt;ipv6networkaddr&gt; – IPv6 network address: The address should specify a host address and length of network prefix. There can be multiple V6 addresses defined on an interface. Thus, as a new address is defined, it is added on this IP interface.</p> <p><i>dhcpv6_client</i> [enable   disable] – Enable or disable the DHCPv6 client state of the interface.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the DHCPv6 client state of the System interface to enabled:

```
DGS-1210-28MP/ME:5# config ipif System dhcpv6_client enable
Command: config ipif System dhcpv6_client enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

Purpose	To display the configuration of an IP interface on the Switch.
Syntax	<b>show ipif</b> <string>
Description	The <b>show ipif</b> command displays the configuration of an IP interface

	on the Switch.
Parameters	< <i>string</i> > - Specifies the IP interface name.
Restrictions	None.

Example usage:

To display IP interface settings:

```
DGS-1210-28MP/ME:5# show ipif
Command: show ipif

IP Setting Mode           : Static
Interface Name            : System
Interface VLAN Name      : default
IP Address                : 10.90.90.90
Subnet Mask               : 255.0.0.0
Default Gateway           : 0.0.0.0
IPv6 Link-Local Address  : fe80::297:ceff:fe29:ba20/10

DGS-1210-28MP/ME:5#
```

## BPDU ATTACK PROTECTION COMMANDS

The BPDU Attack Protection commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config bpdu_protection ports	[<portlist>   all ] [state [enable   disable]   mode [ drop   block   shutdown ]]
config bpdu_protection recovery_timer	[<sec 60-1000000>   infinite]
config bpdu_protection	[ trap   log ] [ none   attack_detected   attack_cleared   both ]
enable bpdu_protection	
disable bpdu_protection	
show bpdu_protection	

Each command is listed in detail, as follows:

config bpdu_protection ports	
Purpose	Used to configure the BPDU Attack Protection state and mode of a port.
Syntax	<b>config bpdu_protection ports [&lt;portlist&gt;   all ] [state [enable   disable]   mode [ drop   block   shutdown ]]</b>
Description	<p>The <b>config bpdu_protection ports</b> command is used to setup the BPDU Attack Protection function for the ports on the switch.</p> <p>The config bpdu_protection ports command is used to configure the BPDU protection function for ports on the Switch. There are two states of BPDU attack protection function; the normal state and the under attack state. The under attack state has three modes: drop, block, and shutdown modes. A BPDU attack protection enabled port will enter under attack state when it receives an STP BPDU frame, then take action based on the configuration mode. BPDU attack protection can ONLY be used for ports that do not have STP enabled.</p> <p>STP for ports and BPDU attack protection on ports are not compatible. Furthermore BPDU attack protection enabled on a port effectively disables all STP function on the port. Keep in mind the following points regarding this:</p> <p>BPDU attack protection has a higher priority than STP BPDU forwarding (i.e. the fbpdu setting of the config stp command is enabled) when determining how to handle BPDU. That is, when fbpdu is enabled to forward STP BPDU frames AND the BPDU attack protection function is enabled, the port will not forward STP BPDU frames.</p>

Parameters	<p><i>&lt;portlist&gt;</i> – Specifies a range of ports to be configured.</p> <p><i>all</i> – Specifies all ports to be configured.</p> <p><i>state [enable   disable]</i> – Enable or disable the state of BPDU Attack Protection. The default state is disabled.</p> <p><i>mode</i> – Specifies the BPDU Attack Protection mode. The modes included are:</p> <p><i>drop</i> – Will drop all RX BPDU packets when the port enters under attack state.</p> <p><i>block</i> – Will drop all RX packets (include BPDU and normal packets) when the port enters under attack state.</p> <p><i>shutdown</i> – Will shut down the port when the port enters the under attack state.</p> <p>The RX BPDU Attack Protection takes effect only when the port enters under attack state while in drop and block mode.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the BPDU attack protection port state to enable and drop mode:

```
DGS-1210-28MP/ME:5# config bpdu_protection ports 1 state enable mode drop
Command: config bpdu_protection ports 1 state enable mode drop
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config bpdu\_protection recovery\_timer

Purpose	Used to configure the BPDU Attack Protection recovery timer.
Syntax	<b>config bpdu_protection recovery_timer [&lt;sec 60-1000000&gt;   infinite]</b>
Description	The <b>config bpdu_protection recovery_timer</b> command is used to configure the auto-recovery timer. To manually recover the port, the user needs to disable and re-enable the port.
Parameters	<p><i>&lt;sec 60-1000000&gt;</i> – Specifies the recovery timer. The default value of recovery timer is 60.</p> <p><i>infinite</i> – The port will not be auto recovered.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the BPDU Attack Protection recovery timer to 120 second for the entire switch:

```
DGS-1210-28MP/ME:5# config bpdu_protection recovery_timer 120
Command: config bpdu_protection recovery_timer 120
```

Success.

```
DGS-1210-28MP/ME:5#
```

**config bpdu\_protection**

Purpose	Used to configure trap and log settings for BPDU attack protection events.
Syntax	<b>config bpdu_protection [ trap   log ] [ none   attack_detected   attack_cleared   both ]</b>
Description	The <b>config bpdu_protection</b> command to configure the trap and log state for BPDU attack protection and specify the type of event sent or logged.
Parameters	<p><i>trap</i> – Specifies the trap state. The default state is both trap and log.</p> <p><i>log</i> – Specifies the log state. The default state is both trap and log.</p> <p><i>none</i> – Specifies that events will not be logged or trapped for both cases.</p> <p><i>attack_detected</i> – Specifies that events will be logged or trapped when a BPDU attack is detected.</p> <p><i>attack_cleared</i> – Specifies that events will be logged or trapped when the BPDU attack is cleared.</p> <p><i>both</i> – Specifies that events will be logged or trapped for both cases. The default setting for log is both and for trap is none.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the BPDU Attack Protection recovery timer to 120 second for the entire switch:

```
DGS-1210-28MP/ME:5# config bpdu_protection trap both
```

```
Command: config bpdu_protection trap both
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**enable bpdu\_protection**

Purpose	Used to globally enable BPDU attack protection on the Switch.
Syntax	<b>enable bpdu_protection</b>
Description	<p>The <b>enable bpdu_protection</b> command is used to globally enable BPDU attack protection on the Switch.</p> <p>The BPDU Attack Protection function and Spanning Tree Protocol for ports are mutually exclusive. When the STP function is enabled on a particular port, BPDU Attack Protection cannot be enabled.</p>
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable BPDU attack protection on the entire Switch:

```
DGS-1210-28MP/ME:5# enable bpdu_protection
```

```
Command: enable bpdu_protection
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## disable bpdu\_protection

Purpose	Used to globally disable BPDU attack protection on the Switch.
Syntax	<b>disable bpdu_protection</b>
Description	The <b>disable bpdu_protection</b> command is Use this to disable BPDU attack protection on the entire Switch. Note that if BPDU attack protection is disabled globally, it will also be disabled for ports regardless of the config bpdu_protection ports settings.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable BPDU attack protection on the entire Switch:

```
DGS-1210-28MP/ME:5# disable bpdu_protection
```

```
Command: disable bpdu_protection
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show bpdu\_protection

Purpose	Used to display BPDU attack protection settings on the Switch.
Syntax	<b>show bpdu_protection {ports &lt;portlist&gt;}</b>
Description	The <b>show bpdu_protection</b> command is used to view the global or per port BPDU attack protection configuration.
Parameters	<i>ports</i> – Specify to view the BPDU attack protection port configuration. <i>&lt;portlist&gt;</i> – Specify the ports to display. If none is specified, all ports BPDU attack protection configuration will be listed.
Restrictions	None.

Example usage:

To display global settings for BPDU protection:



```
DGS-1210-28MP/ME:5# show bpdu_protection
```

```
Command: show bpdu_protection
```

```
BPDU Protection Global Settings
```

```
-----  
BPDU Protection Status           : Disabled  
BPDU Protection Recover Time     : 60 seconds  
BPDU Protection Trap State       : none  
BPDU Protection Log State        : none
```

```
DGS-1210-28MP/ME:5#
```

## MAC PROTECTION COMMANDS

The MAC Protection commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create mac_protection	<macaddr> { <macmask> }
delete mac_protection	[<macaddr> {mask <macmask>}   all]
show mac_protection	

Each command is listed in detail, as follows:

<b>create mac_protection</b>	
Purpose	Used to create a MAC protection address.
Syntax	<b>create mac_protection &lt;macaddr&gt; { &lt;macmask&gt; }</b>
Description	Specify the MAC address that switch drop the ingress packets when port security function is enabled on port(s). Also, the specified MAC address cannot be learned by forwarding table.
Parameters	<p>&lt;macaddr&gt; – Specify the MAC address</p> <p>&lt;macmask&gt; – Specify the mask of the MAC address. If not specified, the mask is configured as FF-FF-FF-FF-FF-FF.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To set the MAC protection with MAC 00:00:00:00:00:02 on the Switch:

```
DGS-1210-28/ME:5# create mac_protection 00-00-00-00-00-02 ff-ff-ff-00-00-00
Command: create mac_protection 00-00-00-00-00-02 ff-ff-ff-00-00-00

Success.

DGS-1210-28/ME:5# show mac_protection
Command: show mac_protection

MAC Address      MAC Mask
-----
00-00-00-00-00-02  ff-ff-ff-00-00-00

Total Entries : 1
```

**delete mac\_protection**

Purpose	Used to delete a MAC protection address.
Syntax	<b>delete mac_protection [ &lt;macaddr&gt; {mask &lt;macmask&gt;}   all ]</b>
Description	The <b>delete mac_protection</b> command is used to delete a MAC protection address.
Parameters	<p>&lt;macaddr&gt; – Specify the MAC address of the MAC protection entry to be deleted.</p> <p>{&lt;macmask&gt;} –Specify the mask of the MAC address. If not specified, the mask is configured as FF-FF-FF-FF-FF-FF.</p> <p>all –Specify to delete all MAC protection entries.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete the MAC protection with MAC 11:22:33:44:aa:0b on the Switch:

```
DGS-1210-28/ME:5# delete mac_protection 00-00-00-00-00-02 mask ff-ff-ff-00-00-00
Command: delete mac_protection 00-00-00-00-00-02 mask ff-ff-ff-00-00-00

Success.

DGS-1210-28/ME:5#
```

**show mac\_protection**

Purpose	Used to display the MAC protection information on the Switch.
Syntax	<b>show mac_protection</b>
Description	The <b>show mac_protection</b> command is used to display the MAC protection entries on the Switch.
Parameters	N/A.
Restrictions	N/A.

Example usage:

To display the MAC protection information on the Switch:

```
DGS-1210-28/ME:5# show mac_protection
Command: show mac_protection

MAC Address      MAC Mask
-----
00-00-00-00-00-02  ff-ff-ff-00-00-00

Total Entries : 1

DGS-1210-28/ME:5#
```

## ETHERNET OAM COMMANDS

The Ethernet OAM commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config ethernet_oam ports	[<portlist>   all] mode [active   passive] {received_remote_loopback [ignore   process]   remote_loopback [start   stop]   state [enable   disable]}
config ethernet_oam ports	[<portlist>   all] critical_link_event [critical_event   dying_gasp] notify_state [enable   disable]
config ethernet_oam ports	[<portlist>   all] link_monitor [error_frame   error_frame_period   error_frame_seconds   error_symbol] notify_state [enable   disable] {threshold <integer 1-4294967295>   window <integer 1000-60000>}
show ethernet_oam ports	[<portlist>   all] status
show ethernet_oam ports	[<portlist>   all] configuration
show ethernet_oam ports	[<portlist>   all] statistics
show ethernet_oam ports	[<portlist>   all] event_log {index <value_list>}
clear ethernet_oam ports	[<portlist>   all] [event_log   statistics]

Each command is listed in detail, as follows:

config ethernet_oam ports	
Purpose	Used to configure Ethernet OAM mode.
Syntax	<b>config ethernet_oam ports</b> [<portlist>   all] mode [active   passive] {received_remote_loopback [ignore   process]   remote_loopback [start   stop]   state [enable   disable]}
Description	The <b>config ethernet_oam ports</b> command is used to configure ports Ethernet OAM to operate in active or passive mode. The following two actions are allowed by ports in active mode, but disallowed by ports in passive mode.
Parameters	<p>&lt;portlist&gt; – Specifies a port or range of ports to be configured.</p> <p>all – Entering this command will set all ports on the system.</p> <p>mode – Specifies to operate in either active mode or passive mode. The default mode is active.</p> <p>received_remote_loopback [ignore   process] – Specifies the received remote loopback to be ignore or process.</p> <p>remote_loopback [start   stop] – Specifies the remote loopback to be started or stopped.</p>

	<i>state [enable   disable]</i> – Specifies the state to be enabled or disabled.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure ports 1 to 3 to OAM mode to active:

```
DGS-1210-28MP/ME:5# config ethernet_oam ports 1-3 mode active
Command: config ethernet_oam ports 1-3 mode active
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config ethernet\_oam ports

Purpose	Used to configure Ethernet OAM critical link event.
Syntax	<b>config ethernet_oam ports</b> [<portlist>   all] <b>critical_link_event</b> [critical_event   dying_gasp] <b>notify_state</b> [enable   disable]
Description	The <b>config ethernet_oam ports</b> command is used to configure ports for critical link event of Ethernet OAM.
Parameters	<portlist> – Specifies a port or range of ports to be configured. all – Entering this command will set all ports on the system. <i>critical_link_event [critical_event   dying_gasp]</i> – Specifies the critical link event is critical event or dying GASP. <i>notify_state [enable   disable]</i> – Specifies to enable or disable the event notification. The default state is enabled.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure ports 1 to 3 to OAM critical link event dying GASP state to be enabled:

```
DGS-1210-28MP/ME:5# config ethernet_oam ports 1-3 critical_link_event
dying_gasp notify_state enable
Command: config ethernet_oam ports 1-3 critical_link_event dying_gasp
notify_state enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config ethernet\_oam ports

Purpose	Used to configure Ethernet OAM link monitor.
Syntax	<b>config ethernet_oam ports</b> [<portlist>   all] <b>link_monitor</b> [error_frame   error_frame_period   error_frame_seconds   error_symbol] <b>notify_state</b> [enable   disable] {threshold <integer 1-4294967295>   window <integer 1000-60000>}
Description	The <b>config ethernet_oam ports</b> command is used to configure ports link monitor of Ethernet OAM.
Parameters	<portlist> – Specifies a port or range of ports to be configured.

	<p><i>all</i> – Entering this command will set all ports on the system.</p> <p><i>critical_link_event [critical_event   dying_gasp]</i> – Specifies the critical link event is critical event or dying GASP.</p> <p><i>notify_state [enable   disable]</i> – Specifies to enable or disable the event notification. The default state is enabled.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure ports 1 to 3 to OAM link monitor of error symbol notify state to be disabled:

```
DGS-1210-28MP/ME:5# config ethernet_oam ports 1-3 link_monitor error_symbol
notify_state disable
```

```
Command: config ethernet_oam ports 1-3 link_monitor error_symbol notify_state
disable
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show ethernet\_oam ports

Purpose	Used to show primary controls and status information for Ethernet OAM.
Syntax	<b>show ethernet_oam ports [&lt;portlist&gt;   all] status</b>
Description	<p>The <b>show ethernet_oam ports status</b> command is used to show primary controls and status information for Ethernet OAM on specified ports.</p> <p>The information includes:</p> <p>(1) OAM administration status: enabled or disabled.</p> <p>(2) OAM operation status. See below values:</p> <p><b>Disable:</b> OAM is disabled on this port</p> <p><b>LinkFault:</b> The link has detected a fault and is transmitting OAMPDUs with a link fault indication.</p> <p><b>PassiveWait:</b> The port is passive and is waiting to see if the peer device is OAM capable.</p> <p><b>ActiveSendLocal:</b> The port is active and is sending local information.</p> <p><b>SendLocalAndRemote:</b> The local port has discovered the peer but has not yet accepted or rejected the configuration of the peer.</p> <p><b>SendLocalAndRemoteOk:</b> The local device agrees the OAM peer entity.</p> <p><b>PeeringLocallyRejected:</b> The local OAM entity rejects the remote peer OAM entity.</p> <p><b>PeeringRemotelyRejected:</b> The remote OAM entity rejects the local device.</p> <p><b>Operational:</b> The local OAM entity learns that both it and the remote OAM entity have accepted the peering.</p> <p><b>NonOperHalfDuplex:</b> Since Ethernet OAM functions are not designed to work completely over half-duplex ports. This value indicates Ethernet OAM is enabled but the port is in half-duplex operation.</p> <p>(3) OAM mode: passive or active</p> <p>(4) Maximum OAMPDU size: The largest OAMPDU that the OAM entity supports. OAM entities exchange maximum OAMPDU sizes and negotiate to use the smaller of the two maximum OAMPDU</p>

sizes between the peers.

(5) OAM configuration revision: The configuration revision of the OAM entity as reflected in the latest OAMPDU sent by the OAM entity. The config revision is used by OAM entities to indicate that configuration changes have occurred, which might require the peer OAM entity to re-evaluate whether OAM peering is allowed.

(6) OAM Functions Supported: The OAM functions supported on this port. These functions include:

**Unidirectional:** It indicates that the OAM entity supports the transmission of OAMPDUs on links that are operating in unidirectional mode (traffic flowing in one direction only).

**Loopback:** It indicates that the OAM entity can initiate and respond to loop-back commands.

**Link Monitoring:** It indicates that the OAM entity can send and receive Event Notification OAMPDUs.

**Variable:** It indicates that the OAM entity can send and receive variable requests to monitor the attribute value as described in the IEEE 802.3 Clause 30 MIB.

At present, only unidirectional, loop-back and link monitoring are supported.

Parameters	Specifies a port, a range of ports or all ports to be displayed.
Restrictions	None.

Example usage:

To show OAM control and status information of port 1:

```
DGS-1210-28MP/ME:5# show ethernet_oam ports 1 status
```

```
Command: show ethernet_oam ports 1 status
```

```
Port 1
```

```
Local Client
```

```
-----
OAM                : Enabled
Mode               : Active
Max OAMPDU         : 1518 Bytes
Remote Loopback    : Support
Unidirection       : Not Supported
Link Monitoring     : Support
Variable Request    : Support
PDU Revision       : 2
Operation Status    : Disabled
Loopback Status    : No Loopback
```

```
DGS-1210-28MP/ME:5#
```

## show ethernet\_oam ports

Purpose	Used to display for Ethernet OAM configuration.
Syntax	<b>show ethernet_oam ports [&lt;portlist&gt;   all] configuration</b>
Description	The <b>show ethernet_oam ports</b> command is used to show port's Ethernet OAM configurations.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be

	displayed.
Restrictions	None.

Example usage:

To show Ethernet OAM configuration of port 1:

```
DGS-1210-28MP/ME:5# show ethernet_oam ports 1 configuration
Command: show ethernet_oam ports 1 configuration

Port 1
-----
OAM                : Enabled
Mode               : Active
Dying Gasp         : Enabled
Critical Event     : Enabled
Remote Loopback OAMPDU : Processed

Symbol Error
Notify State       : Disabled
Window            : 1000 milliseconds
Threshold         : 100 Errored Symbol

Frame Error
Notify State       : Enabled
Window            : 1000 milliseconds
Threshold         : 1 Errored Frame

Frame Period Error
Notify State       : Enabled
Window            : 148810 Frames
Threshold         : 1 Errored Frame

Frame Seconds Error
Notify State       : Enabled
Window            : 60000 milliseconds
Threshold         : 1 Errored Seconds
DGS-1210-28MP/ME:5#
```

## show ethernet\_oam ports

Purpose	Used to display for Ethernet OAM statistics.
Syntax	<b>show ethernet_oam ports [&lt;portlist&gt;   all] statistics</b>
Description	The <b>show ethernet_oam ports</b> command is used to show port's Ethernet OAM statistics information.
Parameters	<i>[&lt;portlist&gt;   all]</i> - Specifies a port, a range of ports or all ports to be displayed.
Restrictions	None.



Example usage:

To show Ethernet OAM statistics of port 1:

```
DGS-1210-28MP/ME:5# show ethernet_oam ports 1 statistics
Command: show ethernet_oam ports 1 statistics

Port 1
-----
Information OAMPDU Tx           : 0
Information OAMPDU Rx           : 0
Unique Event Notification OAMPDU Tx : 0
Unique Event Notification OAMPDU Rx : 0
Duplicate Event Notification OAMPDU Tx: 0
Duplicate Event Notification OAMPDU Rx: 0
Loopback Control OAMPDU Tx      : 0
Loopback Control OAMPDU Rx      : 0
Variable Request OAMPDU Tx      : 0
Variable Request OAMPDU Rx      : 0
Variable Response OAMPDU Tx     : 0
Variable Response OAMPDU Rx     : 0
Organization Specific OAMPDUs Tx : 0
Organization Specific OAMPDUs Rx : 0
Unsupported OAMPDU Tx           : 0
Unsupported OAMPDU Rx           : 0
Frames Lost Due To OAM          : 0
DGS-1210-28MP/ME:5#
```

## show ethernet\_oam ports

Purpose	Used to display for Ethernet OAM event log.
Syntax	<b>show ethernet_oam ports</b> [ <i>&lt;portlist&gt;</i>   <i>all</i> ] <b>event_log</b> { <i>index &lt;value_list&gt;</i> }
Description	The <b>show ethernet_oam ports</b> command is used to show ports Ethernet OAM event log information. The Switch can buffer 1000 event logs. The event log is different from sys-log. It provides more detailed information than sys-log. Each OAM event will be recorded in both OAM event log and system log.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be displayed. <i>index &lt;value_list&gt;</i> – Specifies an index range to display.
Restrictions	None.

Example usage:

To show port 1 external OAM event:

```
DGS-1210-28MP/ME:5# show ethernet_oam ports 1 event_log index 1
Command: show ethernet_oam ports 1 event_log index 1

Port 1
```

Event Listing		
Index Type	Location	Time Stamp
<b>Local Event Statistics</b>		
Error Symbol Event	: 0	
Error Frame Event	: 0	
Error Frame Period Event	: 0	
Errored Frame Seconds Event	: 0	
Dying Gasp	: 0	
Critical Event	: 0	
<b>Remote Event Statistics</b>		
Error Symbol Event	: 0	
Error Frame Event	: 0	
Error Frame Period Event	: 0	
Errored Frame Seconds Event	: 0	
Dying Gasp	: 0	
Critical Event	: 0	
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL		

## clear ethernet\_oam ports

Purpose	Used to clear Ethernet OAM event log or statistics.
Syntax	<b>clear ethernet_oam ports [&lt;portlist&gt;   all] [event_log   statistics]</b>
Description	The <b>clear ethernet_oam ports</b> command is used to clear ports Ethernet OAM event log or statistics information.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports information to be cleared. <i>[event_log   statistics]</i> – Specifies event log or statistics information to be cleared.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To clear port 1 OAM statistics:

<b>DGS-1210-28MP/ME:5# clear ethernet_oam ports 1 statistics</b>
<b>Command: clear ethernet_oam ports 1 statistics</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

## MAC NOTIFICATION COMMANDS

The IGMP Snooping commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable mac_notification	
disable mac_notification	
config mac_notification	[interval <int 1-2147483647>] {historysize <int 1-500>}
config mac_notification ports	[<portlist>   all] [enable   disable]
show mac_notification	
show mac_notification ports	<portlist>

Each command is listed in detail, as follows:

### enable mac\_notification

Purpose	Used to enable global MAC address table notification on the Switch.
Syntax	<b>enable mac_notification</b>
Description	The <b>enable mac_notification</b> command is used to enable MAC address notification without changing configuration.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable MAC notification without changing basic configuration:

```
DGS-1210-28MP/ME:5# enable mac_notification
Command: enable mac_notification

Success.

DGS-1210-28MP/ME:5#
```

### disable mac\_notification

Purpose	Used to disable global MAC address table notification on the Switch.
Syntax	<b>disable mac_notification</b>
Description	The <b>disable mac_notification</b> command is used to disable MAC

	address notification without changing configuration.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable MAC notification without changing basic configuration:

```
DGS-1210-28MP/ME:5# disable mac_notification
Command: disable mac_notification

Success.

DGS-1210-28MP/ME:5#
```

## config mac\_notification

Purpose	Used to configure MAC address notification.
Syntax	<b>config mac_notification [interval &lt;int 1-2147483647&gt;] {historysize &lt;int 1-500&gt;}</b>
Description	The <b>config mac_notification</b> command is used to monitor MAC addresses learned and entered into the FDB.
Parameters	<i>interval &lt;int 1-2147483647&gt;</i> – The time in seconds between notifications. The user may choose an interval between 1 and 2147483647 seconds. <i>historysize &lt;1-500&gt;</i> – The maximum number of entries listed in the history log used for notification.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the Switch's MAC address table notification global settings:

```
DGS-1210-28MP/ME:5# config mac_notification interval 1
Command: config mac_notification interval 1

Success.

DGS-1210-28MP/ME:5#
```

## config mac\_notification ports

Purpose	Used to configure MAC address notification status settings.
Syntax	<b>config mac_notification ports [&lt;portlist&gt;   all] [enable   disable]</b>
Description	The <b>config mac_notification ports</b> command is used to monitor MAC addresses learned and entered into the FDB.
Parameters	<i>&lt;portlist&gt;</i> – Specifies a port or range of ports to be configured. <i>all</i> – Entering this command will set all ports on the system. <i>[enable   disable]</i> – These commands will enable or disable MAC address table notification on the Switch.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable port 7 for MAC address table notification:

```
DGS-1210-28MP/ME:5# config mac_notification ports 7 enable
Command: config mac_notification ports 7 enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show mac\_notification

Purpose	Used to display the Switch's MAC address table notification global settings.
Syntax	<b>show mac_notification</b>
Description	The <b>show mac_notification</b> command is used to display the Switch's MAC address table notification global settings.
Parameters	None.
Restrictions	None.

Example usage:

To view the Switch's MAC address table notification global settings:

```
DGS-1210-28MP/ME:5# show mac_notification
Command: show mac_notification
```

### Global Mac Notification Settings

**State** : Enabled

**Interval** : 1

**History Size** : 1

```
DGS-1210-28MP/ME:5#
```

## show mac\_notification ports

Purpose	Used to display the Switch's MAC address table notification status settings.
Syntax	<b>show mac_notification ports &lt;portlist&gt;</b>
Description	The <b>show mac_notification ports</b> command is used to display the Switch's MAC address table notification status settings.
Parameters	<portlist> – Specify a port or group of ports to be viewed. Entering this command without the parameter will display the MAC notification table for all ports.
Restrictions	None.

Example usage:

To display all port's MAC address table notification status settings:

```
DGS-1210-28MP/ME:5# show mac_notification ports 1-3
Command: show mac_notification ports 1-3
```

<b>Port</b>	<b>MAC Address Table Notification State</b>
1	Disabled
2	Disabled
3	Disabled

**DGS-1210-28MP/ME:5#**

## IGMP SNOOPING COMMANDS

The IGMP Snooping commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config igmp_snooping	[vlan_name <string 32>   vlanid <vidlist>   all] [host_timeout <sec 130-153025>   router_timeout <sec 60-600>   fast_leave [enable   disable]     report_suppression [enable   disable]   state [enable   disable]   proxy_reporting [state {enable   disable} source_ip <ipaddr>]]
config igmp_snooping querier	[vlan_name <string 32>   vlanid <vidlist>   all] state [enable   disable] {querier_version [2   3]   last_member_query_interval <sec 1-25>   query_interval <sec 60-600>   robustness_variable <value 2-255>   max_response_time <sec 10-25>}
config igmp_snooping	{vlan_name <string (32)>   vlanid <vidlist>   all} {proxy_reporting ( [state {enable   disable}] [source_ip <ipaddr>] )}
create igmp_snooping multicast_vlan	<vlan_name 32> <vlanid 2-4094>
config igmp_snooping multicast_vlan	<vlan_name 32> [add   delete] [member_port <portlist>   source_port <portlist>   untag_source_port <portlist>   tag_member_port <portlist>] state [enable   disable] {replace_source_ip [none   <ipaddr>]   remap_priority [<value 0-7>   none] source_port_dynamical_learn state [enable   disable]   replace_cvid [<vlanid (1-4094)>   none]}
delete igmp_snooping multicast_vlan	[all   <vlan_name 32>]
config igmp_snooping multicast_vlan_group	<vlan_name 32> [add   delete] ipv4_range <ipaddr> <ipaddr>
create igmp_snooping static_group	[vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr>
config igmp_snooping static_group	[vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr> [add   delete] <portlist>
delete igmp_snooping static_group	[vlan <vlan_name 32>   vlanid <vlanid_list>] <ipaddr>
show igmp_snooping static_group	{vlan <vlan_name 32>   vlanid <vlanid_list>   <ipaddr>}
config igmp_snooping data_driven_learning	[all   vlan_name <string 32>   vlanid <vidlist>] {state [enable   disable] aged_out [enable   disable]}
config igmp_snooping data_driven_learning	max_learned_entry <integer 1-1024>
clear igmp_snooping data_driven_group	[all   vlan_name <vlan_name 32>   vlanid < vidlist >] [all   MCGroupAddr <ipaddr>]
config router_ports	[vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
config router_ports_forbidden	[vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>

Command	Parameter
config igmp access_authentication ports	[<portlist>   all] state [enable   disable]
show igmp access_authentication ports	[<portlist>   all]
enable igmp_snooping	{multicast_vlan   forward_mcrouter_only}
disable igmp_snooping	{multicast_vlan   forward_mcrouter_only}
show igmp_snooping	{vlan <vlan_name 32>   vlanid <vidlist>   multicast_vlan <vlan_name 32>   multicast_vlan_group <vlan_name 32>}
show igmp_snooping group	[vlan <vlan_name 32>   vlanid <vidlist>] <ipaddr> {data_driven}
show igmp_snooping forwarding	{vlan <vlan_name 32>   vlanid <vidlist>}
show igmp_snooping host	{ports <portlist>   group <ipaddr>   vlan <vlan_name 32>   vlanid <vidlist>}
show igmp_snooping multicast_vlan	{<vlan_name 32>}
show igmp_snooping multicast_vlan_group	{<vlan_name 32>}
show igmp_snooping statistic counter	[vlan_name <string 32>   vlanid <vidlist>   ports <portlist>]
clear igmp_snooping statistics counter	
show router_port	{vlan <vlan_name 32>   vlanid <vidlist>   static   dynamic   forbidden}
show igmp_snooping forwarding_hw vlan	<vlan_name 32>
config igmp_snooping rate_limit	rate <integer 1-200> ports <portlist>

Each command is listed in detail, as follows:

<b>config igmp_snooping</b>	
Purpose	To configure IGMP snooping on the Switch.
Syntax	<b>config igmp_snooping [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] [host_timeout &lt;sec 130-153025&gt;   router_timeout &lt;sec 60-600&gt;   fast_leave [enable   disable]   report_suppression [enable   disable]   state [enable   disable]   proxy_reporting [state {enable   disable} source_ip &lt;ipaddr&gt;]]</b>
Description	The <b>config igmp_snooping</b> command configures IGMP snooping on the Switch.
Parameters	<i>vlan_name &lt;string 32&gt;</i> - The name of the VLAN for which IGMP snooping is to be configured. <i>vlanid &lt;vidlist&gt;</i> - The VLAN id for which IGMP snooping is to be



	<p>configured.</p> <p><i>all</i> - Specifies all VLAN for which IGMP snooping is to be configured.</p> <p><i>host_timeout</i> &lt;sec 130-153025&gt; - Specifies the maximum amount of time a host can be a member of a multicast group without the Switch receiving a host membership report. The default is 260 seconds.</p> <p><i>router_timeout</i> &lt;sec 60-600&gt; - Specifies the maximum amount of time a route can be a member of a multicast group without the Switch receiving a host membership report.</p> <p><i>fast_leave</i> [<i>enable</i>   <i>disable</i>] - Enables or disables the fast leave.</p> <p><i>state</i> [<i>enable</i>   <i>disable</i>] - Enables or disables IGMP snooping for the specified VLAN.</p> <p><i>proxy_reporting</i> -- Specifies the proxy reporting option</p> <p><i>state</i> - Specifies the proxy reporting state.</p> <p><i>enable</i> - Specifies that the proxy reporting option will be enabled.</p> <p><i>disable</i> - Specifies that the proxy reporting option will be disabled.</p> <p><i>source_ip</i> - Specifies the source IP address used.</p> <p>&lt;<i>ipaddr</i>&gt; - Enter the source IP address used here.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure the igmp snooping:

```
DGS-1210-28MP/ME:5# config igmp_snooping vlanid 2 fast_leave enable
host_timeout 130 leave_timer 2 report_suppression disable router_timeout 60 state
enable
Command: config igmp_snooping vlanid 2 fast_leave enable host_timeout 130
leave_
timer 2 report_suppression disable router_timeout 60 state enable

Success.
DGS-1210-28MP/ME:5#
```

<b>config igmp_snooping querier</b>	
Purpose	To configure IGMP snooping querier on the Switch.
Syntax	<b>config igmp_snooping querier</b> [ <i>vlan_name</i> <string 32>   <i>vlanid</i> <vidlist>   <i>all</i> ] <i>state</i> [ <i>enable</i>   <i>disable</i> ] { <i>querier_version</i> [2   3]   <i>last_member_query_interval</i> <sec 1-25>   <i>query_interval</i> <sec 60-600>   <i>robustness_variable</i> <value 2-255>   <i>max_response_time</i> <sec 10-25>}
Description	The <b>config igmp_snooping querier</b> command enables IGMP snooping querier on a specific VLAN.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; - The name of the VLAN for which IGMP snooping is to be configured. Up to 20 characters can be used.</p> <p><i>vlanid</i> &lt;vidlist&gt; - The VLAN id for which IGMP snooping is to be configured.</p> <p><i>all</i> - Specifies all VLAN for which IGMP snooping is to be configured.</p>

	<p><i>state [enable   disable]</i> – Enables/Disables IGMP Snooping Querier.</p> <p><i>querier_version [2   3]</i> – Specifies the IGMP Querier version on the VLAN.</p> <p><i>last_member_query_interval [sec 1-25]</i> – Specifies the IGMP last member query interval on the VLAN.</p> <p><i>query_interval [sec 60-600]</i> – Specifies the IGMP query interval on the VLAN.</p> <p><i>robustness_variable [value 2-255]</i> – Specifies the robustness on the VLAN.</p> <p><i>max_response_time [sec 10-25]</i> – Specifies the max response time on the VLAN.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure the igmp snooping:

```
DGS-1210-28MP/ME:5# config igmp_snooping querier vlanid 2 state enable
Command: config igmp_snooping querier vlanid 2 state enable

Success .
DGS-1210-28MP/ME:5#
```

### create igmp\_snooping multicast\_vlan

Purpose	To create an IGMP snooping multicast VLAN on the Switch.
Syntax	<b>create igmp_snooping multicast_vlan &lt;vlan_name 32&gt; &lt;vlanid 2-4094&gt;</b>
Description	The <b>create igmp_snooping multicast_vlan</b> command creates an IGMP snooping multicast VLAN on the Switch.
Parameters	<p>&lt;vlan_name 32&gt; – The name of the VLAN for which IGMP snooping is to be created. Up to 32 characters can be used.</p> <p>&lt;vlanid 2-4094&gt; – The ID of the VLAN for which IGMP snooping is to be created. The range is from 2 to 4094.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To create a igmp snooping multicast VLAN:

```
DGS-1210-28MP/ME:5# create igmp_snooping multicast_vlan mvln2 5
Command: create igmp_snooping multicast_vlan mvln2 5

Success.
DGS-1210-28MP/ME:5#
```

### config igmp\_snooping multicast\_vlan

Purpose	To configure IGMP snooping multicast VLAN on the Switch.
Syntax	<b>config igmp_snooping multicast_vlan &lt;vlan_name 32&gt; [add  </b>

	<pre>delete] [member_port &lt;portlist&gt;   source_port &lt;portlist&gt;   untag_source_port &lt;portlist&gt;   tag_member_port &lt;portlist&gt;] state [enable   disable] {replace_source_ip [none   &lt;ipaddr&gt;]   remap_priority [&lt;value 0-7&gt;   none] source_port_dynamical_learn state [enable   disable]   replace_cvid [&lt;vlanid (1-4094)&gt;   none]}</pre>
Description	The <b>config igmp_snooping multicast_vlan</b> command enables IGMP snooping multicast VLAN on the Switch.
Parameters	<p><i>&lt;vlan_name 32&gt;</i> – The name of the VLAN for which IGMP snooping is to be configured. Up to 32 characters can be used.</p> <p><i>[add   delete]</i> – Add or delete the specified multicast VLAN of IGMP snooping.</p> <p><i>member_port &lt;portlist&gt;</i> – Specifies a port or a range of ports to be the member port for the multicast VLAN of IGMP snooping.</p> <p><i>source_port &lt;portlist&gt;</i> – Specifies a port or a range of ports to be the source port for the multicast VLAN of IGMP snooping.</p> <p><i>untag_source_port &lt;portlist&gt;</i> – Specifies a port or a range of ports to be the untag source port for the multicast VLAN of IGMP snooping.</p> <p><i>tag_member_port &lt;portlist&gt;</i> – Specifies a port or a range of ports to be the tagged port for the multicast VLAN of IGMP snooping.</p> <p><i>state [enable   disable]</i> – Enables/Disables IGMP Snooping multicast VLAN.</p> <p><i>replace_source_ip [none   &lt;ipaddr&gt;]</i> – Specifies the replace source IP or none.</p> <p><i>remap_priority [&lt;value 0-7&gt;   none]</i> – Specifies the reamp priority or none.</p> <p><i>source_port_dynamical_learn state [enable   disable]</i> – Specifies to enable or disable source port dynamical learning state.</p> <p><i>replace_cvid</i> - Specify the customer VLAN ID replaced in the IGMP query when Q-in-Q is enabled.</p> <p><i>&lt;vlanid (1-4094)&gt;</i> - Enter the customer VLAN ID.</p> <p><i>none</i> - Specify that no customer VLAN ID is carried in the IGMP query. This is the default value.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the igmp snooping multicast VLAN:

```
DGS-1210-28MP/ME:5# config igmp_snooping multicast_vlan default state enable
Command: config igmp_snooping multicast_vlan default state enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

## delete igmp\_snooping multicast\_vlan

Purpose	To remove an IGMP snooping multicast VLAN on the Switch.
Syntax	<b>delete igmp_snooping multicast_vlan [all   &lt;vlan_name 32&gt;]</b>
Description	The <b>delete igmp_snooping multicast_vlan</b> command removes IGMP snooping multicast VLAN on the Switch.
Parameters	<p><i>all</i> – Specify all vlans to be removed.</p> <p><i>&lt;vlan_name 32&gt;</i> – Specify the multicast vlan name to be removed</p>

	on the Switch.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To remove the igmp snooping multicast VLAN 'rd1':

```
DGS-1210-28MP/ME:5# delete igmp_snooping multicast_vlan rd1
Command: delete igmp_snooping multicast_vlan rd1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config igmp\_snooping multicast\_vlan\_group

Purpose	To specify that IGMP snooping is to be configured for multicast vlan groups on the Switch.
Syntax	<b>config igmp_snooping multicast_vlan_group &lt;vlan_name 32&gt; [add   delete] ipv4_range &lt;ipaddr&gt; &lt;ipaddr&gt;</b>
Description	The <b>config igmp_snooping multicast_vlan_group</b> command specifies an IGMP snooping multicast VLAN group on the Switch.
Parameters	<p>&lt;vlan_name 32&gt; – The name of the VLAN for which IGMP snooping is to be configured. Up to 32 characters can be used.</p> <p>[add   delete] – Specify whether to add or delete ports defined in the following parameter &lt;ipaddr&gt;.</p> <p>&lt;ipaddr&gt; – Specify the IP address range to be configured with the IGMP snooping multicast VLAN group.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the igmp snooping multicast VLAN:

```
DGS-1210-28MP/ME:5# config igmp_snooping multicast_vlan_group default add
10.90.90.93 10.90.90.95
```

```
Command: config igmp_snooping multicast_vlan_group default add 10.90.90.93
10.90.90.95
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### create igmp\_snooping static\_group

Purpose	To create an IGMP snooping static group on the Switch.
Syntax	<b>create igmp_snooping static_group [vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;] &lt;ipaddr&gt;</b>
Description	<p>The <b>create igmp_snooping static_group</b> command allows you to create an IGMP snooping static group. Member ports can be added to the static group. The static member and the dynamic member port from the member ports of a group.</p> <p>The static group will only take effect when IGMP snooping is enabled on the VLAN. For those static member ports, the device</p>

	needs to emulate the IGMP protocol operation to the querier, and forward the traffic destined to the multicast group to the member ports.
Parameters	<p><b>&lt;vlan_name 32&gt;</b> – The name of the VLAN for which IGMP snooping static group is to be created. Up to 32 characters can be used.</p> <p><b>&lt;vlanid_list&gt;</b> – The ID of the VLAN for which IGMP snooping static group is to be created. The range is from 2 to 4094.</p> <p><b>&lt;ipaddr&gt;</b> – Specify the static group address for which IGMP snooping to be created.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To create a igmp snooping static group 226.1.1.1 for VID 1:

```
DGS-1210-28MP/ME:5# create igmp_snooping static_group vlanid 1 226.1.1.1
Command: create igmp_snooping static_group vlanid 1 226.1.1.1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config igmp\_snooping static\_group

Purpose	To configure the current IGMP snooping static group on the Switch.
Syntax	<b>config igmp_snooping static_group [vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;] &lt;ipaddr&gt; [add   delete] &lt;portlist&gt;</b>
Description	The <b>config igmp_snooping static_group</b> command is used to add or delete ports to /from the given static group.
Parameters	<p><b>&lt;vlan_name 32&gt;</b> – The name of the VLAN for which IGMP snooping static group is to be configured. Up to 32 characters can be used.</p> <p><b>[add   delete]</b> – Specify whether to add or delete ports defined in the following parameter &lt;ipaddr&gt;.</p> <p><b>&lt;ipaddr&gt;</b> – Specify the IP address to be configured with the IGMP snooping static group.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To add port 5 to static group 226.1.1.1 on VID 1:

```
DGS-1210-28MP/ME:5# config igmp_snooping static_group vlanid 1 226.1.1.1 and 5
```

**Success.DGS-1210-28MP/ME:5#**

### delete igmp\_snooping static\_group

Purpose	To delete the current IGMP snooping static group on the Switch.
Syntax	<b>delete igmp_snooping static_group [vlan &lt;vlan_name 32&gt;  </b>

<b>vlanid &lt;vlanid_list&gt;] &lt;ipaddr&gt;</b>	
Description	The <b>delete igmp_snooping static_group</b> command is used to delete an IGMP snooping static group. It will not affect the IGMP snooping dynamic member ports of a group.
Parameters	<p>&lt;vlan_name 32&gt; – The name of the VLAN for which IGMP snooping static group is to be created. Up to 32 characters can be used.</p> <p>&lt;vlanid_list&gt; – The ID of the VLAN for which IGMP snooping static group is to be created. The range is from 2 to 4094.</p> <p>&lt;ipaddr&gt; – Specify the static group address for which IGMP snooping is to be deleted.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To delete a static group 226.1.1.1 on VID 1:

```
DGS-1210-28MP/ME:5# delete igmp_snooping static_group vlanid 1 226.1.1.1
Command: delete igmp_snooping static_group vlanid 1 226.1.1.1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show igmp\_snooping static\_group

Purpose	To display the IGMP snooping static group information on the Switch.
Syntax	<b>show igmp_snooping static_group vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;   &lt;ipaddr&gt;}</b>
Description	The show igmp_snooping <b>static_group</b> command displays the IGMP snooping static group information on the Switch.
Parameters	<p>&lt;vlan_name 32&gt; – The name of the VLAN for which IGMP snooping static group to be displayed.</p> <p>&lt;vlanid_list&gt; – The VLAN id of IGMP snooping static group to be displayed.</p> <p>&lt;ipaddr&gt; – Specify the IP address of IGMP snooping static group to be displayed.</p>
Restrictions	None.

Example usage:

To display the IGMP snooping static group information on the Switch:

```
DGS-1210-28MP/ME:5# show igmp_snooping static_group vlan default
Command: show igmp_snooping static_group vlan default
```

VLAN ID/Name	IP Address	Static Member Ports
1 default	226.1.1.1	None

**Total Entries : 1**

**DGS-1210-28MP/ME:5#**

## **config igmp\_snooping data\_driven\_learning**

Purpose	<p>To enable or disable the data driven learning of an IGMP snooping group.</p> <p>When data-driven learning is enabled for the VLAN, when the Switch receives the IP multicast traffic on this VLAN, an IGMP snooping group will be created. That is, the learning of an entry is not activated by IGMP membership registration, but activated by the traffic. For an ordinary IGMP snooping entry, the IGMP protocol will take care of the aging out of the entry. For a data-driven entry, the entry can be specified not to be aged out or to be aged out by the aged timer.</p> <p>When data driven learning is enabled, and the data driven table is not full, the multicast filtering mode for all ports is ignored. That is, the multicast packets will be forwarded to router ports. If the data driven learning table is full, the multicast packets will be forwarded according to the multicast filtering mode.</p> <p>Note that if a data-driven group is created and IGMP member ports are learned later, the entry will become an ordinary IGMP snooping entry. That is, the aging out mechanism will follow the ordinary IGMP snooping entry.</p>
Syntax	<p><b>config igmp_snooping data_driven_learning [all   vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;] {state [enable   disable] aged_out [enable   disable]}</b></p>
Description	<p>The <b>config igmp_snooping data_driven_learning</b> command is used to enable or disable the data driven learning of an IGMP snooping group.</p>
Parameters	<p><i>all</i> – Specifies all VLANs to be configured.</p> <p><i>vlan_name</i> &lt;string 32&gt; – The name of the VLAN for which IGMP snooping is to be configured. Up to 32 characters can be used.</p> <p><i>vlanid</i> &lt;vidlist&gt; – Specifies the VLAN ID to be configured.</p> <p><i>state [enable   disable]</i> – Specifies to enable or disable the data driven learning of an IGMP snooping group. The default is enabled.</p> <p><i>aged_out [enable   disable]</i> – Specifies to enable or disable the aging out of the entry. By default, the state is enabled.</p>
Restrictions	<p>Only administrator or operator-level users can issue this command.</p>

Example usage:

To enable the data driven learning of an IGMP snooping group on the defaultVLAN:

```
DGS-1210-28MP/ME:5# config igmp_snooping data_driven_learning vlan_name default
```

```
Command: config igmp_snooping data_driven_learning vlan_name default
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config igmp\_snooping data\_driven\_learning

Purpose	To configure the maximum number of groups that can be learned by data driven. When the table is full, the system will stop the learning of the new data-driven groups. Traffic for the new groups will be dropped.
Syntax	<b>config igmp_snooping data_driven_learning</b> <b>max_learned_entry &lt;integer 1-1024&gt;</b>
Description	The <b>config igmp_snooping data_driven_learning</b> command is used to configure the maximum number of groups that can be learned by data driven.
Parameters	<i>max_learned_entry &lt;integer 1-1024&gt;</i> – Specifies the maximum number of groups that can be learned by data drive. This value must be between 1 and 1024, and the suggested default setting is 56.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To set the maximum number of groups that can be learned by data driven:

```
DGS-1210-28MP/ME:5# config igmp_snooping data_driven_learning
max_learned_entry 50
Command: config igmp_snooping data_driven_learning max_learned_entry 50

Success.
DGS-1210-28MP/ME:5#
```

## clear igmp\_snooping data\_driven\_group

Purpose	To clear the IGMP snooping group learned by data drive.
Syntax	<b>clear igmp_snooping data_driven_group</b> [all   <i>vlan_name</i> < <i>vlan_name</i> 32>   <i>vlanid</i> < <i>vidlist</i> >] [all   <i>MCGroupAddr</i> < <i>ipaddr</i> >]
Description	The <b>clear igmp_snooping data_driven_group</b> command is used to delete the IGMP snooping group learned by data drive. Note that this commands is currently only for layer 2 switches.
Parameters	<i>all</i> – Delete all data driven entries. <i>vlan_name</i> < <i>vlan_name</i> 32> – The name of the VLAN for which IGMP snooping is to be configured. Up to 32 characters can be used. <i>vlanid</i> < <i>vidlist</i> > – Specify the vlan id of the IGMP snooping data driven group on the Switch. < <i>ipaddr</i> > - Specifies the IP address.
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To clear the igmp snooping data driven group on the Switch:

```
DGS-1210-28MP/ME:5# clear igmp_snooping data_driven_group all
```



**Command: clear igmp\_snooping data\_driven\_group all**

**Success.**

**DGS-1210-28MP/ME:5#**

## config router\_ports

Purpose	To configure ports as router ports.
Syntax	<b>config router_ports [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] [add   delete] &lt;portlist&gt;</b>
Description	The <b>config router_ports</b> command DGSignates a range of ports as being connected to multicast-enabled routers. This ensures all packets with such a router as its destination will reach the multicast-enabled router – regardless of protocol, etc.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> – The name of the VLAN on which the router port resides. Up to 32 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The VLAN id of the VLAN on which the router port resides.</p> <p><i>all</i> – Specifies all ports on the Switch to be configured.</p> <p><i>[add   delete]</i> – Specifies whether to add or delete ports defined in the following parameter &lt;portlist&gt;, to the router port function.</p> <p><i>&lt;portlist&gt;</i> – A port or range of ports that will be configured as router ports.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To add the static router ports 1-5:

**DGS-1210-28MP/ME:5# config router\_ports vlanid 1 add 1-5**

**Command: config router\_ports vlanid 1 add 1-5**

**Success.**

**DGS-1210-28MP/ME:5#**

## config router\_ports\_forbidden

Purpose	To deny ports becoming router ports.
Syntax	<b>config router_ports_forbidden [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] [add   delete] &lt;portlist&gt;</b>
Description	The <b>config router_port_forbidden</b> command denies a range of ports access to multicast-enabled routers. This ensures all packets with such a router as its destination will not reach the multicast-enabled router – regardless of protocol, etc.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> – The name of the VLAN on which the router port resides. Up to 32 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The VLAN id of the VLAN on which the router port resides.</p>

	<p><i>all</i> – Specifies all ports on the Switch to be configured.</p> <p><i>[add   delete]</i> – Specifies whether to deny ports defined in the following parameter &lt;portlist&gt;, to the router port function.</p> <p>&lt;portlist&gt; – A port or range of ports that will be denied access as router ports.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To deny router ports:

<p><b>DGS-1210-28MP/ME:5# config router_ports_forbidden vlanid 2 add 10-12</b></p> <p><b>Command: config router_ports_forbidden vlanid 2 add 10-12</b></p>
<p><b>Success.</b></p> <p><b>DGS-1210-28MP/ME:5#</b></p>

## config igmp access\_authentication ports

Purpose	To configure the IGMP access authentication on the Switch.
Syntax	<b>config igmp access_authentication ports [&lt;portlist&gt;   all] state [enable   disable]</b>
Description	The <b>config igmp access_authentication ports</b> command configures the IGMP access authentication on the Switch.
Parameters	<p>&lt;portlist&gt; – A port or range of ports that will be configured as IGMP access authentication ports.</p> <p><i>all</i> – Specify all ports to be configured as IGMP access authentication ports.</p> <p><i>state [enable   disable]</i> – Specifies the state for the port to be disabled or enabled.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure authentication port of IGMP:

<p><b>DGS-1210-28MP/ME:5# config igmp access_authentication ports all state enable</b></p> <p><b>Command: config igmp access_authentication ports all state enable</b></p>
<p><b>Success.</b></p> <p><b>DGS-1210-28MP/ME:5#</b></p>

## show igmp access\_authentication ports

Purpose	To display the IGMP access authentication configuration on the Switch.
Syntax	<b>show igmp access_authentication ports [&lt;portlist&gt;   all]</b>
Description	The <b>show igmp access_authentication</b> command displays the IGMP access authentication configuration on the Switch.
Parameters	<i>all</i> – Specifies all ports to be displayed.

	<i>&lt;portlist&gt;</i> – A port or range of ports to be displayed on the Switch.
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To display the IGMP access authentication:

<b>DGS-1210-28MP/ME:5# show igmp access_authentication ports 1-5</b>	
<b>Command: show igmp access_authentication ports 1-5</b>	
<b>Port</b>	<b>Authentication State</b>
-----	
1	Disabled
2	Disabled
3	Disabled
4	Disabled
5	Disabled
<b>DGS-1210-28MP/ME:5#</b>	

## enable igmp\_snooping

Purpose	To enable IGMP snooping on the Switch.
Syntax	<b>enable igmp_snooping {multicast_vlan   forward_mcrouter_only}</b>
Description	The <b>enable igmp_snooping</b> command enables IGMP snooping on the Switch.
Parameters	<i>{multicast_vlan   forward_mcrouter_only}</i> – Enables the multicast VLAN or forward mcrouter for IGMP Snooping on the Switch.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable IGMP snooping on the Switch:

<b>DGS-1210-28MP/ME:5# enable igmp_snooping</b>	
<b>Command: enable igmp_snooping</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

## disable igmp\_snooping

Purpose	To disable IGMP snooping on the Switch.
Syntax	<b>disable igmp_snooping {multicast_vlan   forward_mcrouter_only}</b>
Description	The <b>disable igmp_snooping</b> command disables IGMP snooping on the Switch. IGMP snooping can be disabled only if IP multicast routing is not being used. Disabling IGMP snooping allows all IGMP and IP multicast traffic to flood within a given IP interface.
Parameters	<i>{multicast_vlan   forward_mcrouter_only}</i> – Disables the multicast

	VLAN or forward mcrouter for IGMP Snooping on the Switch.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable IGMP snooping on the Switch:

```
DGS-1210-28MP/ME:5# disable igmp_snooping
Command: disable igmp_snooping
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show igmp\_snooping

Purpose	To show the current status of IGMP snooping on the Switch.
Syntax	<b>show igmp_snooping</b> {vlan <vlan_name 32>   vlanid <vidlist>   multicast_vlan <vlan_name 32>   multicast_vlan_group <vlan_name 32>}
Description	The <b>show igmp_snooping</b> command displays the current IGMP snooping configuration on the Switch.
Parameters	<vlan_name 32> – The name of the VLAN for which IGMP snooping configuration is to be displayed. Up to 32 characters can be used. <vidlist> – The vid of the VLAN for which IGMP snooping configuration is to be displayed.
Restrictions	None.

Example usage:

To show igmp snooping:

```
DGS-1210-28MP/ME:5# show igmp_snooping vlan default
Command: show igmp_snooping vlan default
```

```
IGMP Snooping Global State      : Disable
Multicast Router Only           : Disable
Data Driven Learning Max Entries : 64

VLAN Name                       : default
Query Interval                   : 1
Max Response Time                : 10
Robustness Value                 : 2
Last Member Query Interval       : 1
Querier State                    : Disable
Querier Role                     : Non-Querier
Querier Select                   : Disable
Querier IP                      : 10.90.90.90
Querier Expiry Time              : 0
State                            : Enable
Fast Leave                      : Disable
```

**Version** : 3  
**Data Driven Learning Aged Out** : Disable

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## show igmp\_snooping group

Purpose	To display the current IGMP snooping group configuration on the Switch.
Syntax	<b>show igmp_snooping group [vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;] &lt;ipaddr&gt; {data_driven}</b>
Description	The <b>show igmp_snooping group</b> command displays the current IGMP snooping group configuration on the Switch.
Parameters	<p><i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN for which IGMP snooping group configuration information is to be displayed. Up to 32 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The ID of the VLAN for which IGMP snooping group configuration information is to be displayed.</p> <p><i>&lt;ipaddr&gt;</i> – The IP address of the VLAN for which IGMP snooping group configuration information is to be displayed.</p> <p><i>{data_driven}</i> – Specifies to display the data driven of IGMP snooping group.</p>
Restrictions	None.

Example usage:

To show igmp snooping group:

```
DGS-1210-28MP/ME:5# show igmp_snooping group vlan default
Command: show igmp_snooping group vlan default
```

```
Total Entries : 0
```

```
DGS-1210-28MP/ME:5#
```

## show igmp\_snooping forwarding

Purpose	To display the IGMP snooping forwarding table entries on the Switch.
Syntax	<b>show igmp_snooping forwarding {vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;}</b>
Description	The <b>show igmp_snooping forwarding</b> command displays the current IGMP snooping forwarding table entries currently configured on the Switch.
Parameters	<p><i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN for which IGMP snooping forwarding table information is to be displayed. Up to 32 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The vid of the VLAN for which IGMP snooping forwarding table information is to be displayed.</p>

Restrictions	None.
--------------	-------

Example usage:

To view the IGMP snooping forwarding table for VLAN 'Trinity':

```
DGS-1210-28MP/ME:5# show igmp_snooping forwarding vlan default
Command: show igmp_snooping forwarding vlan default

VLAN Name      : Trinity
Multicast group : 224.0.0.2
MAC address    : 01-00-5E-00-00-02
Port Member    : 3,4
Total Entries   : 1

DGS-1210-28MP/ME:5#
```

## show igmp\_snooping host

Purpose	To display the IGMP snooping host table entries on the Switch.
Syntax	<b>show igmp_snooping host {ports &lt;portlist&gt;   group &lt;ipaddr&gt;   vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;}</b>
Description	The <b>show igmp_snooping host</b> command displays the current IGMP snooping forwarding table entries currently configured on the Switch.
Parameters	<p><i>ports &lt;portlist&gt;</i> – The ports of IGMP snooping host table information are to be displayed.</p> <p><i>group &lt;ipaddr&gt;</i> – The IP address of IGMP snooping host table information are to be displayed.</p> <p><i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN for which IGMP snooping host table information is to be displayed. Up to 32 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – The vid of the VLAN for which IGMP snooping host table information is to be displayed.</p>
Restrictions	None.

Example usage:

To view the IGMP snooping host table on the Switch:

```
DGS-1210-28MP/ME:5# show igmp_snooping host
Command: show igmp_snooping host

VLAN ID   Group                Port No   IGMP Host
-----   -
Total Entries : 0

DGS-1210-28MP/ME:5#
```

**show igmp\_snooping multicast\_vlan**

Purpose	To display the IGMP snooping multicast vlan table entries on the Switch.
Syntax	<b>show igmp_snooping multicast_vlan {&lt;vlan_name 32&gt;}</b>
Description	The <b>show igmp_snooping multicast_vlan</b> command displays the current IGMP snooping forwarding table entries currently configured on the Switch.
Parameters	<vlan_name 32> – The name of the VLAN for which IGMP snooping host table information is to be displayed. Up to 20 characters can be used.
Restrictions	None.

Example usage:

To view the IGMP snooping multicast vlan information on the Switch:

```
DGS-1210-28/ME:5# show igmp_snooping multicast_vlan default
Command: show igmp_snooping multicast_vlan default

Multicast VLAN Global State : Disabled

DES-1210-52/ME:5#
```

**show igmp\_snooping multicast\_vlan\_group**

Purpose	To display the IGMP snooping multicast vlan group table entries on the Switch.
Syntax	<b>show igmp_snooping multicast_vlan_group {&lt;vlan_name 32&gt;}</b>
Description	The <b>show igmp_snooping multicast_vlan_group</b> command displays the current IGMP snooping forwarding table entries currently configured on the Switch.
Parameters	<vlan_name 32> – The name of the VLAN for which IGMP snooping host table information is to be displayed. Up to 20 characters can be used.
Restrictions	None.

Example usage:

To view the IGMP snooping multicast vlan group information on the Switch:

```
DGS-1210-28/ME:5# show igmp_snooping multicast_vlan_group
Command: show igmp_snooping multicast_vlan_group

VID  Vlan Name          IP Range
-----
DES-1210-52/ME:5#
```

**show igmp\_snooping statistic counter**

Purpose	To display the statistics counter for IGMP protocol packets that are received by the Switch since IGMP snooping was enabled.
Syntax	<b>show igmp_snooping statistic counter [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   ports &lt;portlist&gt;]</b>
Description	The <b>show igmp_snooping statistic counter</b> command displays the statistics counter for IGMP protocol packets that are received by the Switch since IGMP snooping was enabled.
Parameters	<i> vlan_name &lt;string 32&gt;</i> – Specify the VLAN name to be displayed. <i> vlanid &lt;vidlist&gt;</i> – Specify the VLAN ID to be displayed. <i> ports &lt;portlist&gt;</i> - Specify a list of ports to be displayed.
Restrictions	None.

Example usage:

To display the IGMP snooping statistics counter for VLAN ID 1:

```
DGS-1210-28MP/ME:5# show igmp_snooping statistic counter vlanid 1
Command: show igmp_snooping statistic counter vlanid 1

VLAN Name      : default
-----
Group Number           : 0

Receive Statistics
Query
  IGMP v1 Query        : 0
  IGMP v2 Query        : 0
  IGMP v3 Query        : 0
  Total                 : 0
  Dropped By Multicast VLAN : 0

Report & Leave
  IGMP v1 Report       : 0
  IGMP v2 Report       : 0
  IGMP v3 Report       : 0
  IGMP v2 Leave        : 0
  Total                 : 0
  Dropped By Max Group Limitation : 0
  Dropped By Multicast VLAN : 0

CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

**clear igmp\_snooping statistic counter**

Purpose	To clear the IGMP snooping statistics counter.
Syntax	<b>clear igmp_snooping statistic counter</b>
Description	The <b>clear igmp_snooping statistic counter</b> command used to clear the IGMP snooping statistics counter.



Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To clear the IGMP snooping statistics counter:

```
DGS-1210-28MP/ME:5# clear igmp_snooping statistics counter
Command: clear igmp_snooping statistics counter
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show router\_ports

Purpose	To display the currently configured router ports on the Switch.
Syntax	<b>show router_ports {vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;   static   dynamic   forbidden}</b>
Description	The <b>show router_ports</b> command displays the router ports currently configured on the Switch.
Parameters	<i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN on which the router port resides. Up to 32 characters can be used. <i>vlanid &lt;vidlist&gt;</i> – The ID of the VLAN on which the router port resides. <i>static</i> – Displays router ports that have been statically configured. <i>dynamic</i> – Displays router ports that have been dynamically learned. <i>forbidden</i> – Displays router ports that have been forbidden configured.
Restrictions	None.

Example usage:

To display the router ports.

```
DGS-1210-28MP/ME:5# show router_ports
Command: show router_ports
```

```
VLAN Name      : default
```

```
Static router port :
```

```
Dynamic router port :
```

```
Forbidden router port :
```

```
Total Entries : 1
```

```
DGS-1210-28MP/ME:5#
```

## show igmp\_snooping forwarding\_hw vlan

Purpose	To display the IGMP group data directly from HW table.
Syntax	<b>show igmp_snooping forwarding_hw vlan &lt;vlan_name 32&gt;</b>
Description	To display the IGMP group data directly from HW table. This command usually used to check the synchronization problem of

	IGMP groups.
Parameters	<i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN to display the IGMP group HW table. Up to 32 characters can be used.
Restrictions	None.

Example usage:

To display the IGMP group data directly from HW table:

<b>DGS-1210-28MP/ME:5# show igmp_snooping forwarding_hw vlan testing</b>		
<b>Command: show igmp_snooping forwarding_hw vlan testing</b>		
<b>Vlan</b>	<b>MAC-Address in HW</b>	<b>Ports in HW</b>
-----	-----	-----
2007	01-00-5e-6f-01-01	28
<b>Vlan</b>	<b>MAC-Address in HW</b>	<b>Ports in HW</b>
-----	-----	-----
2007	01-00-5e-6f-01-02	28
<b>Vlan</b>	<b>MAC-Address in HW</b>	<b>Ports in HW</b>
-----	-----	-----
2007	01-00-5e-6f-01-03	28
<b>Vlan</b>	<b>MAC-Address in HW</b>	<b>Ports in HW</b>
-----	-----	-----
2007	01-00-5e-6f-01-04	28
<b>Vlan</b>	<b>MAC-Address in HW</b>	<b>Ports in HW</b>
-----	-----	-----
2007	01-00-5e-6f-01-05	28
<b>DGS-1210-28MP/ME:5#</b>		

### config igmp\_snooping rate\_limit

Purpose	To configure the maximum rate for switch to process IGMP control packets.
Syntax	<b>config igmp_snooping rate_limit rate &lt;integer 1-200&gt; ports &lt;portlist&gt;</b>
Description	This command is used to limit the rate that switch to process the IGMP control packet (IGMP report, IGMP leave, IGMP query). The overlit packets will be ignored.
Parameters	<i>rate &lt;integer 1-200&gt;</i> – Specify the per-port maximum rate in PPS. This value must be between 1 and 200, and the default setting is 200. <i>ports &lt;portlist&gt;</i> - Specify a list of ports to be displayed.
Restrictions	Only administrator or operator-level users can issue this command..

Example usage:

To configure the maximum rate to 100pps of IGMP control packets for port 1:

```
DGS-1210-28MP/ME:5# config igmp_snooping rate_limit rate 100 ports 1
```

```
Command: config igmp_snooping rate_limit rate 100 ports 1
```

Success.

```
DGS-1210-28MP/ME:5# show igmp_snooping rate_limit ports 1
```

```
Command: show igmp_snooping rate_limit ports 1
```

```
Port  Rate_limit Value
```

```
-----
```

```
1    100
```

```
DGS-1210-28MP/ME:5#
```

## IPV4/IPV6 ROUTING COMMANDS

The IPv4/IPv6 Routing commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create iproute	[<network_address>   default] {metric <int 1-65535>} {primary   backup}
delete iproute	[<network_address>   default] <ipaddr>
show iproute	{static}
create ipv6route	[<ipv6networkaddr>   default] <ipv6addr> [metric <int 1-65535>] {primary   backup}
delete ipv6route	[<ipv6networkaddr>   default] default <ipv6addr>
show ipv6route	{static}

Each command is listed in detail, as follows:

create iproute	
Purpose	To create an IP route entry on the Switch.
Syntax	<b>create iproute</b> [<network_address>   default] {metric <int 1-65535>} {primary   backup}
Description	The <b>create iproute</b> command is used to create an IP route entry on the Switch. “Primary” and “backup” are mutually exclusive. Users can select only one when creating one new route. If a user sets neither of these, the system will try to set the new route first by primary and second by backup.
Parameters	<p>&lt;network_address&gt; - The IP address and netmask of the IP interface that is the destination of the route. Specify the address and mask information using the traditional format (for example, 10.90.90.3/255.0.0.0 or in CIDR format, 10.90.90.3/8).</p> <p><i>default</i> – To create a default IPv4 route entry.</p> <p>&lt;ipaddr&gt; – To specify the IPv4 address for the next hop route.</p> <ul style="list-style-type: none"> <li>• <i>metric &lt;int 1-65535&gt;</i> – To specify the hop cost, and the default is 1. The value ranges between 1 and 65535.</li> <li>• <i>primary</i> – To specify the route as the primary route to the destination.</li> <li>• <i>backup</i> – To specify the route as the backup route to the destination. If the route is not specified as the primary route or the backup route, then it will be auto-assigned by the system. The first created is the primary, the second created is the backup.</li> </ul>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To add a default route with a nexthop of 10.90.58.33 as primary route:

```
DGS-1210-28MP/ME:5# create iproute default 10.90.58.33 primary
Command: create iproute default 10.90.58.33 primary
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete iproute

Purpose	Used to delete an IP route entry from the Switch's IP routing table.
Syntax	<b>delete iproute</b> [ <b>&lt;network_address&gt;</b>   <b>default</b> ] <b>&lt;ipaddr&gt;</b>
Description	The <b>delete iproute</b> command will delete an existing IP route entry from the Switch's IP routing table.
Parameters	<b>&lt;network_address&gt;</b> - The IP address and netmask of the IP interface that is the destination of the route. Specify the address and mask information using the traditional format (for example, 10.90.90.3/255.0.0.0 or in CIDR format, 10.90.90.3/8). <b>default</b> – Specifies to delete a default IP route entry. <b>&lt;ipaddr&gt;</b> – To specify the IPv4 address for the next hop router to be configured.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete the default route from the routing table:

```
DGS-1210-28MP/ME:5# delete iproute 10.90.58.33
Command: delete iproute 10.90.58.33
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show iproute

Purpose	Used to display the Switch's current IP routing table.
Syntax	<b>show iproute</b> <b>{static}</b>
Description	The <b>show iproute</b> command will display the Switch's current IP routing table.
Parameters	<b>{static}</b> – Specifies to display all the static route entries.
Restrictions	None.

Example usage:

To display the contents of the IP routing table:

```
DGS-1210-28MP/ME:5# show iproute
Command: show iproute

Routing Table

IP Address/Netmask Gateway Interface Hops Protocol
-----
10.0.0.0/8 0.0.0.0 System 1 Local

Total Entries :1

DGS-1210-28MP/ME:5#
```

## create ipv6route

Purpose	Used to create an IPv6 static route in the Switch's IP routing table.
Syntax	<b>create ipv6route</b> [ <i>&lt;ipv6networkaddr&gt;</i>   <b>default</b> ] <i>&lt;ipv6addr&gt;</i> [ <b>metric</b> <i>&lt;int 1-65535&gt;</i> ] { <b>primary</b>   <b>backup</b> }
Description	This <b>create ipv6route</b> command is used to create a primary and backup IP route entry to the Switch's IP routing table.
Parameters	<p><i>&lt;ipv6networkaddr&gt;</i> - Specifies the destination network for the route.</p> <p><b>default</b> – To create a default IPv6 route entry.</p> <p><i>&lt;ipaddr&gt;</i> – To specify the IPv6 address for the next hop route.</p> <ul style="list-style-type: none"> <li>• <i>metric &lt;int 1-65535&gt;</i> – To specify the hop cost, and the default is 1. The value ranges between 1 and 65535.</li> <li>• <i>primary</i> – To specify the route as the primary route to the destination.</li> <li>• <i>backup</i> – To specify the route as the backup route to the destination. If the route is not specified as the primary route or the backup route, then it will be auto-assigned by the system. The first created is the primary, the second created is the backup.</li> </ul>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To add a single static IPv6 entry in IPv6 format:

```
DGS-1210-28MP/ME:5# create ipv6route default FEC0::5
Command: create ipv6route default FEC0::5

Success.
DGS-1210-28MP/ME:5#
```

## delete ipv6route

Purpose	Used to delete a static IPv6 route entry from the Switch's IP routing table.
---------	--

Syntax	<b>delete ipv6route</b> [ <b>&lt;ipv6networkaddr&gt;</b>   <b>default</b> ] <b>&lt;ipv6addr&gt;</b>
Description	This <b>delete ipv6route</b> command will delete an existing static IPv6 entry from the Switch's IP routing table.
Parameters	<i>&lt;ipv6networkaddr&gt;</i> – To specify the IPv6 address that is the destination of the route to be deleted. <i>default</i> – Specifies to delete a default IP route entry. <i>&lt;ipaddr&gt;</i> – To specify the IPv6 address for the next hop router to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a static IPv6 entry from the routing table:

```
DGS-1210-28MP/ME:5# delete ipv6route default FEC0::5
Command: delete ipv6route default default FEC0::5

Success.
DGS-1210-28MP/ME:5#
```

## show ipv6route

Purpose	Used to display a static IPv6 route entry from the Switch's IP routing table.
Syntax	<b>show ipv6route</b> { <b>static</b> }
Description	This <b>show ipv6route</b> command will display an existing static IPv6 entry from the Switch's IP routing table.
Parameters	<i>{static}</i> – Specifies to display all the IPv6 static route entries.
Restrictions	None.

Example usage:

To show a static IPv6 entry from the routing table:

```
DGS-1210-28MP/ME:5# show ipv6route
Command: show ipv6route

IPv6 Prefix: ::/0                Protocol: Static Metric: 1
Next Hop  : FEC0::5              IPIF   : System

Total Entries: 1
DGS-1210-28MP/ME:5#
```

## LAYER 2 PROTOCOL TUNNELING COMMANDS

The Layer 2 Protocol Tunneling (L2PT) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable l2protocol_tunnel	
disable l2protocol_tunnel	
config l2protocol_tunnel ports	[all   <portlist>] type [uni tunneled_protocol [stp   gvrp   protocol_mac [01-00-0C-CC-CC-CC   01-00-0C-CC-CC-CD]   all [threshold (0-65535)]]   nni   none]
show l2protocol_tunnel	

Each command is listed in detail, as follows:

### enable l2protocol\_tunnel

Purpose	To enable the Layer 2 protocol tunneling function.
Syntax	<b>enable l2protocol_tunnel</b>
Description	The <b>enable l2protocol_tunnel</b> command is used to enable the Layer 2 protocol tunneling function.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the Layer 2 protocol tunneling function:

```
DGS-1210-28MP/ME:5# enable l2protocol_tunnel
Command: enable l2protocol_tunnel
```

```
Success.
DGS-1210-28MP/ME:5#
```

### disable l2protocol\_tunnel

Purpose	To disable the Layer 2 protocol tunneling function.
Syntax	<b>disable l2protocol_tunnel</b>
Description	The <b>disable l2protocol_tunnel</b> command is used to disable the Layer 2 protocol tunneling function.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.



Example usage:

To disable the Layer 2 protocol tunneling function:

```
DGS-1210-28MP/ME:5# disable l2protocol_tunnel
Command: disable l2protocol_tunnel
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config l2protocol\_tunnel ports

Purpose	To configure Layer 2 protocol tunneling on ports.
Syntax	<b>config l2protocol_tunnel ports</b> [all   <portlist>] <b>type</b> [uni tunneled_protocol [stp   gvrp   protocol_mac [01-00-0C-CC-CC-CC   01-00-0C-CC-CC-CD]   all [threshold (0-65535)]]   nni   none]
Description	The <b>config l2protocol_tunnel ports</b> command is used to configure Layer 2 protocol tunneling on ports.
Parameters	<p>[all   &lt;portlist&gt;] – Specifies a range of ports or all ports to be configured.</p> <p><i>type</i> – Specifies the type of the ports.</p> <p><i>uni tunneled_protocol</i> – Specifies tunneled protocols on this UNI port. If specified all, all tunnel-able Layer 2 protocols will be tunneled on this port.</p> <p><i>stp</i> – Specify to use the STP protocol.</p> <p><i>gvrp</i> – Specify to use the GVRP protocol.</p> <p><i>protocol_mac</i> - Specify which protocol MAC address to use.</p> <p><i>all</i> - Specify to use all the MAC addresses.</p> <p><i>threshold</i> – <i>tunneled_protocol threshold control support range 0-65535</i></p> <p><i>nni</i> – Specifies the port is NNI port.</p> <p><i>none</i> – Disables tunnel on it. By default, a port is none port.</p>
Restrictions	None.

Example usage:

To configure the L2PT tunneling on ports 8-12:

```
DGS-1210-28MP/ME:5# config l2protocol_tunnel ports 8-12 type uni
tunneled_protocol protocol_mac 01-00-0C-CC-CC-CC threshold 100
Command: config l2protocol_tunnel ports 8-12 type uni tunneled_protocol
protocol_mac 01-00-0C-CC-CC-CC threshold 100
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show l2protocol\_tunnel

Purpose	To show Layer 2 protocol tunneling information.
Syntax	<b>show l2protocol_tunnel</b> {nni   uni}

Description	The <b>show l2protocol_tunnel</b> command is used to show Layer 2 protocol tunneling information.
Parameters	<i>uni</i> - Specify show UNI detail information, include tunneled and dropped PDU statistic. <i>nni</i> - Specify show NNI detail information, include de-capsulated Layer 2 PDU statistic.
Restrictions	None.

Example usage:

To show Layer 2 protocol tunneling information summary:

```
DGS-1210-28MP/ME:5# show l2protocol_tunnel
Command: show l2protocol_tunnel

Global State : Enabled
UNI Ports   : 8-12
NNI Ports   :

Success.
DGS-1210-28MP/ME:5#
```

## DIGITAL DIAGNOSTIC MONITORING COMMANDS

The Digital Diagnostic Monitoring (DDM) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config ddm ports	<portlist> [bias_current_threshold [high_alarm   low_alarm]   rx_power_threshold   shutdown   state [enable   disable]   temperature_threshold   tx_power_threshold   voltage_threshold]
config ddm power_unit	[mw   dbm]
show ddm ports	<portlist> [configuration   status   vendor_info]

Each command is listed in detail, as follows:

config ddm ports	
Purpose	To configure the DDM settings of the specified ports.
Syntax	<b>config ddm ports &lt;portlist&gt; [bias_current_threshold [high_alarm   low_alarm]   rx_power_threshold   shutdown   state [enable   disable]   temperature_threshold   tx_power_threshold   voltage_threshold]</b>
Description	The <b>config ddm ports</b> command is used to configure the DDM settings of the specified ports.
Parameters	<p><i>&lt;portlist&gt;</i> - Specifies the range of ports to be configured.</p> <p><i>bias_current_threshold</i> - Specify the threshold of the optic module's bias current.</p> <p><i>high_alarm</i> - Specify the high threshold for the alarm. When the operating parameter rises above this value, the action associated with the alarm is taken.</p> <p><i>low_alarm</i> - Specify the low threshold for the alarm. When the operating parameter falls below this value, the action associated with the alarm is taken.</p> <p><i>rx_power_threshold</i> - Specify the threshold of optic module's received power.</p> <p><i>state</i> - Specify the DDM state to enable or disable. If the state is disabled, no DDM action will take effect.</p> <p><i>temperature_threshold</i> - Specify the threshold of the optic module's temperature in centigrade. At least one parameter shall be specified for this threshold.</p> <p><i>shutdown</i> - Specify whether or not to shutdown the port when the operating parameter exceeds the corresponding alarm threshold or warning threshold. The default value is none.</p> <p><i>tx_power_threshold</i> - Specify the threshold of the optic module's output power.</p> <p><i>voltage_threshold</i> - Specify the threshold of optic module's voltage.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the port 21's voltage threshold:

```
DGS-1210-28MP/ME:5# config ddm ports 1:21 temperature_threshold high_alarm
84.9555 low_alarm -10 high_warning 70 low_warning 2.25251
Command: config ddm ports 1:21 temperature_threshold high_alarm 84.9555
low_alarm -10 high_warning 70 low_warning 2.25251
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config ddm power\_unit

Purpose	To configure the unit of DDM TX and RX power.
Syntax	<b>config ddm power_unit [mw   dbm]</b>
Description	The <b>config ddm power_unit</b> command is used to configure the unit of DDM TX and RX power.
Parameters	<i>mw</i> - Specify the DDM TX and RX power unit as mW. <i>dbm</i> - Specify the DDM TX and RX power unit as dBm.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the DDM TX and RX power unit as dBm:

```
DGS-1210-28MP/ME:5# config ddm power_unit dbm
Command: config ddm power_unit dbm
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show ddm ports

Purpose	To display the current operating DDM parameters and configuration values of the optic module of the specified ports.
Syntax	<b>show ddm ports &lt;portlist&gt; [configuration   status   vendor_info]</b>
Description	The <b>show ddm ports</b> command is used to display the current operating DDM parameters and configuration values of the optic module of the specified ports.
Parameters	<i>&lt;portlist&gt;</i> - Specify the ports of DDM to be displayed. <i>configuration</i> - Specifies that the configuration values will be displayed. <i>status</i> - Specifies that the operating parameter will be displayed. <i>vendor_info</i> - Specifies that the vendor information will be displayed.
Restrictions	None.

Example usage:

To display ports 1-5's operating parameters:

```
DGS-1210-28MP/ME:5# show ddm ports 1-5 vender_info
```

```
Command: show ddm ports 1-5 vender_info
```

```
Invalid DDM port list.
```

```
Failure!
```

```
DGS-1210-28MP/ME:5#
```

## MLD SNOOPING COMMANDS

The MLD Snooping commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable mld_snooping	{multicast_vlan   forward_mcrouter_only}
disable mld_snooping	{multicast_vlan   forward_mcrouter_only}
config mld_snooping	[vlan_name < string 32>   vlanid <vidlist>   all] {fast_done [enable   disable]   host_timeout <sec 130-153025>   leave_timer <sec 1-25>   report_suppression [enable   disable]   router_timeout <sec 60-600>   state [enable   disable]}
create mld_snooping multicast_vlan	<vlan_name 32> <vlanid 2-4094>
config mld_snooping multicast_vlan	<vlan_name 32> {[add   delete] [member_port <portlist>   [source_port <portlist>   untag_source_port <portlist>]   tag_member_port <portlist>]   state [enable   disable]   replace_source_ipv6 <ipv6addr>   remap_priority [<value 0-7>   none] { replace_priority}}
show mld_snooping multicast_vlan	<vlan_name 32>
delete mld_snooping multicast_vlan	[<vlan_name 32>   all]
config mld_snooping multicast_vlan_group	<vlan_name 32> [add   delete] ipv6_range <ipv6addr> <ipv6addr>
show mld_snooping multicast_vlan_group	{<vlan_name 32>}
config mld_snooping mrouter_ports	[vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
config mld_snooping mrouter_ports_forbidden	[vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
config mld_snooping querier	[vlan_name <string 32>   vlanid <vidlist>   all] [last_listener_query_interval <sec 1-25>   max_response_time <sec 10-25>   query_interval <sec 60-600>   robustness_variable   state [enable   disable]   version <value 1-2>]
config mld_snooping data_driven_learning	[max_learned_entry <value 1-1024>   vlan_name <string 32>   vlanid <vidlist>   all] [age_out [disable   enable]   expiry_time <sec 130-1530255>   state [enable   disable]]
clear mld_snooping data_driven_group	[vlan_name <string>   vlanid <vidlist>   all] {<ipv6_addr>   all}
show mld snooping	[vlan_name <string 32>   vlanid <vidlist>   all]
show mld_snooping forwarding	[vlan_name <string 32>   vlanid <vidlist>   all]
show mld_snooping group	[vlan_name <string 32>   vlanid <vidlist>   all   ports <portlist>]

Command	Parameter
show mld_snooping mrouter_ports	[vlan_name <string 32>   vlanid <vidlist>   all ] [dynamic   static   forbidden]
show mld_snooping host	[vlan_name <string 32>   vlanid <vidlist>   all   ports <portlist>   group <ipv6_addr>]
show mld_snooping statistic counter	[vlan_name <string 32>   vlanid <vidlist>   ports <portlist>]
clear mld_snooping statistics counter	

Each command is listed in detail, as follows:

### enable mld\_snooping

Purpose	To enable MLD snooping on the Switch.
Syntax	<b>enable mld snooping {multicast_vlan   forward_mrouter_only}</b>
Description	The <b>enable mld snooping</b> command enables MLD snooping on the Switch.
Parameters	<i>{multicast_vlan   forward_mrouter_only}</i> – Enables the multicast VLAN or forward mrouter for MLD Snooping on the Switch.
Restrictions	Only administrator, operator or power user–level users can issue this command.

Example usage:

To enable the MLD snooping:

```
DGS-1210-28MP/ME:5# enable mld_snooping
Command: enable mld_snooping
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### disable mld\_snooping

Purpose	To disable MLD snooping on the Switch.
Syntax	<b>disable mld snooping {multicast_vlan   forward_mrouter_only}</b>
Description	The <b>disable mld snooping</b> command disables MLD snooping on the Switch.
Parameters	<i>{multicast_vlan   forward_mrouter_only}</i> – Disables the multicast VLAN or forward mrouter for MLD Snooping on the Switch.
Restrictions	Only administrator, operator or power user–level users can issue this command.

Example usage:

To disable the MLD snooping:

```
DGS-1210-28MP/ME:5# disable mld_snooping
Command: disable mld_snooping
```

**Success.**

**DGS-1210-28MP/ME:5#**

## config mld\_snooping

Purpose	To configure mld snooping.
Syntax	<b>config mld_snooping [vlan_name &lt; string 32&gt;   vlanid &lt;vidlist&gt;   all] {fast_done [enable   disable]   host_timeout &lt;sec 130-153025&gt;   leave_timer &lt;sec 1-25&gt;   report_suppression [enable   disable]   router_timeout &lt;sec 60-600&gt;   state [enable   disable]}</b>
Description	The <b>config mld_snooping</b> command defines mld snooping on the VLAN.
Parameters	<p><i> vlan_name &lt;string 32&gt; </i> – Specifies that the mld snooping applies only to this previously created VLAN.</p> <p><i> vlanid &lt;vidlist&gt; </i> – Specifies that the mld snooping applies only to this VLAN id.</p> <p><i> all </i> – specifies that MLD snooping is to be configured for all VLANs on the Switch.</p> <p><i> fast_done [enable   disable] </i> – Specifies the fast down to be enabled or disabled.</p> <p><i> host_timeout &lt;sec 130-153025&gt; </i> – Specifies the maximum amount of time a host can be a member of a multicast group without the Switch receiving a host membership report. The default is 260 seconds.</p> <p><i> leave_timer &lt;sec 1-25&gt; </i> – Specifies the maximum amount of time a host can be a member of a multicast group after sending a done timer membership report. The default is 10 seconds.</p> <p><i> report_suppression [enable   disable] </i> – Specifies the report suppression to be enabled or disabled.</p> <p><i> router_timeout &lt;sec 60-600&gt; </i> – Specifies the maximum amount of time a route can be a member of a multicast group without the Switch receiving a host membership report done timer. The default is 300 seconds.</p> <p><i> state [enable   disable] </i>– Allows the user to enable or disable MLD snooping for the specified VLAN.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure mld snooping:

```
DGS-1210-28MP/ME:5# config mld_snooping vlan_name default fast_done disable
host_timeout 130 leave_timer 3 router_timeout 60 state enable
```

```
Command: config mld_snooping vlan_name default fast_done disable host_timeout
130 leave_timer 3 router_timeout 60 state enable
```

**Success.**

**DGS-1210-28MP/ME:5#**



## create mld\_snooping multicast\_vlan

Purpose	To create an MLD multicast VLAN.
Syntax	<b>create mld_snooping multicast_vlan &lt;vlan_name 32&gt; &lt;vlanid 2-4094&gt;</b>
Description	The <b>config mld_snooping multicast_vlan</b> command will create a MLD multicast_vlan. Multiple multicast VLANs can be configured.  When creating MLD multicast VLAN, it cannot duplicate with the VLAN entries in the existing 802.1Q VLAN database. The MLD Multicast VLAN snooping function co-exists with the 1Q VLAN snooping function.
Parameters	<i>&lt;vlan_name 32&gt;</i> – The name of the VLAN to be created. Each multicast VLAN is given a name that can be up to 20 characters.  <i>vlanid</i> – The VLAN ID of the multicast VLAN to be create. The range is 2-4094.
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To create mld snooping multicast VLAN mv1:

```
DGS-1210-28MP/ME:5# create mld_snooping multicast_vlan mv1 2
Command: create mld_snooping multicast_vlan mv1 2

Success.
DGS-1210-28MP/ME:5#
```

## config mld\_snooping multicast\_vlan

Purpose	To configure an MLD multicast VLAN.
Syntax	<b>config mld_snooping multicast_vlan &lt;vlan_name 32&gt; {[add   delete] [member_port &lt;portlist&gt;   [source_port &lt;portlist&gt;   untag_source_port &lt;portlist&gt;]   tag_member_port &lt;portlist&gt;]   state [enable   disable]   replace_source_ipv6 &lt;ipv6addr&gt;   remap_priority [&lt;value 0-7&gt;   none] { replace_priority}}</b>
Description	The <b>config mld_snooping multicast_vlan</b> command allows you to add an untagged member port, a tagged member port, a untagged source port and a tagged source port to the port list. The untagged member port and the untagged source port will automatically become the untagged members of the multicast VLAN, the tagged member port and the tagged source port will automatically become the tagged members of the multicast VLAN. To change the port list, the Switch will add or delete the port list that user entered, and update the previous port list.  The member port list and source port list cannot overlap. However, the member port of one multicast VLAN can overlap with another multicast VLAN.  Before configuring the multicast VLAN member port by using this command, the multicast VLAN must be created first.
Parameters	<i>&lt;vlan_name 32&gt;</i> – The name of the VLAN to be created. Each multicast VLAN is given a name that can be up to 20 characters. <i>member_port</i> – Adds a range of member ports to the multicast VLAN. They will become the untagged member port of the MLD multicast VLAN. <i>source_port</i> – Adds a range of source ports to the multicast VLAN.

*untag\_source\_port* – Adds a range of untagged source ports to the multicast VLAN. The PVID of the untag source port will be automatically changed to the multicast VLAN. It shall be only one kind of source port, tag or untag for an ISM VLAN.

*tag\_member\_port* – Specifies the tagged member port of the MLD multicast VLAN.

*state* – enable or disable multicast VLAN for the chosen VLAN.

*replace\_source\_ipv6 <ipv6addr>* – With the MLD snooping function, the MLD report packet sent by the host will be forwarded to the source port. Before the forwarding of the packet, the source IP address in the join packet needs to be replaced by this IPv6 address.

*remap\_priority* – Associates the remap priority value (0 to 7) with the data traffic and is forwarded on the multicast VLAN. If *none* is specified, the packet's original priority will be used. The default setting is *none*.

Restrictions Only administrator, operator or power user-level users can issue this command.

Example usage:

To config MLD multicast VLAN mv1:

```
DGS-1210-28MP/ME:5# config mld_snooping multicast_vlan mv1 add member_port 1,3
state enable
```

```
Command: config mld_snooping multicast_vlan mv1 add member_port 1,3 state enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show mld\_snooping multicast\_vlan

Purpose	To to show the information of MLD multicast VLAN.
Syntax	<b>show mld_snooping multicast_vlan &lt;vlan_name 32&gt;</b>
Description	The <b>show mld_snooping multicast_vlan</b> command allows user to show the information of an MLD multicast VLAN.
Parameters	<vlan_name 32> – specifies that the mld snooping applies only to this previously created VLAN.
Restrictions	None.

Example usage:

To show MLD multicast VLAN:

```
DGS-1210-28MP/ME:5# show mld_snooping multicast_vlan mv1
```

```
Command: show mld_snooping multicast_vlan mv1
```

```
Multicast VLAN Global State : Enabled
```

```
DGS-1210-28MP/ME:5#
```

## delete mld\_snooping multicast\_vlan

Purpose	To to delete an MLD muticast VLAN.
Syntax	<b>delete mld_snooping multicast_vlan [&lt;vlan_name 32&gt;   all]</b>
Description	The <b>delete mld_snooping multicast_vlan</b> command allows user to

	delete an MLD multicast VLAN.
Parameters	<i>[&lt;vlan_name 32&gt;   all]</i> – Specifies the name or all multicast VLAN to be deleted.
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To delete a MLD multicast VLAN:

<b>DGS-1210-28MP/ME:5# delete mld_snooping multicast_vlan mv1</b>
<b>Command: delete mld_snooping multicast_vlan mv1</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

### config mld\_snooping multicast\_vlan\_group

Purpose	To bind a multicast group profile to a multicast VLAN. The binding profile will affect the group joined to the multicast VLAN.
Syntax	<b>config mld_snooping multicast_vlan_group &lt;vlan_name 32&gt; [add   delete] ipv6_range &lt;ipv6addr&gt; &lt;ipv6addr&gt;</b>
Description	After binding a profile to a multicast VLAN, when a multicast group attempt to join this multicast VLAN member port, the group cannot join this multicast VLAN if the group does not belong to the range of binding profile.
Parameters	<i>&lt;vlan_name 32&gt;</i> – The name of the multicast VLAN to be configured, each multicast VLAN is given a name that can be up to 20 characters. <i>add</i> – Used to associate a profile to a multicast VLAN. <i>delete</i> – Used to de-associate a profile from a multicast VLAN. <i>ipv6_range &lt;ipv6addr&gt;</i> – Specified the IPv6 address range.
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure mld snooping multicast VLAN group mv2:

<b>DGS-1210-28MP/ME:5# config mld_snooping multicast_vlan_group mv2 add ipv6_range 3000::1 3000::3</b>
<b>Command: config mld_snooping multicast_vlan_group mv2 add ipv6_range 3000::1 3000::3</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

### show mld\_snooping multicast\_vlan\_group

Purpose	To display the multicast group profiles configured for the specified MLD multicast VLAN.
Syntax	<b>show mld_snooping multicast_vlan_group {&lt;vlan_name 32&gt;}</b>
Description	After binding a profile to a multicast VLAN, when a multicast group attempt to join this multicast VLAN member port, the group cannot join this multicast VLAN if the group does not belong to the range of binding profile.

Parameters	<vlan_name 32> – Specifies the name of multicast VLAN to be displayed.
Restrictions	None.

Example usage:

To display mld snooping multicast VLAN group:

<b>DGS-1210-28MP/ME:5# show mld_snooping multicast_vlan_group</b>	
<b>Command: show mld_snooping multicast_vlan_group</b>	
<b>VID</b>	<b>Vlan Name</b>
	<b>IP Range</b>
-----	
<b>DGS-1210-28MP/ME:5#</b>	

### config mld\_snooping mrouter\_ports

Purpose	To enable mld mrouter ports.
Syntax	<b>config mld_snooping mrouter_ports</b> [vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
Description	The <b>config mld_snooping mrouter_ports</b> command defines a port that is connected to a multicast router port.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – specifies that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – specifies that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – specifies that MLD snooping is to be configured for all VLANs on the Switch.</p> <p><i>add</i> – Adds a specified port to the mld snooping mrouter port.</p> <p><i>delete</i> – Deletes a specified port to the mld snooping mrouter port.</p> <p>&lt;portlist&gt; – Defines the ports to be included from the mld snooping mrouter group.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command. Separate non-consecutive Ethernet ports with a comma and no spaces; use a hyphen to designate a range of ports. These ports are defined as connected to a multicast router.

Example usage:

To configure mld mrouter ports:

<b>DGS-1210-28MP/ME:5# config mld_snooping mrouter_ports vlanid 1 add 1-3</b>	
<b>Command: config mld_snooping mrouter_ports vlanid 1 add 1-3</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

### config mld\_snooping mrouter\_ports\_forbidden

Purpose	To define mld mrouter ports forbidden on the Switch.
Syntax	<b>config mld_snooping mrouter_ports_forbidden</b> [vlan_name

	<b>&lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] [add   delete] &lt;portlist&gt;</b>
Description	The <b>config mld_snooping mrouter_ports_forbidden</b> command forbids a port from being defined as a multicast router port by static configuration or by automatic learning.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – Specifies that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – specifies that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – specifies that MLD snooping is to be configured for all VLANs on the Switch.</p> <p><i>add</i> – Adds a specified port to the mld snooping mrouter port.</p> <p><i>delete</i> – Deletes a specified port to the mld snooping mrouter port.</p> <p>&lt;portlist&gt; – Defines the ports to be included from the mld snooping mrouter group.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To define the MLD snooping mrouter forbidden:

```
DGS-1210-28MP/ME:5# config mld_snooping mrouter_ports_forbidden vlanid 1 add 8
Command: config mld_snooping mrouter_ports_forbidden vlanid 1 add 8

Success.
DGS-1210-28MP/ME:5#
```

## config mld\_snooping querier

Purpose	Used to configure the timers and settings for the MLD snooping querier for the Switch.
Syntax	<b>config mld_snooping querier [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] [last_listener_query_interval &lt;sec 1-25&gt;   max_response_time &lt;sec 10-25&gt;   query_interval &lt;sec 60-600&gt;   robustness_variable &lt;value 2-255&gt;   state [enable   disable]   version &lt;value 1-2&gt;]</b>
Description	The <b>config mld_snooping querier</b> command allows users to configure the time between general query transmissions, the maximum time to wait for reports from listeners and the permitted packet loss guaranteed by MLD snooping.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – Specifies that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – specifies that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – specifies that MLD snooping is to be configured for all VLANs on the Switch.</p> <p><i>last_listener_query_interval</i> &lt;sec 1-25&gt; – The maximum amount of time to be set between group-specific query messages. This interval may be reduced to lower the amount of time it takes a router to detect the loss of a last listener group. The user may set this interval between 1 and 25 seconds with a default setting of 1 second.</p> <p><i>max_response_time</i> &lt;sec 10-25&gt; – The maximum time to wait for reports from listeners. The user may specify a time between 1 and</p>

	<p>25 seconds with a default setting of 10 seconds.</p> <p><i>query_interval</i> &lt;sec 60-600&gt; – Specifies the amount of time between general query transmissions. The user may specify a time between 1 and 65535 seconds with a default setting of 125 seconds.</p> <p><i>robustness_variable</i> &lt;value 2-255&gt; – Provides fine-tuning to allow for expected packet loss on a subnet. The user may choose a value between 1 and 255 with a default setting of 2. If a subnet is expected to be lossy, the user may wish to increase this interval.</p> <p><i>state</i> [<i>enable</i>   <i>disable</i>] – Enabling the querier state will set the Switch as a MLD querier and disabling it will set it as a Non-querier. The default setting is disabled.</p> <p><i>version</i> &lt;value 1-2&gt; – Specify the version of MLD packet that will be sent by this port. If a MLD packet received by the interface has a version higher than the specified version, this packet will be forward from router ports or VLAN flooding. The value is between 1 and 2.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

Example usage:

To configure MLD snooping querier:

```
DGS-1210-28MP/ME:5#config mld_snooping querier all last_listener_query_interval
1 max_response_time 10 query_interval 60 robustness_variable 2 state disable
version 1
```

```
Command: config mld_snooping querier all last_listener_query_interval 1
max_response_time 10 query_interval 60 robustness_variable 2 state disable
version 1
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config mld\_snooping data\_driven\_learning

Purpose	To enable or disable the data-driven learning of an MLD snooping group on the Switch.
Syntax	<b>config mld_snooping data_driven_learning</b> [ <i>max_learned_entry</i> <value 1-1024>] <i>vlan_name</i> <string 32>   <i>vlanid</i> <vidlist>   <i>all</i> ] [ <i>age_out</i> [ <i>disable</i>   <i>enable</i> ]   <i>expiry_time</i> <sec 130-1530255>   <i>state</i> [ <i>enable</i>   <i>disable</i> ]]
Description	The <b>config mld_snooping data_driven_learning</b> command used to enable or disable the data-driven learning of an MLD snooping group.
Parameters	<p><i>max_learned_entry</i> &lt;value 1-1024&gt; – Specifies the maximum learning entry value.</p> <p><i>vlan_name</i> &lt;string 32&gt; – Specifies that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – Specifies that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Specifies that MLD snooping is to be configured for all VLANs on the Switch.</p> <p><i>age_out</i> [<i>disable</i>   <i>enable</i>] –Enable or disable the aging out of entries. By default, the state is disabled.</p> <p><i>expiry_time</i> &lt;sec 130-1530255&gt; –Specify the data driven group</p>

	lifetime, in seconds. The value is between 130 and 1530255. <i>state [enable   disable]</i> –Specify to enable or disable the data driven learning of MLD snooping groups.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the data driven learning of an MLD snooping group on the default VLAN:

```
ES-1210-28/ME:5# config mld_snooping data_driven_learning vlan_name default
state enable
Command: config mld_snooping data_driven_learning vlan_name default state
enable

Success !
DGS-1210-28MP/ME:5#
```

## clear mld\_snooping data\_driven\_group

Purpose	To clear the mld snooping data driven group on the Switch.
Syntax	<b>clear mld_snooping data_driven_group [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] {&lt;ipv6_addr&gt;   all}</b>
Description	The <b>clear mld_snooping data_driven_group</b> command used to clear the mld snooping data driven group on the Switch.
Parameters	<i>vlan_name</i> <string 32> – Clear that the mld snooping applies only to this previously created VLAN. <i>vlanid</i> <vidlist> – Clear that the mld snooping applies only to this previously created VLAN id. <i>all</i> – Clear that MLD snooping is to be configured for all VLANs on the Switch. {<ipv6_addr>   all} – Specifies the IPv6 address or all of mld snooping data driven group to be removed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear MLD snooping data driven group:

```
DGS-1210-28MP/ME:5# clear mld_snooping data_driven_group vlan_name rd1
Command: clear mld_snooping data_driven_group vlan_name rd1

Success.
DGS-1210-28MP/ME:5#
```

## show mld\_snooping

Purpose	To display mld snooping settings on the Switch.
Syntax	<b>show mld_snooping [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all]</b>
Description	The <b>show mld snooping</b> command displays a port from being defined as a multicast router port by static configuration or by

	automatic learning.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – Displays that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – Displays that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Displays that MLD snooping which configured for all VLANs on the Switch.</p>
Restrictions	None.

Example usage:

To show the MLD snooping:

```

DGS-1210-28MP/ME:5# show mld_snooping vlan_name default
Command: show mld_snooping vlan_name default

MLD Snooping Global State      : Disable
Max Learned Entry Value       : 256

VLAN Name                      : default
Query Interval                 : 125
Max Response Time              : 10
Robustness Value               : 2
Last Member Query Interval     : 1
Querier State                  : Disable
Querier Role                   : Non-Querier
Querier IP                     :
Querier Expiry Time           : 0
State                          : Disable
Fast Leave                     : Disable
Report Suppression             : Enable
Version                        : 2
Data Driven Learning Aged Out : Disable
Data Driven Learning State     : Disable

Total Entries : 1

DGS-1210-28MP/ME:5#

```

## show mld\_snooping forwarding

Purpose	To display mld snooping settings on the Switch.
Syntax	<b>show mld_snooping forwarding</b> [ <i>vlan_name</i> <string 32>   <i>vlanid</i> <vidlist>   <i>all</i> ]
Description	The <b>show mld_snooping forwarding</b> command displays the current MLD snooping forwarding table entries currently configured on the Switch.



Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – Displays that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – Displays that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Displays that all MLD snooping which configured for all VLANs on the Switch.</p>
Restrictions	None.

Example usage:

To display the MLD snooping forwarding:

<p><b>DGS-1210-28MP/ME:5# show mld_snooping forwarding all</b></p> <p><b>Command: show mld_snooping forwarding all</b></p>
<p><b>Total Entries : 0</b></p> <p><b>DGS-1210-28MP/ME:5#</b></p>

<b>show mld_snooping group</b>	
Purpose	To display mld snooping group settings on the Switch.
Syntax	<b>show mld_snooping group [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all   ports &lt;portlist&gt;]</b>
Description	The <b>show mld_snooping group</b> command displays the multicast groups that were learned by MLD snooping.
Parameters	<p><i>vlan_name</i> &lt;string 32&gt; – The name of the VLAN for which to view the MLD snooping group configurations.</p> <p><i>vlanid</i> &lt;vidlist&gt; – The id of the VLAN for which to view the MLD snooping group configurations.</p> <p><i>all</i> – Displays that all MLD snooping which configured for all VLANs on the Switch.</p> <p><i>ports</i> &lt;portlist&gt; – The ports of the VLAN for which to view the MLD snooping group configurations.</p>
Restrictions	None.

Example usage:

To show the MLD snooping groups:

<p><b>DGS-1210-28MP/ME:5# show mld_snooping group all</b></p> <p><b>Command: show mld_snooping group all</b></p>
<p><b>Total Entries : 0</b></p> <p><b>DGS-1210-28MP/ME:5#</b></p>

<b>show mld_snooping mrouter_ports</b>	
Purpose	To display information on dynamically learnt and static multicast router interfaces.
Syntax	<b>show mld_snooping mrouter_ports [vlan_name &lt;string 32&gt;  </b>

	<b>vlanid &lt;vidlist&gt;   all ] [dynamic   static   forbidden]</b>
Description	The <b>show mld_snooping mrouter_port</b> command displays on dynamically learnt and static multicast router interfaces.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> – Specifies on which VLAN mld snooping groups should be shown.</p> <p><i>vlanid &lt;vidlist&gt;</i> – Displays that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Displays that all MLD snooping which configured for all VLANs on the Switch.</p> <p><i>static</i> – Displays statically configured MLD router ports.</p> <p><i>dynamic</i> – Displays dynamically configured MLD router ports.</p> <p><i>forbidden</i> – Displays forbidden router ports that have been statically configured.</p>
Restrictions	None.

Example usage:

To show the MLD\_snooping mrouterport:

<b>DGS-1210-28MP/ME:5# show mld_snooping mrouter_ports vlanid 1 static</b>	
<b>Command: show mld_snooping mrouter_ports vlanid 1 static</b>	
<b>VLAN Name</b>	<b>: default</b>
<b>Static router port</b>	<b>: 1-3</b>
<b>Total Entries : 1</b>	
<b>DGS-1210-28MP/ME:5</b>	

## show mld\_snooping host

Purpose	To display information of MLD snooping host on the Switch.
Syntax	<b>show mld_snooping host [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all   ports &lt;portlist&gt;   group &lt;ipv6_addr&gt;]</b>
Description	The <b>show mld_snooping host</b> command displays information of MLD snooping host on the Switch.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> – Specifies on which VLAN mld snooping groups should be shown.</p> <p><i>vlanid &lt;vidlist&gt;</i> – Displays that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Displays that all MLD snooping which configured for all VLANs on the Switch.</p> <p><i>ports &lt;portlist&gt;</i> – Specifies the ports of MLD snooping host to be displayed.</p> <p><i>group &lt;ipv6_addr&gt;</i> – Specifies the IPv6 address.</p>
Restrictions	None.

Example usage:

To show the MLD\_snooping host:

<b>DGS-1210-28MP/ME:5# show mld_snooping host vlan_name default</b>	
<b>Command: show mld_snooping host vlan_name default</b>	

```
Total Entries : 0
DGS-1210-28MP/ME:5#
```

## show mld\_snooping statistics counter

Purpose	To display display the statistics counter for MLD protocol packets that are received by the Switch since MLD snooping was enabled.
Syntax	<b>show mld_snooping statistics counter</b> [ <b>vlan_name</b> <string 32>   <b>vlanid</b> <vlanid_list>   <b>ports</b> <portlist>]
Description	The <b>show mld_snooping statistics counter</b> command displays the statistics counter for MLD protocol packets that are received by the Switch since MLD snooping was enabled.
Parameters	<i>vlan_name</i> <string 32> – Specifies on which VLAN name to be displayed. <i>vlanid</i> <vidlist> – Specifies on which VLAN ID to be displayed. <i>ports</i> <portlist> – Specifies the ports of MLD snooping ports to be displayed.
Restrictions	None.

Example usage:

To display the MLD\_snooping statistics counter for port 1 to 3:

```
DGS-1210-28MP/ME:5# show mld_snooping statistic counter ports 1-3
Command: show mld_snooping statistic counter ports 1-3

Total Entries : 0

DGS-1210-28MP/ME:5#
```

## clear mld\_snooping statistics counter

Purpose	To clear MLD snooping statistics counters.
Syntax	<b>clear mld_snooping statistics counter</b>
Description	The <b>clear mld_snooping statistics counter</b> command clears MLD snooping statistics counters.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear the MLD\_snooping statistics counters:

```
DGS-1210-28MP/ME:5# clear mld_snooping statistics counter
Command: clear mld_snooping statistics counter

Success.
DGS-1210-28MP/ME:5#
```

## LIMITED IP MULTICAST ADDRESS COMMANDS

The 802.1X commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create mcast_filter_profile	[ipv4   ipv6] profile_id <integer 1-24> profile_name <string 20>
config mcast_filter_profile profile_id	<integer 1-24> [[add   delete] <mcast_addr>   profile_name <string 20>]
config mcast_filter_profile profile_name	<string 20> [[add   delete] <mcast_addr>   profile_name <string 20>]
config mcast_filter_profile ipv6	[profile_id <integer 1-24>   profile_name <string 20>] [add   delete] <mcastv6_addr>
delete mcast_filter_profile	[ipv4   ipv6] [profile_id [all   <integer 1-24>]   profile_name <string 20>]
show mcast_filter_profile	{[ipv4   ipv6]} {profile_id <integer 1-24>   profile_name <string 20>}
config limited_multicast_addr	ports <portlist> [ipv4   ipv6] {[add   delete] [profile_id <integer 1-24>   profile_name <string 20>]   access [permit   deny]}
show limited_multicast_addr	ports <portlist> {[ipv4   ipv6]}
config max_mcast_group	ports <portlist> [ipv4   ipv6] max_group <integer 1-1024> action [drop   replace]
show max_mcast_group	ports <portlist> {[ipv4   ipv6]}

Each command is listed in detail, as follows:

create mcast_filter_profile	
Purpose	To create multicast filtering profile on the Switch.
Syntax	<b>create mcast_filter_profile [ipv4   ipv6] profile_id &lt;integer 1-24&gt; profile_name &lt;string 20&gt;</b>
Description	The <b>create mcast_filter_profile</b> command displays the multicast filtering profiles settings.
Parameters	<p><i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 of multicast filter profile to be created on the Switch.</p> <p><i>profile_id &lt;integer 1-24&gt;</i> - Specify the profile id of multicast filter profile on the Switch.</p> <p><i>profile_name &lt;string 20&gt;</i> - Specify the profile name of multicast filter</p>

	profile on the Switch.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create an IPv6 multicast filtering profile on the Switch:

```
DGS-1210-28MP/ME:5# create mcast_filter_profile ipv6 profile_id 1 profile_name rd2
Command: create mcast_filter_profile ipv6 profile_id 1 profile_name rd2

Success.

DGS-1210-28MP/ME:5#
```

### config mcast\_filter\_profile profile\_id

Purpose	To configure multicast filtering profile on the Switch.
Syntax	<b>config mcast_filter_profile profile_id &lt;integer 1-24&gt; [[add   delete] &lt;mcast_addr&gt;   profile_name &lt;string 20&gt;]</b>
Description	The <b>config mcast_filter_profile</b> command displays the multicast filtering profiles settings.
Parameters	<p>&lt;integer 1-24&gt; - Specify the profile id to be added or deleted for the multicast filter.</p> <p>[add   delete] – Add or delete the profile id which user specified.</p> <p>&lt;mcast_addr&gt; – Specify the range of MAC address.</p> <p>profile_name &lt;string 20&gt; – Configures the profile name of the profile ID.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To add the multicast address range 225.1.1.1 to 225.1.1.10 to the profile on the Switch:

```
DGS-1210-28MP/ME:5# config mcast_filter_profile profile_id 3 add 225.1.1.1
225.1.1.10
Command: config mcast_filter_profile profile_id 3 add 225.1.1.1 225.1.1.10

Success.

DGS-1210-28MP/ME:5#
```

### config mcast\_filter\_profile profile\_name

Purpose	To configure multicast filtering profile on the Switch.
Syntax	<b>config mcast_filter_profile profile_name &lt;string 20&gt; [[add   delete] &lt;mcast_addr&gt;   profile_name &lt;string 20&gt;]</b>
Description	The <b>config mcast_filter_profile profile_name</b> command displays the multicast filtering profiles settings.
Parameters	<p>&lt;string 20&gt; - The name of the VLAN on which the MAC address resides.</p> <p>[add   delete] – Add or delete the profile id which user specified.</p> <p>&lt;mcast_addr&gt; – Specify the range of MAC address.</p> <p>profile_name &lt;string 20&gt; – Configures the profile name of the profile</p>

	name.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the multicast address range 225.1.1.1 to 225.1.1.10 to the profile name “rd3” on the Switch:

```
DGS-1210-28MP/ME:5# config mcast_filter_profile profile_name rd3 add 225.1.1.11
225.1.1.20
Command: config mcast_filter_profile profile_name rd3 add 225.1.1.11 225.1.1.20

Success.

DGS-1210-28MP/ME:5#
```

### config mcast\_filter\_profile ipv6

Purpose	To configure IPv6 multicast filtering profile on the Switch.
Syntax	<b>config mcast_filter_profile ipv6 [profile_id &lt;integer 1-24&gt;   profile_name &lt;string 20&gt;] [add   delete] &lt;mcastv6_addr&gt;</b>
Description	The <b>config mcast_filter_profile ipv6</b> command is used to add or delete a range of IPv6 multicast addresses to the profile
Parameters	<i>profile_id &lt;integer 1-24&gt;</i> - Specify the profile id to be added or deleted for the multicast filter. <i>profile_name &lt;string 20&gt;</i> - The name of the VLAN on which the MAC address resides. <i>[add   delete]</i> – Add or delete the profile id which user specified. <i>&lt;mcastv6_addr&gt;</i> – Lists the IPv6 multicast addresses to put in the profile.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To add the IPv6 multicast address range FFF0E::100:0:0:20 – FFF0E::100:0:0:22 to profile ID 4 on the Switch:

```
DGS-1210-28MP/ME:5# config mcast_filter_profile ipv6 profile_id 4 add
FFF0E::100:0:0:20 FFF0E::100:0:0:22
Command: config mcast_filter_profile ipv6 profile_id 4 add FFF0E::100:0:0:20
FFF0E::100:0:0:22

Success.

DGS-1210-28MP/ME:5#
```

### delete mcast\_filter\_profile

Purpose	To delete an entry in the Switch’s forwarding database.
Syntax	<b>delete mcast_filter_profile [ipv4   ipv6] [profile_id [all   &lt;integer 1-24&gt;]   profile_name &lt;string 20&gt;]</b>
Description	The <b>delete mcast_filter_profile</b> command deletes a profile in the Switch’s multicast forwarding filtering database.
Parameters	<i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 of multicast filter profile to be removed on the Switch.

	<i>profile_id</i> [ <i>all</i>   <i>&lt;integer 1-24&gt;</i> ] – The profile id of the VLAN on which the multicast forwarding filtering database resides.
	<i>profile_name</i> <i>&lt;string 20&gt;</i> – The name of the VLAN on which the multicast forwarding filtering database resides.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete the IPv4 multicast address profile with a profile name of rd3:

```
DGS-1210-28MP/ME:5# delete mcast_filter_profile ipv4 profile_name rd3
Command: delete mcast_filter_profile ipv4 profile_name rd3

Success.
DGS-1210-28MP/ME:5#
```

## show mcast\_filter\_profile

Purpose	To display multicast filtering settings on the Switch.
Syntax	<b>show mcast_filter_profile</b> {[ <i>ipv4</i>   <i>ipv6</i> ]} { <i>profile_id</i> <i>&lt;integer 1-24&gt;</i>   <i>profile_name</i> <i>&lt;string 20&gt;</i> }
Description	The <b>show mcast_filter_profile</b> command displays the multicast filtering profiles settings.
Parameters	<i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 of multicast filter profile to be displayed on the Switch. <i>profile_id</i> <i>&lt;integer 1-24&gt;</i> - Specify the profile id of multicast filter profile to be displayed. <i>profile_name</i> <i>&lt;string 20&gt;</i> - Specify the profile name of multicast filter profile to be displayed.
Restrictions	None.

Example usage:

To display all the defined multicast address profiles:

```
DGS-1210-28MP/ME:5# show mcast_filter_profile
Command: show mcast_filter_profile

Type Profile ID Profile Name
---- -
v6 1 rd2
v6 4 rd4

[v6 Profiles]
ID IPv6 Address Range
-- -
4 ff0e:0000:0000:0000:0100:0000:0000:0020 ~
ff0e:0000:0000:0000:0100:0000:0000:0022

DGS-1210-28MP/ME:5#
```

**config limited\_multicast\_addr**

Purpose	To configure the multicast address filtering function a port.
Syntax	<b>config limited_multicast_addr ports &lt;portlist&gt; [ipv4   ipv6] {[add   delete] [profile_id &lt;integer 1-24&gt;   profile_name &lt;string 20&gt;]   access [permit   deny]}</b>
Description	The <b>config limited_multicast_addr</b> command is used to configure the multicast address filtering function on a port. When there are no profiles specified with a port, the limited function is not effective.
Parameters	<p><i>ports &lt;portlist&gt;</i> – A port or range of port on which the limited multicast address range to be configured has been assigned.</p> <p><i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 of multicast filter profile to be configured.</p> <p><i>[add   delete]</i> – Add or delete a multicast address profile to a port.</p> <p><i>profile_id &lt;integer 1-24&gt;</i> – A profile ID to be added or deleted from a port.</p> <p><i>profile_name &lt;string 20&gt;</i> – A profile name to be added or deleted from a port.</p> <p><i>[permit   deny]</i> – Specifies that the packet that matches the addresses defined in the profiles will be permitted or denied. The default mode is permit.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure ports 1 and 3 to set the IPv6 multicast address profile id 1:

```
DGS-1210-28MP/ME:5# config limited_multicast_addr ports 1,3 ipv6 add profile_id 1
Command: config limited_multicast_addr ports 1,3 ipv6 add profile_id 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**show limited\_multicast\_addr**

Purpose	Used to show the per-port Limited IP multicast address range.
Syntax	<b>show limited_multicast_addr ports &lt;portlist&gt; {[ipv4   ipv6]}</b>
Description	The <b>show limited_multicast_addr</b> command is to display the multicast address range by port or by VLAN.
Parameters	<p><i>&lt;portlist&gt;</i> – Used to show the per-port Limited IP multicast address range.</p> <p><i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 of limited multicast address to be displayed.</p>
Restrictions	None.

Example usage:

To show the IPv4 limited multicast address on ports 1 and 3:

```
DGS-1210-28MP/ME:5# show limited_multicast_addr ports 1,3 ipv4
Command: show limited_multicast_addr ports 1,3 ipv4
```

```
Port  Access  Profile ID List
----  -
```



```
1 (v4) Permit
3 (v4) Permit
```

```
DGS-1210-28MP/ME:5#
```

## config max\_mcast\_group

Purpose	Used to configure the maximum number of multicast groups that a port can join.
Syntax	<b>config max_mcast_group ports &lt;portlist&gt; [ipv4   ipv6] max_group &lt;integer 1-1024&gt; action [drop   replace]</b>
Description	The <b>config max_mcast_group</b> command is used to configure the maximum number of multicast groups that a port can join.
Parameters	<p><i>&lt;portlist&gt;</i> – A range of ports to configure the maximum multicast group.</p> <p><i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 to be configured.</p> <p><i>max_group &lt;integer 1-1024&gt;</i> – Specifies the maximum number of multicast groups. The range is from 1 to 1024.</p> <p><i>action [drop   replace]</i> – Specify the action for handling newly learned groups when the register is full. Specify <i>drop</i> and the new group will be dropped. Specify <i>replace</i> to replace the eldest group in the register table.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the IPv4 maximum multicast address groups on ports 1 and 3 as 100 with action drop:

```
DGS-1210-28MP/ME:5# config max_mcast_group ports 1-3 ipv4 max_group 100
action drop
```

```
Command: config max_mcast_group ports 1-3 ipv4 max_group 100 action drop
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show max\_mcast\_group

Purpose	To display maximum multicast group ports on the Switch.
Syntax	<b>show max_mcast_group ports &lt;portlist&gt; {[ipv4   ipv6]}</b>
Description	The <b>show max_mcast_group</b> command displays the multicast filtering profiles settings.
Parameters	<p><i>&lt;portlist&gt;</i> - Specify a port or range of ports to be displayed.</p> <p><i>{[ipv4   ipv6]}</i> – Specify the IPv4 or IPv6 to be displayed.</p>
Restrictions	None.

Example usage:

To show IPv6 maximum multicast group port 1 and 3 settings:

```
DGS-1210-28MP/ME:5# show max_mcast_group ports 1,3 ipv6
```

```
Command: show max_mcast_group ports 1,3 ipv6
```

**Port Max Group**

-----

1 (v6) 256

3 (v6) 256

DGS-1210-28MP/ME:5#

## 802.1X COMMANDS

The 802.1X commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable 802.1x	
disable 802.1x	
show 802.1x auth_state	{ports <portlist>}
show 802.1x auth_configuration	{ports <portlist>}
config 802.1x auth_parameter ports	[<portlist>   all] [default   { port_control [force_unauth   auto   force_auth]   quiet_period <sec 0-65535>   tx_period <sec 1-65535>   supp_timeout <sec 1-65535>   server_timeout <sec 1-65535>   max_req <value 1-10>   reauth_period <sec 1-65535>   enable_reauth [enable   disable]   direction [both   in]]]
config 802.1x init	port_based ports [<portlist>   all]
config 802.1x auth_protocol	[radius_eap   local]
config 802.1x reauth	port_based ports [<portlist>   all]
config radius add	<server_index 1-3> [<ipaddr>   <ipv6_addr>] [key <passwd 32>] {default   auth_port <udp_port_number 1-65535>   acct_port <udp_port_number 1-65535>   retransmit <int 1-255>   timeout <int 1-255>}
config radius delete	<server_index 1-3>
config radius	<server_index 1-3> { key <passwd 32>   auth_port <udp_port_number 1-65535>   acct_port <udp_port_number 1-65535>   ipaddress [<ipaddr>   <ipv6_addr>]   retransmit <int 1-255>   timeout <int 1-255>}
show radius	
config 802.1x fwd_pdu system	[enable   disable]
show 802.1x fwd_pdu system status	
config 802.1x auth_mode	[port_based   mac_based]
create 802.1x guest vlan	<vlan_name 32>
delete 802.1x guest vlan	<vlan_name 32>
config 802.1x guest_vlan ports	[<portlist>   all] state [enable   disable]
show 802.1x	

Command	Parameter
guest_vlan	
create 802.1x user	<username 15>
show 802.1x user	
delete 802.1x user	<username 15>
config 802.1x capability ports	[<portlist>   all] [authenticator   none]

Each command is listed in detail, as follows:

<b>enable 802.1x</b>	
Purpose	To enable the 802.1x server on the Switch.
Syntax	<b>enable 802.1x</b>
Description	The <b>enable 802.1x</b> command enables the 802.1x Port-based Network Access control server application on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable 802.1x switch wide:

<b>DGS-1210-28MP/ME:5# enable 802.1x</b>
<b>Command: enable 802.1x</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>disable 802.1x</b>	
Purpose	To disable the 802.1x server on the Switch.
Syntax	<b>disable 802.1x</b>
Description	The <b>disable 802.1x</b> command disables the 802.1x Port-based Network Access control server application on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To disable 802.1x on the Switch:

<b>DGS-1210-28MP/ME:5# disable 802.1x</b>
<b>Command: disable 802.1x</b>

**Success.**  
**DGS-1210-28MP/ME:5#**

## show 802.1x

Purpose	To display the 802.1x server information on the Switch.
Syntax	<b>show 802.1x</b>
Description	The <b>show 802.1x</b> command displays the 802.1x Port-based Network Access control server application on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display 802.1x on the Switch:

```
DGS-1210-28MP/ME:5# show 802.1x
Command: show 802.1x

802.1X           : Enable
Authentication Mode : Port_base
Authentication Method : Local

Success.
DGS-1210-28MP/ME:5#
```

## show 802.1x auth\_state

Purpose	To display the current authentication state of the 802.1x server on the Switch.
Syntax	<b>show 802.1x auth_state {ports &lt;portlist&gt;}</b>
Description	<p>The <b>show 802.1x auth_state</b> command displays the current 802.1x authentication state of the specified ports of the Port-based Network Access Control server application on the Switch.</p> <p>The following details are displayed:</p> <p>Port number – Shows the physical port number on the Switch.</p> <p>Auth PAE State: Initialize / Disconnected / Connecting / Authenticating / Authenticated / Held / ForceAuth / ForceUnauth – Shows the current state of the Authenticator PAE.</p> <p>Backend State: Request / Response / Fail / Idle / Initialize / Success / Timeout – Shows the current state of the Backend Authenticator.</p> <p>Port Status: Authorized / Unauthorized – Shows the result of the authentication process. Authorized means that the user was authenticated, and can access the network. Unauthorized means that the user was not authenticated, and cannot access the network.</p>
Parameters	<i>ports &lt;portlist&gt;</i> – A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display the 802.1x authentication states for port 1~5 (stacking disabled) for Port-based 802.1x:

DGS-1210-28MP/ME:5# show 802.1x auth\_state ports 1-5

Command: show 802.1x auth\_state ports 1-5

Port	Auth PAE State	Backend State	Port Status
1	ForceAuth	Success	Authorized
2	ForceAuth	Success	Authorized
3	ForceAuth	Success	Authorized
4	ForceAuth	Success	Authorized
5	ForceAuth	Success	Authorized

DGS-1210-28MP/ME:5#

## show 802.1x auth\_configuration

**Purpose** To display the current configuration of the 802.1x server on the Switch.

**Syntax** **show 802.1x auth\_configuration {ports <portlist>}**

**Description** The **show 802.1x auth\_configuration** command displays the current configuration of the 802.1x Port-based Network Access Control server application on the Switch.

The following details are displayed:

*802.1x*: Enabled/Disabled – Shows the current status of 802.1x functions on the Switch.

*Authentication Mode*: Port-based/Mac-based/None – Shows the 802.1x authorization mode.

*Authentication Method*: Remote/none – Shows the type of authentication protocol suite in use between the Switch and a RADIUS server.

*Port number* : Shows the physical port number on the Switch.

*AdminCrIDir*: Both/In – Shows whether a controlled Port that is unauthorized will exert control over communication in both receiving and transmitting directions, or just the receiving direction.

*OpenCrIDir*: Both/In – Shows whether a controlled Port that is unauthorized will exert control over communication in both receiving and transmitting directions, or just the receiving direction.

*Port Control*: ForceAuth/ForceUnauth/Auto – Shows the administrative control over the port's authorization status. ForceAuth forces the Authenticator of the port to become Authorized. ForceUnauth forces the port to become Unauthorized.

*QuietPeriod* : Shows the time interval between authentication failure and the start of a new authentication attempt.

*TxPeriod* : Shows the time to wait for a response from a supplicant (user) to send EAP Request/Identity packets.

*SuppTimeout* : Shows the time to wait for a response from a supplicant (user) for all EAP packets, except for the Request/Identity packets.

*ServerTimeout* : Shows the length of time to wait for a response from a RADIUS server.

*MaxReq* : Shows the maximum number of times to retry sending packets to the supplicant.

*ReAuthPeriod* : Shows the time interval between successive

	reauthentications.
	<i>ReAuthenticate</i> : true/false – Shows whether or not to reauthenticate.
Parameters	<i>ports &lt;portlist&gt;</i> – Specifies a port or range of ports to be viewed.
Restrictions	None.

Example usage:

To display the 802.1x configurations of port 2:

<b>DGS-1210-28MP/ME:5# show 802.1x auth_configuration ports 2</b>	
<b>Command: show 802.1x auth_configuration ports 2</b>	
<b>Authentication Mode : Port_base</b>	
<b>Port number</b>	<b>: 2</b>
<b>Capability</b>	<b>: none</b>
<b>AdminCrDir</b>	<b>: Both</b>
<b>OpenCrDir</b>	<b>: Both</b>
<b>Port Control</b>	<b>: ForceAuthorized</b>
<b>QuietPeriod</b>	<b>: 60 sec</b>
<b>TxPeriod</b>	<b>: 30 sec</b>
<b>SuppTimeout</b>	<b>: 30 sec</b>
<b>ServerTimeout</b>	<b>: 30 sec</b>
<b>MaxReq</b>	<b>: 2 times</b>
<b>ReAuthPeriod</b>	<b>: 3600 sec</b>
<b>ReAuthenticate</b>	<b>: Disable</b>
<b>DGS-1210-28MP/ME:5#</b>	

## config 802.1x auth\_parameter ports

<b>Purpose</b>	To configure the 802.1x authentication parameters on a range of ports. The default parameter returns all ports in the specified range to their default 802.1x settings.
<b>Syntax</b>	<b>config 802.1x auth_parameter ports [&lt;portlist&gt;   all] [default   { port_control [force_unauth   auto   force_auth]   quiet_period &lt;sec 0-65535&gt;   tx_period &lt;sec 1-65535&gt;   supp_timeout &lt;sec 1-65535&gt;   server_timeout &lt;sec 1-65535&gt;   max_req &lt;value 1-10&gt;   reauth_period &lt;sec 1-65535&gt;   enable_reauth [enable   disable]   direction [both   in]]]</b>
<b>Description</b>	The <b>config 802.1x auth_parameter ports</b> command configures the 802.1x authentication parameters on a range of ports. The default parameter returns all ports in the specified range to their default 802.1x settings.
<b>Parameters</b>	<p><i>[&lt;portlist&gt;   all]</i> – A port, range of ports or all ports to be configured.</p> <p><i>all</i> – Specifies all of the ports on the Switch.</p> <p><i>default</i> – Returns all of the ports in the specified range to their 802.1x default settings.</p> <p><i>port_control</i> – Configures the administrative control over the authentication process for the range of ports. The options are:</p> <ul style="list-style-type: none"> <li><i>force_auth</i> – Forces the Authenticator for the port to become authorized. Network access is allowed.</li> </ul>

- *auto* – Allows the port's status to reflect the outcome of the authentication process.
- *force\_unauth* – Forces the Authenticator for the port to become unauthorized. Network access is blocked.

*quiet\_period* <sec 0-65535> – Configures the time interval between authentication failure and the start of a new authentication attempt.

*tx\_period* <sec 1-65535> - Configures the time to wait for a response from a supplicant (user) to send EAP Request/Identity packets.

*supp\_timeout* <sec 1-65535> - Configures the time to wait for a response from a supplicant (user) for all EAP packets, except for the Request/Identity packets.

*server\_timeout* <sec 1-65535> - Configures the length of time to wait for a response from a RADIUS server.

*max\_req* <value 1-10> – Configures the number of times to retry sending packets to a supplicant (user).

*reauth\_period* <sec 300-4294967295> – Configures the time interval between successive re-authentications.

*enable\_reauth* [*enable* | *disable*] – Determines whether or not the Switch will re-authenticate. Enabled causes re-authentication of users at the time interval specified in the Re-authentication Period field, above.

*direction* [*both* | *in*] – Sets the administrative-controlled direction to *Both*. If *Both* is selected, control is exerted over both incoming and outgoing traffic through the controlled port selected in the first field. The *In* option is not supported in the present firmware release.

#### Restrictions

Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure 802.1x authentication parameters for ports 1 – 20:

```
DGS-1210-28MP/ME:5# config 802.1x auth_parameter ports 1-5 direction both
Command: config 802.1x auth_parameter ports 1-5 direction both
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config 802.1x init

Purpose	To initialize the 802.1x function on a range of ports.
Syntax	<b>config 802.1x init port_based ports [&lt;portlist&gt;   all]</b>
Description	The <b>config 802.1x init</b> command initializes the 802.1x functions on a specified range of ports or for specified MAC addresses operating from a specified range of ports.
Parameters	<p><i>port_based</i> – Instructs the Switch to initialize 802.1x functions based only on the port number. Ports approved for initialization can then be specified.</p> <p><i>ports</i> &lt;portlist&gt; – A port or range of ports to be configured.</p> <p><i>all</i> – Specifies all of the ports on the Switch.</p>



<b>Restrictions</b>	Only Administrator, operator or power user-level users can issue this command.
---------------------	--

Example usage:

To initialize the authentication state machine of all ports:

```
DGS-1210-28MP/ME:5# config 802.1x init port_based ports all
Command: config 802.1x init port_based ports all

Success.
DGS-1210-28MP/ME:5#
```

## config 802.1x auth\_protocol

<b>Purpose</b>	To configure the 802.1x authentication protocol on the Switch.
<b>Syntax</b>	<b>config 802.1x auth_protocol [radius_eap   local]</b>
<b>Description</b>	The <b>config 802.1x auth_protocol</b> command enables configuration of the authentication protocol.
<b>Parameters</b>	<i>radius_eap</i> – Uses the list of RADIUS EAP servers for authentication. <i>local</i> – Uses no authentication.
<b>Restrictions</b>	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure the RADIUS (AAA) authentication protocol on the Switch:

```
DGS-1210-28MP/ME:5# config 802.1x auth_protocol local
Command: config 802.1x auth_protocol local

Success.
DGS-1210-28MP/ME:5#
```

## config 802.1x reauth

<b>Purpose</b>	To configure the 802.1x re-authentication feature of the Switch.
<b>Syntax</b>	<b>config 802.1x reauth port_based ports [&lt;portlist&gt;   all]</b>
<b>Description</b>	The <b>config 802.1x reauth</b> command re-authenticates a previously authenticated device based on port number.
<b>Parameters</b>	<i>port_based</i> – Instructs the Switch to re-authorize 802.1x functions based only on the port number. Ports approved for re-authorization can then be specified. <i>ports &lt;portlist&gt;</i> – A port or range of ports to be re-authorized. <i>all</i> – Specifies all of the ports on the Switch.
<b>Restrictions</b>	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure 802.1x reauthentication for ports 1-18:

```
DGS-1210-28MP/ME:5# config 802.1x reauth port_based ports 1-18
```

```
Command: config 802.1x reauth port_based ports 1-18
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config radius add

Purpose	To configure the settings the Switch uses to communicate with a RADIUS server.
Syntax	<b>config radius add</b> <server_index 1-3> [<ipaddr>   <ipv6_addr>] [key <passwd 32>   encryption_key <passwd 66>] {default   auth_port <udp_port_number 1-65535>   acct_port <udp_port_number 1-65535>   retransmit <int 1-255>   timeout <int 1-255>}
Description	The <b>config radius add</b> command configures the settings the Switch uses to communicate with a RADIUS server.
Parameters	<p>&lt;server_index 1-3&gt; – The index of the RADIUS server.</p> <p>[&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] – The IPv4 or IPv6 address of the RADIUS server.</p> <p>[key   encryption_key] – Specifies that a password and encryption key are to be used between the Switch and the RADIUS server.</p> <p>&lt;passwd 32&gt; – The shared-secret key used by the RADIUS server and the Switch. Up to 128 characters can be used.</p> <p>default – Uses the default udp port number in both the <i>auth_port</i> and <i>acct_port</i> settings.</p> <p><i>auth_port</i> &lt;udp_port_number 1-65535&gt; – The UDP port number for authentication requests. The default is 1812.</p> <p><i>acct_port</i> &lt;udp_port_number 1-65535&gt; – The UDP port number for accounting requests. The default is 1813.</p> <p><i>retransmit</i> &lt;int 1-255&gt; – The number of times the device resends an authentication request when the server does not respond. The value is between 1 and 255.</p> <p><i>timeout</i> &lt;int 1-255&gt; – Specifies the connection timeout. The value may be between 1 and 255 seconds.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the RADIUS server communication settings:

```
DGS-1210-28MP/ME:5# config radius add 1 3000::2 key 9999 acct_port 10
auth_port 12 retransmit 2 timeout 5
```

```
Command: config radius add 1 3000::2 key 9999 acct_port 10 auth_port 12
retransmit 2 timeout 5
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config radius delete**

Purpose	To delete a previously entered RADIUS server configuration.
Syntax	<b>config radius delete &lt;server_index 1-3&gt;</b>
Description	The <b>config radius delete</b> command deletes a previously entered RADIUS server configuration.
Parameters	<server_index 1-3> – The index of the RADIUS server.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete previously configured RADIUS server communication settings:

```
DGS-1210-28MP/ME:5# config radius delete 1
```

```
Command: config radius delete 1
```

```
Success.
```

```
DGS-1210-28MP/ME:5# #
```

**config radius**

Purpose	To configure the Switch's RADIUS settings.
Syntax	<b>config radius &lt;server_index 1-3&gt; { key &lt;passwd 32&gt;   auth_port &lt;udp_port_number 1-65535&gt;   acct_port &lt;udp_port_number 1-65535&gt;   ipaddress [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;]   retransmit &lt;int 1-255&gt;   timeout &lt;int 1-255&gt;}</b>
Description	The <b>config radius</b> command configures the Switch's RADIUS settings.
Parameters	<p>&lt;server_index 1-3&gt; – The index of the RADIUS server.</p> <p>key – Specifies that a password and encryption key are to be used between the Switch and the RADIUS server.</p> <ul style="list-style-type: none"> <li>• &lt;passwd 32&gt; – The shared-secret key used by the RADIUS server and the Switch. Up to 32 characters can be used.</li> </ul> <p>auth_port &lt;udp_port_number 1-65535&gt; – The UDP port number for authentication requests. The default is 1812.</p> <p>acct_port &lt;udp_port_number 1-65535&gt; – The UDP port number for accounting requests. The default is 1813.</p> <p>ipaddress [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] – The IPv4 or IPv6 address of the RADIUS server.</p> <p>retransmit &lt;int 1-255&gt; – The number of times the device resends an authentication request when the server does not respond. The value is between 1 and 255.</p> <p>timeout &lt;int 1-255&gt; – Specifies the connection timeout. The value may be between 1 and 255 seconds.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the RADIUS settings:

```
DGS-1210-28MP/ME:5# config radius 1 ipaddress 10.48.47.11
Command: config radius 1 ipaddress 10.48.47.11
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show radius

Purpose	To display the current RADIUS configurations on the Switch.
Syntax	<b>show radius</b>
Description	The <b>show radius</b> command displays the current RADIUS configurations on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display RADIUS settings on the Switch:

```
DGS-1210-28MP/ME:5# show radius
```

Command: show radius

Index	Ip Address	Auth-Port	Acct-Port	Timeout (secs)	Retransmit	Key
1	10.48.74.121	1812	1813	5	10	dlink

Total Entries : 1

Success.

```
DGS-1210-28MP/ME:5#
```

## config 802.1x fwd\_pdu system

Purpose	To configure the 802.1x forwarding EAPOL PDU on the Switch.
Syntax	<b>config 802.1x fwd_pdu system [enable   disable]</b>
Description	The <b>config 802.1x fwd_pdu system</b> command is used to configure the control of forwarding EAPOL PDUs. Then the 802.1x functionality is disabled, for a port, and if the 802.1x forwarding PDU is enabled both globally and for the port, a received EAPOL packet on the port will be flooded on the same VLAN to those ports of which the 802.1x forwarding PDU is enabled and 802.1x is disabled (globally or just for the port).
Parameters	<i>[enable   disable]</i> – Specifies the forwarding of EAPOL PDU is enabled or disabled. The default is disabled.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To enable 802.1x forwarding EAPOL PDU

```
DGS-1210-28MP/ME:5# config 802.1x fwd_pdu system enable
Command: config 802.1x fwd_pdu system enable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### show 802.1x fwd\_pdu system status

Purpose	To display the 802.1x forwarding EAPOL PDU status on the Switch.
Syntax	<b>show 802.1x fwd_pdu system status</b>
Description	The <b>show 802.1x fwd_pdu system status</b> command is used to display the control of forwarding EAPOL PDUs.
Parameters	None.
Restrictions	None.

Example usage:

To show 802.1x forwarding EAPOL PDU status:

```
DGS-1210-28MP/ME:5# show 802.1x fwd_pdu system status
Command: show 802.1x fwd_pdu system status
```

```
PNAC control packet (eap) is forwarding....
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config 802.1x auth\_mode

Purpose	To configure the 802.1x authentication mode on the Switch.
Syntax	<b>config 802.1x auth_mode [port_based   mac_based]</b>
Description	The <b>config 802.1x auth_mode</b> command enables either the port-based or MAC-based 802.1x authentication feature on the Switch.
Parameters	<i>[port_based   mac_based]</i> – Specifies whether 802.1x authentication is by port or MAC address.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure 802.1x authentication by port address:

```
DGS-1210-28MP/ME:5# config 802.1x auth_mode port_based
Command: config 802.1x auth_mode port_based
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## create 802.1x guest\_vlan

Purpose	Enables network access to a Guest VLAN.
Syntax	<b>create 802.1x guest_vlan &lt;vlan_name 32&gt;</b>
Description	The <b>create 802.1x guest_vlan</b> command enables network access to a 802.1x Guest VLAN. A network administrator can use 802.1x Guest VLANs to deny network access via port-based authentication, but grant Internet access to unauthorized users.
Parameters	<vlan_name 32> – The name of the 802.1x Guest VLAN to be created.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a 802.1x Guest VLAN:

```
DGS-1210-28MP/ME:5# create 802.1x guest_vlan default
Command: create 802.1x guest_vlan default
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete 802.1x guest\_vlan

Purpose	Disables network access to a Guest VLAN.
Syntax	<b>delete 802.1x guest_vlan &lt;vlan_name 32&gt;</b>
Description	The <b>delete 802.1x guest_vlan</b> command disables network access to a 802.1x Guest VLAN. A network administrator can use 802.1x Guest VLANs to deny network access via port-based authentication, but grant Internet access to unauthorized users.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command. The user is required to disable Guest VLAN before deleting a specific the VLAN.

Example usage:

To delete a 802.1x Guest VLAN

**DGS-1210-28MP/ME:5# delete 802.1x guest\_vlan default**

**Command: delete 802.1x guest\_vlan default**

**Success.**

**DGS-1210-28MP/ME:5#**

## config 802.1x guest\_vlan ports

Purpose	Defines a port or range of ports to be members of the Guest VLAN.
Syntax	<b>config 802.1x guest_vlan ports [&lt;portlist&gt;   all] state [enable   disable]</b>
Description	The <b>config 802.1x guest_vlan ports</b> command defines a port or range of ports to be members of the 802.1x Guest VLAN. The 802.1x Guest VLAN can be configured to provide limited network access to authorized member ports. If a member port is denied network access via port-based authorization, but the 802.1x Guest VLAN is enabled, the member port receives limited network access. For example, a network administrator can use the 802.1x Guest VLAN to deny internal network access via port-based authentication, but grant Internet access to unauthorized users.
Parameters	<p><i>&lt;portlist&gt;</i> – A port or range of ports to be configured to the Guest VLAN.</p> <p><i>All</i> – Indicates all ports to be configured to the guest vlan.</p> <p><i>state [enable   disable]</i> – Specifies the guest vlan port is enabled or disabled of the switch.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure ports to the Guest VLAN

**DGS-1210-28MP/ME:5# config 802.1x guest\_vlan ports 1-5 state enable**

**Command: config 802.1x guest\_vlan ports 1-5 state enable**

**Success.**

**DGS-1210-28MP/ME:5#**

## show 802.1x guest\_vlan

Purpose	Displays configuration information for the Guest VLAN.
Syntax	<b>show 802.1x guest_vlan</b>
Description	The <b>show 802.1x guest_vlan</b> command displays the Guest VLAN name, state, and member ports.
Parameters	None.
Restrictions	None.

Example usage:

To display the Guest VLAN configuration information:

```
DGS-1210-28MP/ME:5# show 802.1x guest_vlan
```

```
Command: show 802.1x guest_vlan
```

#### Guest VLAN Settings

```
-----
Guest VLAN           : default
Enabled Guest VLAN Ports : 1,2,3,4,5,6
```

```
DGS-1210-28MP/ME:5#
```

### create 802.1x user

Purpose	Enable network access to a 802.1x user.
Syntax	<b>create 802.1x user &lt;username 15&gt;</b>
Description	The <b>create 802.1x user</b> command enables network access to a 802.1x user.
Parameters	<vlan_name 15> – The name of the 802.1x user to be created.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To create a 802.1x user:

```
DGS-1210-28MP/ME:5# create 802.1x user dlink
```

```
Command: create 802.1x user dlink
```

```
Enter a case-sensitive new password:****
```

```
Enter the new password again for confirmation:****
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

### show 802.1x user

Purpose	Displays the user information for the Guest VLAN.
Syntax	<b>show 802.1x user</b>
Description	The <b>show 802.1x user</b> command displays the 802.1x user information on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To display the 802.1x user information:



DGS-1210-28MP/ME:5# show 802.1x user

Command: show 802.1x user

Index	Username
1	dlink

Total Entries: 1

Success.

DGS-1210-28MP/ME:5#

## delete 802.1x user

Purpose	Deletes network access to a 802.1x user.
Syntax	<b>delete 802.1x user &lt;username 15&gt;</b>
Description	The <b>delete 802.1x user</b> command deletes network access to a 802.1x user.
Parameters	<username 15> – The name of the 802.1x user to be deleted.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To delete the 802.1x user:

DGS-1210-28MP/ME:5# delete 802.1x user dlink

Command: delete 802.1x user dlink

Success.

DGS-1210-28MP/ME:5#

## config 802.1x capability ports

Purpose	Defines a port or range of ports to be members of the Guest VLAN.
Syntax	<b>config 802.1x capability ports [&lt;portlist&gt;   all] [authenticator   none]</b>
Description	The <b>config 802.1x capability ports</b> is used to configure the capability for the 802.1x on the Switch.
Parameters	<portlist> – A port or range of ports to be configured to the 802.1x capability. all – Indicates all ports to be configured to the 802.1x capability. [authenticator   none] – Specifies the 802.1x capability port to be authenticator or none.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

Example usage:

To configure capability ports to the 802.1x on the Switch:

```
DGS-1210-28MP/ME:5# config 802.1x capability ports all authenticator  
Command: config 802.1x capability ports all authenticator
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## PORT SECURITY COMMANDS

The Port Security commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config port_security	[<portlist>   all] [admin_state [enable   disable]   max_learning_addr <max_lock_no 0-128>   lock_address_mode [Permanent   DeleteOnTimeout   DeleteOnReset]
show port_security	{ports <portlist>}
delete port_security_entry	[vlan <vlan_name 32>   vlanid <vlanid 1-4094>] mac_address <macaddr>
clear port_security_entry	[all   port <portlist>]

Each command is listed in detail, as follows:

config port_security	
<b>Purpose</b>	To configure port security settings.
<b>Syntax</b>	<b>config port_security</b> [<portlist>   all] [admin_state [enable   disable]   max_learning_addr <max_lock_no 0-128>   lock_address_mode [Permanent   DeleteOnTimeout   DeleteOnReset]
<b>Description</b>	The <b>config port_security</b> command configures port security settings for specific ports.
<b>Parameters</b>	<p>&lt;portlist&gt; – A port or range of ports to be configured.</p> <p>all – Configures port security for all ports on the Switch.</p> <p>admin_state [enable   disable] – Enables or disables port security for the listed ports.</p> <p>max_learning_addr &lt;int 0-128&gt; - Specify the max learning address. The range is 0 to 128.</p> <p>1-128 Limits the number of MAC addresses dynamically listed in the FDB for the ports.</p> <p>lock_address_mode – Defines the TBD and contains the following options:</p> <ul style="list-style-type: none"> <li>• <i>Permenant</i> – Learns up to the maximum number of dynamic addresses allowed on the port. The learned addresses are not aged out or relearned on other port for as long as the port is locked.</li> <li>• <i>DeleteOnReset</i> – Deletes the current dynamic MAC addresses associated with the port. Learn up to the maximum addresses allowed on the port (this number is also configurable). Aging is disabled; the addresses are deleted on reset</li> <li>• <i>DeleteOnTimeout</i> – Deletes the current dynamic MAC addresses associated with the port. The port learns up to</li> </ul>

*the maximum addresses allowed on the port. Re-learned MAC addresses and address aging out are also enabled. The MAC addresses are deleted when the device is reset and on when the address is aged out.*

**Restrictions** Only administrator or operator-level users can issue this command

Example usage:

To configure port security:

```
DGS-1210-28MP/ME:5# config port_security 1-5 admin_state enable
max_learning_addr 5 lock_address_mode DeleteOnReset
Command: config port_security 1-5 admin_state enable max_learning_addr 5
lock_address_mode DeleteOnReset
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show port\_security

<b>Purpose</b>	To display the current port security configuration.
<b>Syntax</b>	<b>show port_security {ports &lt;portlist&gt;}</b>
<b>Description</b>	The <b>show port_security</b> command displays port security information for the Switch's ports. The information displayed includes port security, admin state, maximum number of learning address and lock mode and trap interval.
<b>Parameters</b>	<i>ports &lt;portlist&gt;</i> – A port or range of ports whose settings are to be displayed.
<b>Restrictions</b>	None.

Example usage:

To display the port security configuration:

```
DGS-1210-28MP/ME:5# show port_security ports 1-5
```

```
Command: show port_security ports 1-5
```

```
Port Admin state Max.Learning Addr. Lock Address Mode
```

```
-----
1 enabled 5 DeleteOnReset
2 enabled 5 DeleteOnReset
3 enabled 5 DeleteOnReset
4 enabled 5 DeleteOnReset
5 enabled 5 DeleteOnReset
```

```
DGS-1210-28MP/ME:5#
```

**delete port\_security \_entry**

<b>Purpose</b>	To delete a port security entry by VLAN, VLAN ID, and MAC address.
<b>Syntax</b>	<b>delete port_security_entry [vlan &lt;vlan_name 32&gt;   vlanid &lt;vlanid 1-4094&gt;] mac_address &lt;macaddr&gt;</b>
<b>Description</b>	The <b>delete port_security_entry</b> command is used to delete a port security entry by VLAN, VLAN ID, and MAC address.
<b>Parameters</b>	<vlan_name 32> – Specifies the VLAN name. <vlanid 1-4094> - Specifies the VLAN ID. <macaddr> - Specifies the MAC address.
<b>Restrictions</b>	Only administrator or operator-level users can issue this command.

Example usage:

To delete the port security entry with a MAC address of 00-01-30-10-2c-c7 on the default VLAN:

```
DGS-1210-28MP/ME:5# delete port_security_entry vlan default mac_address 00-01-30-10-2C-C7
Command: delete port_security_entry vlan default mac_address 00-01-30-10-2C-C7

Success.
DGS-1210-28MP/ME:5#
```

**clear port\_security \_entry**

<b>Purpose</b>	To clear the MAC entries learned by the port security function.
<b>Syntax</b>	<b>clear port_security_entry [all   port &lt;portlist&gt;]</b>
<b>Description</b>	The <b>clear port_security_entry</b> command is used to clear the MAC entries learned by the port security function.
<b>Parameters</b>	<i>[all   port &lt;portlist&gt;]</i> – Specify all ports or a list of port for MAC entries to be cleared.
<b>Restrictions</b>	Only administrator or operator-level users can issue this command

Example usage:

To clear all port security entries:

```
DGS-1210-28MP/ME:5# clear port_security_entry all
Command: clear port_security_entry all

Success.

DGS-1210-28MP/ME:5#
```

## TIME AND SNTP COMMANDS

The Time and SNTP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config sntp	{primary [<ipaddr>   <ipv6addr>]   secondary [<ipaddr>   <ipv6addr>]   poll-interval <sec 30-99999>}
config sntp broadcast-mode send-request	[enable   disable]
config sntp client	{ addressing-mode [broadcast   unicast]   authentication-key <integer 0-65535>   no-authentication }
show sntp	[broadcast-mode status   statistics   status]
enable sntp	
disable sntp	
config time	<date> <systemtime>
config time_zone operator	[+ hour <gmt_hour 0-13> minute <minute 0-59>   - hour <gmt_hour 0-12> minute <minute 0-59>]
config dst	[disable   [annual s_date <start_date 1-31> s_mth <start_mth 1-12> s_time <start_time> end_date <int 1-31> e_mth <end_mth 1-12> e_time <end_time>   offset [30   60   90   120]]]
show time	

Each command is listed in detail, as follows:

**config sntp**

Purpose	To setup SNTP service.
Syntax	<b>config sntp {primary [&lt;ipaddr&gt;   &lt;ipv6addr&gt;]   secondary [&lt;ipaddr&gt;   &lt;ipv6addr&gt;]   poll-interval &lt;sec 30-99999&gt;}</b>
Description	The <b>config sntp</b> command configures SNTP service from an SNTP server. SNTP must be enabled for this command to function (See <b>enable sntp</b> ).
Parameters	<i>primary</i> [<ipaddr>  <ipv6addr>] – Specifies the IPv4 or IPv6 address of the primary SNTP server. <i>secondary</i> [<ipaddr>  <ipv6addr>] – Specifies the IPv4 or IPv6 address of the secondary SNTP server. <i>poll-interval</i> <sec 30-99999> – The interval between requests for updated SNTP information. The polling interval ranges from 60 seconds (1 minute) to 86,400 seconds (1 day).
Restrictions	Only administrator or operate-level users can issue this command. SNTP service must be enabled for this command to function ( <i>enable sntp</i> ).

Example usage:

To configure SNTP settings:

```
DGS-1210-28MP/ME:5# config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 60
Command: config sntp primary 10.1.1.1 secondary 10.1.1.2 poll-interval 60

Success.

DGS-1210-28MP/ME:5#
```

**config sntp broadcast-mode send-request**

Purpose	To configure the packet type sent from switch for SNTP service.
Syntax	<b>config sntp broadcast-mode send-request [enable   disable]</b>
Description	The <b>config sntp broadcast-mode send-request</b> command configures SNTP service into broadcast mode. In broadcast mode, the client (switch) sends no request and waits for broadcast message from SNTP server.
Parameters	<i>[enable   disable]</i> – Enable or disable SNTP client broadcast mode.
Restrictions	Only administrator can issue this command.

Example usage:

To enable SNTP client broadcast mode:

```
DGS-1210-52MP/ME:5# config sntp broadcast-mode send-request enabled
Command: config sntp broadcast-mode send-request enabled

DGS-1210-52MP/ME:5#
```

## config sntp client

Purpose	To configure SNTP client related parameters.
Syntax	<b>config sntp client { addressing-mode [broadcast   unicast]   authentication-key &lt;integer 0-65535&gt;   no-authentication}</b>
Description	The <b>config sntp client</b> command configures SNTP client related parameters. .
Parameters	<i>address-mode</i> – Specify the SNTP client mode. <i>boadecast</i> – Broadcast mode <i>unicastcast</i> – Unicast mode <i>authentication-key &lt;integer 0-65535&gt;</i> – Specify the integer string that used for authenticate with SNTP server. <i>no-authentication</i> – Disable SNTP client authentication method.
Restrictions	Only administrator can issue this command.

Example usage:

To configure SNTP client address mode as broadcast mode:

```
DGS-1210-52MP/ME:5# config sntp client addressing-mode broadcast
Command: config sntp client addressing-mode broadcast

DGS-1210-52MP/ME:5#
```

## show sntp

Purpose	To display the SNTP information.
Syntax	<b>show sntp [broadcast-mode status   statistics   status]</b>
Description	The <b>show sntp</b> command displays SNTP settings information, including the source IP address, time source, poll interval and broadcast mode.
Parameters	None.
Restrictions	None.

Example usage:

To display SNTP configuration information:



```

DGS-1210-52MP/ME:5# show sntp
Command: show sntp

SNTP Information
-----
Current Time Source      : SNTP
SNTP                    : Enabled
SNTP Addressing Mode    : broadcast
SNTP Primary Server     : 216.239.35.12
SNTP Secondary Server   : 0.0.0.0
SNTP Poll Interval      : 30 sec

DGS-1210-52MP/ME:5#

```

## enable sntp

Purpose	To enable SNTP server support.
Syntax	<b>enable sntp</b>
Description	The <b>enable sntp</b> command enables SNTP server support. SNTP service must be separately configured (see <b>config sntp</b> ). Enabling and configuring SNTP support override any manually configured system time settings.
Parameters	None.
Restrictions	Only administrator and Operator-level users can issue this command. SNTP settings must be configured for SNTP to function ( <b>config sntp</b> ).

Example usage:

To enable the SNTP function:

```

DGS-1210-28MP/ME:5# enable sntp
Command: enable sntp

Success.
DGS-1210-28MP/ME:5#

```

## disable sntp

Purpose	To disable SNTP server support.
Syntax	<b>disable sntp</b>
Description	The <b>disable sntp</b> command disables SNTP support.
Parameters	None.
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To disable SNTP support:

```
DGS-1210-28MP/ME:5# disable sntp
```

```
Command: disable sntp
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config time

Purpose	To manually configure system time and date settings.
Syntax	<b>config time &lt;date&gt; &lt;systemtime&gt;</b>
Description	The <b>config time date</b> command configures the system time and date settings. These will be overridden if SNTP is configured and enabled.
Parameters	<p><i>&lt;date&gt;</i> – Specifies the date, using two numerical characters for the day of the month, English abbreviation for the name of the month, and four numerical characters for the year. For example: 19jan2011.</p> <p><i>&lt;systemtime &gt;</i> – Specifies the system time, using the format hh:mm:ss; that is, two numerical characters each for the hour using a 24-hour clock, the minute and second. For example: 19:42:30.</p>
Restrictions	Only administrator or operate-level users can issue this command. Manually configured system time and date settings are overridden if SNTP support is enabled.

Example usage:

To manually set system time and date settings:

```
DGS-1210-28MP/ME:5# config time 09jan2012 15:50:50
```

```
Command: config time 09jan2012 15:50:50
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config time\_zone operator

Purpose	To determine the time zone used in order to adjust the system clock.
Syntax	<b>config time_zone operator</b> [+ hour <gmt_hour 0-13> minute <minute 0-59>   - hour <gmt_hour 0-12> minute <minute 0-59>]
Description	The <b>config time_zone operator</b> command adjusts the system clock settings according to the time zone. Time zone settings adjust SNTP information accordingly.
Parameters	<p><i>operator</i> – May be (+) to add or (-) to subtract time to adjust for time zone relative to GMT.</p> <p><i>hour</i> &lt;gmt_hour 0-13&gt; – Specifies the number of hours difference from GMT.</p> <p><i>Minute</i> &lt;minute 0-59&gt; – Specifies the number of minutes added or subtracted to adjust the time zone.</p>
Restrictions	Only administrator or operator level users can issue this command.

Example usage:

To configure time zone settings:

```
DGS-1210-28MP/ME:5# config time_zone operator + hour 2 minute 30
Command: config time_zone operator + hour 2 minute 30

Success.

DGS-1210-28MP/ME:5#
```

## config dst

Purpose	To configure time adjustments to allow for the use of Daylight Saving Time (DST).
Syntax	<b>config dst</b> [disable   [annual s_date <start_date 1-31> s_mth <start_mth 1-12> s_time <start_time> end_date <int 1-31> e_mth <end_mth 1-12> e_time <end_time>   offset [30   60   90   120]]]
Description	The <b>config dst</b> command disables or configures Daylight Saving Time (DST). When enabled, this adjusts the system clock to comply with any DST requirement. DST adjustment affects system time for both manually configured time and time set using SNTP service.
Parameters	<p><i>disable</i> – Disables the DST seasonal time adjustment for the Switch.</p> <p><i>annual</i> – Enables DST seasonal time adjustment on an annual basis. Annual mode requires that the DST beginning and ending date be specified concisely. For example, specify to begin DST on April 3 and end DST on October 14. The format for annual mode is as follows, and in the order listed:</p> <ul style="list-style-type: none"> <li>• <i>s_date</i> &lt;start_date 1-31&gt; - The day of the month to begin DST, expressed numerically.</li> <li>• <i>s_mth</i> &lt;start_mth 1-12&gt; - The month of the year to begin DST, expressed numerically.</li> <li>• <i>s_time</i> &lt;start_time&gt; - The time of day to begin DST in hours and minutes, expressed using a 24-hour clock.</li> <li>• <i>end_date</i> &lt;int 1-31&gt; - The day of the month to end DST, expressed numerically.</li> </ul>

- *e\_mth* <*end\_mth* 1-12> - The month of the year to end DST, expressed numerically.
- *e\_time*<*end\_time*> - The time of day to end DST, in hours and minutes, expressed using a 24-hour clock.

*offset* [30 | 60 | 90 | 120] – Indicates the number of minutes to add during the summertime. The possible offset times are 30, 60, 90, and 120. The default value is 60.

Restrictions

Only Administrator or operator-level users can issue this command.

Example usage:

To configure daylight savings time on the Switch to run from the 2<sup>nd</sup> Tuesday in April at 3 PM until the 2<sup>nd</sup> Wednesday in October at 3:30 PM and add 30 minutes at the onset of DST:

```
DGS-1210-28MP/ME:5# config dst annual s_date 2 s_mth 4 s_time 3 end_date 2
e_mth 10 e_time 3 offset 30
```

```
Command: config dst annual s_date 2 s_mth 4 s_time 3 end_date 2 e_mth 10
e_time 3 offset 30
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show time

Purpose	To display the current time settings and status.
Syntax	<b>show time</b>
Description	The <b>show time</b> command displays the system time and date configuration, as well as displays the current system time.
Parameters	None.
Restrictions	None.

Example usage:

To show the time currently set on the Switch's System clock:

**DGS-1210-28MP/ME:5# show time**

**Command: show time**

**Time information**

---

<b>Current Time Source</b>	<b>: Local</b>
<b>Current Time</b>	<b>: 19 Aug 2016 16:04:13</b>
<b>GMT Time Zone offset</b>	<b>: GMT +00:00</b>
<b>Daylight Saving Time Status</b>	<b>: Repeating</b>
<b>Offset in Minutes</b>	<b>: 60</b>
<b>Repeating From</b>	<b>: Jan 1st Sun 00:00</b>
<b>To</b>	<b>: Jan 1st Sun 00:00</b>
<b>Annual From</b>	<b>: 01 Jan 00:00</b>
<b>To</b>	<b>: 01 Jan 00:00</b>

**DGS-1210-28MP/ME:5#**

## ARP COMMANDS

The ARP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config arp_aging time	<value 0-65535 >
clear arptable	
create arprentry	<ipaddr> <macaddr>
config arprentry	<ipaddr> <macaddr>
delete arprentry	[<ipaddr>   all]
show arprentry	{information   interface_name {system}   ip_address <ipaddr>   mac_address <macaddr>   summary   static}
show arprentry aging_time	

Each command is listed in detail, as follows:

<b>config arp_aging time</b>	
Purpose	To configure the age-out timer for ARP table entries on the Switch.
Syntax	<b>config arp_aging time &lt;value 0-65535&gt;</b>
Description	The <b>config arp_aging time</b> command sets the maximum amount of time, in minutes, that an ARP entry can remain in the Switch's ARP table, without being accessed, before it is dropped from the table.
Parameters	<value 0-65535> – The ARP age-out time, in minutes. The value may be in the range of 0-65535 minutes, with a default setting of 20 minutes.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure ARP aging time:

```
DGS-1210-28MP/ME:5# config arp_aging time 30
Command: config arp_aging time 30

Success.

DGS-1210-28MP/ME:5#
```

**clear arptable**

Purpose	To remove all dynamic ARP table entries.
Syntax	<b>clear arptable</b>
Description	The <b>clear arptable</b> command is used to remove dynamic ARP table entries from the Switch's ARP table. Static ARP table entries are not affected.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To remove dynamic entries in the ARP table:

```
DGS-1210-28MP/ME:5# clear arptable
Command: clear arptable

Success.

DGS-1210-28MP/ME:5#
```

**create arpentry**

Purpose	To create an entry for ARP table on the Switch.
Syntax	<b>create arpentry &lt;ipaddr&gt; &lt;macaddr&gt;</b>
Description	The <b>create arpentry &lt;ipaddr&gt; &lt;macaddr&gt;</b> command is used to create an entry for ARP table on the Switch.
Parameters	<ipaddr> – Specify the IP address to be configured. <macaddr> – Specify the MAC address to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create an ARP entry:

```
DGS-1210-28MP/ME:5# create arpentry 10.90.90.94 00-00-00-01-02-03
Command: create arpentry 10.90.90.94 00-00-00-01-02-03

Success.

DGS-1210-28MP/ME:5#
```

**config arpentry**

Purpose	To configure the entry for ARP table on the Switch.
Syntax	<b>config arpentry &lt;ipaddr&gt; &lt;macaddr&gt;</b>
Description	The <b>config arpentry</b> command is used to configure the entry for ARP table on the Switch.
Parameters	<ipaddr> – Specify the IP address to be configured. <macaddr> – Specify the MAC address to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure ARP entry:

```
DGS-1210-28MP/ME:5# config arpentry 10.90.90.94 00-00-00-01-02-05
Command: config arpentry 10.90.90.94 00-00-00-01-02-05
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**delete arpentry**

Purpose	To remove the entry for ARP table on the Switch.
Syntax	<b>delete arpentry [&lt;ipaddr&gt;   all]</b>
Description	The <b>delete arp_aging time</b> command is used to configure the entry for ARP table on the Switch.
Parameters	[<ipaddr>   all] – Specify the IP address or all of ARP entry to be removed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To remove the ARP entry:

```
DGS-1210-28MP/ME:5# delete arpentry 10.90.90.94
Command: delete arpentry 10.90.90.94
```

**Success.**

```
DGS-1210-28MP/ME:5#
```



**show arpentry**

Purpose	To displays all ARP entries on the Switch.
Syntax	<b>show arpentry {information   interface_name {system}   ip_address &lt;ipaddr&gt;   mac_address &lt;macaddr&gt;   summary   static}</b>
Description	The <b>show arpentry</b> command displays all ARP entries on the Switch.
Parameters	<i>information</i> – Displays the information of ARP entry. <i>interface_name {system}</i> – Displays the interface name of ARP entry. <i>ip_address &lt;ipaddr&gt;</i> – Displays the IP address of ARP entry. <i>mac_address&lt;macaddr&gt;</i> – Displays the MAC address of ARP entry. <i>summary</i> – Displays the summary of ARP entry. <i>static</i> – Display static ARP entry
Restrictions	None.

Example usage:

To display all ARP entries information on the Switch:

```
DGS-1210-28MP/ME:5# show arpentry information
Command: show arpentry information
```

```
ARP Configurations:
```

```
-----
Maximum number of ARP request retries is 3
ARP cache timeout is 1800 seconds
```

```
DGS-1210-28MP/ME:5#
```

**show arpentry aging\_time**

Purpose	To displays the ARP entry aging time on the Switch.
Syntax	<b>show arpentry aging_time</b>
Description	The <b>show arpentry aging_time</b> command displays the ARP entry aging time on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the ARP entry aging time on the Switch:

```
DGS-1210-28MP/ME:5# show arpentry aging_time
```

```
Command: show arpentry aging_time
```

```
ARP Aging Time = 30 (minutes)
```

```
DGS-1210-28MP/ME:5#
```

## REMOTE SWITCHED PORT ANALYZER COMMANDS

The Remote Switched Port Analyzer (RSPAN) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable rspan	
disable rspan	
create rspan vlan	[<vlan_name 32>   vlanid <vlanid_list> ]
config rspan vlan	[<vlan_name 32>   vlanid <vlanid_list>] [redirect [add   delete] ports <portlist>   source [add   delete] ports <portlist> [rx tx both] target <port 1-28> ]
delete rspan vlan	
show rspan	

Each command is listed in detail, as follows:

<b>enable rspan</b>	
Purpose	Used to enable the RSPAN function. The purpose of the RSPAN function is to mirror packets to a remote switch. A packet travels from the Switch where the monitored packet is received, passing through the intermediate switch, and then to the Switch where the sniffer is attached. The first switch is also named the source switch. To make the RSPAN function work, the RSPAN VLAN source setting must be configured on the source switch. For the intermediate and the last switch, the RSPAN VLAN redirect setting must be configured.
Syntax	<b>enable rspan</b>
Description	The <b>enable rspan</b> command is used to enable the RSPAN function.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable RSPAN state:

```
DGS-1210-28MP/ME:5# enable rspan
Command: enable rspan

Success.

DGS-1210-28MP/ME:5#
```

**disable rspan**

Purpose	Used to disable the RSPAN function.
Syntax	<b>disable rspan</b>
Description	The <b>disable rspan</b> command is used to disable the RSPAN function.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To disable RSPAN state:

```
DGS-1210-28MP/ME:5# disable rspan
```

```
Command: disable rspan
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**create rspan vlan**

Purpose	Used to create the RSPAN VLAN on the Switch.
Syntax	<b>create rspan vlan [&lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt; ]</b>
Description	The <b>create rspan vlan</b> command is used to create the RSPAN VLAN on the Switch.
Parameters	<i>&lt;vlan_name 32&gt;</i> - Enter the VLAN name to be created. <i>vlanid &lt;vlanid_list&gt;</i> - Enter the VLAN ID to be created.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create and RSPAN VLAN entry by VLAN ID 1:

```
DGS-1210-28MP/ME:5# create rspan vlan vlanid 1
```

```
Command: create rspan vlan vlanid 1
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config rspan vlan**

Purpose	Used to configure the source setting for the RSPAN VLAN on the source switch or configures the redirect port on the intermediate switch and destination switch.
Syntax	<b>config rspan vlan [&lt;vlan_name 32&gt;   vlanid &lt;vlanid_list&gt;] [redirect [add   delete] ports &lt;portlist&gt;   source [add   delete] ports &lt;portlist&gt; [rx tx both] target &lt;port 1-28&gt; ]</b>
Description	The <b>config rspan vlan</b> command is used to configure the source setting for the RSPAN VLAN on the source switch or configures the redirect port on the intermediate switch and destination switch.
Parameters	<p><i>&lt;vlan_name 32&gt;</i> - Enter the VLAN name to be created.</p> <p><i>vlanid &lt;vlanid_list&gt;</i> - Enter the VLAN ID to be created.</p> <p><i>redirect</i> - Specify output portlist for the RSPAN VLAN packets. If the redirect port is a Link Aggregation port, there will perform the Link Aggregation behavior for RSPAN packets.</p> <p><i>[add   delete]</i> - Specify to add or delete output ports for the RSPAN VLAN packets.</p> <p><i>ports &lt;portlist&gt;</i> - Specify the ports that will be used for the RSPAN VLAN packets.</p> <p><i>source</i> - If the ports are not specified by this command, the source of RSPAN will come from the source specified by the mirror command or the flow-based source specified by an ACL.</p> <p><i>[add   delete]</i> - Specify to add or delete source ports.</p> <p><i>ports &lt;portlist&gt;</i> - Specify the ports that will be add or delete from the RSPAN source.</p> <p><i>[rx   tx   both]</i> - Specify to monitor ingress (rx), egress (tx) or ingress and egress packets.</p> <p><i>target &lt;port 1-28&gt;</i> - <i>Switch support port settings range</i></p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create and RSPAN VLAN entry by VLAN ID 1:

```
DGS-1210-28MP/ME:5# config rspan vlan vlanid 1 source add ports 1-5 both target 8
```

```
Command: config rspan vlan vlanid 1 source add ports 1-5 both target 8
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**delete rspan vlan**

Purpose	Used to delete the RSPAN VLAN on the Switch.
Syntax	<b>delete rspan vlan</b>
Description	The <b>delete rspan vlan</b> command is used to delete the RSPAN VLAN on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete and RSPAN VLAN:

```
DGS-1210-28MP/ME:5# delete rspan vlan
Command: delete rspan vlan
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**show rspan**

Purpose	Used to display the RSPAN configuration.
Syntax	<b>show rspan</b>
Description	The <b>show rspan</b> command is used to display the RSPAN configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display RSPAN configuration:

```
DGS-1210-28MP/ME:5# show rspan
Command: show rspan
```

```
Rspan :      enabled
Rspan VLAN ID : 1
```

```
-----
Mirror Port : 8
Source Port :
RX : 1-5
TX : 1-5
Redirect Port :
```

```
DGS-1210-28MP/ME:5#
```

## SFLOW COMMANDS

The sFlow commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable sflow	
disable sflow	
show sflow	
create sflow flow_sampler ports	[<portlist>   all] analyzer_server_id <int 1-4> {rate <int 0-65535>} {tx_rate <int 0-65535>} {maxheadersize <int 18-256>}
config sflow flow_sampler ports	[<portlist>   all] [rate <int 0-65535>   tx_rate <int 0-65535>   maxheadersize <int 18-256>]
delete sflow flow_sampler ports	[<portlist>   all]
show sflow flow_sampler	
create sflow analyzer_server	<int 1-4> owner <string 16> {timeout [<sec 1-2000000>   infinite]   collectoraddress [<ipaddr>   <ipv6_addr>]   collectorport <int 1-65535>   maxdatagramsize <int 300-1400>}
config sflow analyzer_server	<int 1-4> {timeout [<sec 1-2000000>   infinite]   collectoraddress [<ipaddr>   <ipv6_addr>]   collectorport <int 1-65535>   maxdatagramsize <int 300-1400>}
delete sflow analyzer_server	<int 1-4>
show sflow analyzer_server	
create sflow counter_poller ports	[<portlist>   all] analyzer_server_id <int 1-4> {interval [disable   <sec 20-120>]}
config sflow counter_poller ports	[<portlist>   all] interval [disable   <sec 20-120>]
delete sflow counter_poller ports	[<portlist>   all]
show sflow counter_poller	

Each command is listed in detail, as follows:

**enable sflow**

Purpose	Used to enable the sFlow function on the Switch.
Syntax	<b>enable sflow</b>
Description	The <b>enable sflow</b> command is used to enable the sFlow function on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To enable sFlow globally:

```
DGS-1210-28MP/ME:5# enable sflow
```

```
Command: enable sflow
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**disable sflow**

Purpose	Used to disable the sFlow function on the Switch.
Syntax	<b>disable sflow</b>
Description	The <b>disable sflow</b> command is used to disable the sFlow function on the Switch.
Parameters	None.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To disable sFlow globally:

```
DGS-1210-28MP/ME:5# disable sflow
```

```
Command: disable sflow
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**show sflow**

Purpose	Used to show the sFlow information on the Switch.
Syntax	<b>show sflow</b>
Description	The <b>show sflow</b> command is used to show the sFlow information on the Switch.
Parameters	None.
Restrictions	None.

Example usage:



To display the sFlow information:

```
DGS-1210-28MP/ME:5# show sflow
```

```
Command: show sflow
```

```
sFlow Version   : V5
sFlow Address   : 10.90.90.90
sFlow AddressV6: ::
sFlow State     : Enabled
```

```
DGS-1210-28MP/ME:5#
```

## create sflow flow\_sampler ports

Purpose	Used to create the sFlow sampler. By configuring the sampling function for a port, a sample packet received by this port will be encapsulated and forwarded to analyzer server at the specified interval.
Syntax	<b>create sflow flow_sampler ports</b> [ <i>&lt;portlist&gt;</i>   <i>all</i> ] <b>analyzer_server_id</b> <i>&lt;int 1-4&gt;</i> { <i>rate</i> <i>&lt;int 0-65535&gt;</i> } { <i>tx_rate</i> <i>&lt;int 0-65535&gt;</i> } { <i>maxheadersize</i> <i>&lt;int 18-256&gt;</i> }
Description	The <b>create sflow flow_sampler ports</b> command is used to create the sFlow sampler.
Parameters	<i>&lt;portlist&gt;</i>   <i>all</i> – Specify the list of ports or all port to be configured. <i>analyzer_server_id</i> <i>&lt;int 1-4&gt;</i> – Specify the ID of a server analyzer where the packet will be forwarded. The value is between 1 and 4. <i>rate</i> <i>&lt;int 0-65535&gt;</i> – The sampling rate for packet Rx sampling. The configured rate value multiplied by x is the actual rate, where the x is project dependent with the default value 256. If set to 0, the sampler is disabled. This value must be between 0 and 65535, and the default value is 0. <i>tx_rate</i> <i>&lt;int 0-65535&gt;</i> – The sampling rate for packet Tx sampling. This value must be between 0 and 65535, and the default value is 0. <i>maxheadersize</i> <i>&lt;int 18-256&gt;</i> – The maximum number of leading bytes in the packet which has been sampled that will be encapsulated and forwarded to the server. This value must be between 18 and 256, and the default value is 128.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create sFlow flow sampler:

```
DGS-1210-28MP/ME:5# create sflow flow_sampler ports 1 analyzer_server_id 1 rate 1 maxheadersize 18
```

```
Command: create sflow flow_sampler ports 1 analyzer_server_id 1 rate 1 maxheadersize 18
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

**config sflow flow\_sampler ports**

Purpose	Used to configure the sFlow flow sampler parameters. In order to change the analyzer_server_id, delete the flow_sampler first and create a new one.
Syntax	<b>config sflow flow_sampler ports</b> [<portlist>   all] [rate <int 0-65535>   tx_rate <int 0-65535>   maxheadersize <int 18-256>]
Description	The <b>config sflow flow_sampler ports</b> command is used to configure the sFlow flow sampler parameters. In order to change the analyzer_server_id, delete the flow_sampler first and create a new one.
Parameters	<p>&lt;portlist&gt;   all – Specify the list of ports or all port to be configured.</p> <p>rate &lt;int 0-65535&gt; – The sampling rate for packet Rx sampling. The configured rate value multiplied by x is the actual rate, where the x is project dependent with the default value 256. If set to 0, the sampler is disabled. This value must be between 0 and 65535, and the default value is 0.</p> <p>tx_rate &lt;0-65535&gt; – The sampling rate for packet Tx sampling. This value must be between 0 and 65535, and the default value is 0.</p> <p>maxheadersize &lt;int 18-256&gt; – The maximum number of leading bytes in the packet which has been sampled that will be encapsulated and forwarded to the server. This value must be between 18 and 256, and the default value is 128.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the sFlow sampler the rate of port 1 to be 0:

```
DGS-1210-28MP/ME:5# config sflow flow_sampler ports 1 rate 0 maxheadersize 18
Command: config sflow flow_sampler ports 1 rate 0 maxheadersize 18

Success.
DGS-1210-28MP/ME:5#
```

**delete sflow flow\_sampler ports**

Purpose	Used to delete the sFlow flow sampler.
Syntax	<b>delete sflow flow_sampler ports</b> [<portlist>   all]
Description	The <b>delete sflow flow_sampler ports</b> command is used to delete the sFlow flow sampler.
Parameters	<portlist>   all – Specify the list of ports or all ports to be deleted.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete the sFlow sampler the rate of port 1 to be 0:

```
DGS-1210-28MP/ME:5# delete sflow flow_sampler ports all
Command: delete sflow flow_sampler ports all
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show sflow flow\_sampler

Purpose	Used to show the sFlow flow sampler configured for ports. The actual value rate is 256 times the displayed rate value. There are two types of rates. The Configured Rate is configured by the user. In order to limit the number of packets sent to the CPU when the rate of traffic to the CPU is high, the sampling rate will be decreased. This is specified as the active rate.
Syntax	<b>show sflow flow_sampler</b>
Description	The <b>show sflow flow_sampler</b> command is used to show the sFlow flow sampler configured for ports.
Parameters	None.
Restrictions	None.

Example usage:

To show the sFlow flow sampler information of ports which have been created:

```
DGS-1210-28MP/ME:5# show sflow flow_sampler
```

```
Command: show sflow flow_sampler
```

Port	Analyzer Server ID	Configured Rx Rate	Configured Tx Rate	Active Rx Rate	Active Tx Rate	Max Header Size
-----	-----	-----	-----	-----	-----	-----

```
Total Entries: 0
```

```
DGS-1210-28MP/ME:5#
```

**create sflow analyzer\_server**

Purpose	Used to create the analyzer server. You can specify more than one analyzer_server with the same IP address but with different UDP port numbers. You can have up to four unique combinations of IP address and UDP port number.
Syntax	<b>create sflow analyzer_server &lt;int 1-4&gt; owner &lt;string 16&gt; {timeout [&lt;sec 1-2000000&gt;   infinite]   collectoraddress [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;]   collectorport &lt;int 1-65535&gt;   maxdatagramsize &lt;int 300-1400&gt;}</b>
Description	The <b>create sflow analyzer_server</b> command is to create the analyzer server.
Parameters	<p><i>&lt;int 1-4&gt;</i> - Specify the ID of analyzer server.</p> <p><i>owner &lt;string 16&gt;</i> - Specify the owner name of sFlow analyzer_server. This name can be up to 16 characters long.</p> <p><i>timeout [&lt;sec 1-2000000&gt;   infinite]</i> – Specify the time-out value of analyzer server. When the analyzer server times out, all of the flow_samplers and counter_pollers associated with this analyzer server will be deleted. This value must be between 1 and 2000000, and the default value is 400 seconds.</p> <p><i>collectoraddress [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;]</i> – Specify the IPv4 or IPv6 address to be configured.</p> <p><i>collectorport &lt;int 1-65535&gt;</i> - Enter the destination UDP port number for sending the sFlow datagram. If not specified, the default value is 6364. The specified UDP port number can NOT conflict with other applications.</p> <p><i>maxdatagramsize &lt;int 300-1400&gt;</i> - Enter the maximum datagram size. The maximum number of data bytes that can be packed in a single sample datagram. This value must be between 300 and 1400, and the default value is 1400 bytes.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create the analyzer server:

```
DGS-1210-28MP/ME:5# create sflow analyzer_server 2 owner dlink timeout infinite
collectoraddress 10.0.0.1 collectorport 5524 maxdatagramsize 300
Command: create sflow analyzer_server 2 owner dlink timeout infinite
collectoraddress 10.0.0.1 collectorport 5524 maxdatagramsize 300
```

Success.

```
DGS-1210-28MP/ME:5#
```

**config sflow analyzer\_server**

Purpose	Used to configure the receiver information. You can specify more than one collector with the same IP address if the UDP port numbers are unique.
Syntax	<b>config sflow analyzer_server</b> <int 1-4> {timeout [<sec 1-2000000>   infinite]   collectoraddress [<ipaddr>   <ipv6_addr>]   collectorport <int 1-65535>   maxdatagramsize <int 300-1400>}
Description	The <b>config sflow analyzer_server</b> command is to configure the receiver information.
Parameters	<p>&lt;int 1-4&gt; - Specify the ID of analyzer server to be configured.</p> <p><i>timeout</i> [&lt;sec 1-2000000&gt;   <i>infinite</i>] – Specify the time-out value of analyzer server. When the analyzer server times out, all of the flow_samplers and counter_pollers associated with this analyzer server will be deleted. This value must be between 1 and 2000000, and the default value is 400 seconds.</p> <p><i>collectoraddress</i> [&lt;ipaddr&gt;   &lt;ipv6_addr&gt;] – Specify the IPv4 or IPv6 address to be configured.</p> <p><i>collectorport</i> &lt;int 1-65535&gt; - Enter the destination UDP port number for sending the sFlow datagram. If not specified, the default value is 6364. The specified UDP port number can NOT conflict with other applications.</p> <p><i>maxdatagramsize</i> &lt;int 300-1400&gt; - Enter the maximum datagram size. The maximum number of data bytes that can be packed in a single sample datagram. This value must be between 300 and 1400, and the default value is 1400 bytes.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the host 10.90.90.94 to be the sFlow analyzer server with the ID 2:

```
DGS-1210-28MP/ME:5# config sflow analyzer_server 2 collectoraddress 10.90.90.94
Command: config sflow analyzer_server 2 collectoraddress 10.90.90.94
```

Success.

```
DGS-1210-28MP/ME:5#
```

**delete sflow analyzer\_server**

Purpose	Used to delete specified analyzer server.
Syntax	<b>show sflow analyzer_server</b>
Description	The <b>show sflow analyzer_server</b> command is used to delete specified analyzer server.
Parameters	<int 1-4> - Specify the ID of analyzer server to be deleted.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete an analyzer server:

```
DGS-1210-28MP/ME:5# delete sflow analyzer_server 2
Command: delete sflow analyzer_server 2
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show sflow analyzer\_server

Purpose	Used to display the sFlow analyzer server information.
Syntax	<b>show sflow analyzer_server</b>
Description	The <b>show sflow analyzer_server</b> command is used to display the sFlow analyzer server information.
Parameters	None.
Restrictions	None.

Example usage:

To display the sFlow sampler information of port which have been created:

```
DGS-1210-28MP/ME:5# show sflow analyzer_server
Command: show sflow analyzer_server
```

### sFlow Analyzer\_server Information

```
-----
Server ID           : 2
Owner               : dlink
Timeout             : Infinite
Current Countdown Time: Infinite
Collector Address   : 10.90.90.94
Collector Port      : 5524
Max Datagram Size   : 300
```

Total Entries: 1

```
DGS-1210-28MP/ME:5#
```

## create sflow counter\_poller ports

Purpose	Used to create the sFlow counter poller. The poller function instructs the Switch to forward statistics counter information with respect to a port.
Syntax	<b>create sflow counter_poller ports [&lt;portlist&gt;   all] analyzer_server_id &lt;int 1-4&gt; {interval [disable   &lt;sec 20-120&gt;]}</b>
Description	The <b>create sflow counter_poller ports</b> command is used to create the sFlow counter poller.
Parameters	<p><i>&lt;portlist&gt;   all</i> – Specify the list of ports or all ports to be configured.</p> <p><i>analyzer_server_id &lt;int 1-4&gt;</i> - Specify the ID of an analyzer server. This value must be between 1 and 4.</p> <p><i>interval [disable   &lt;sec 20-120&gt;]</i> – The maximum number of seconds between successive statistics counters information. Enter the maximum number of seconds between successive statistics counters information between 20 and 120 seconds. Or specify disable which will not export counter until the interval to be set an appropriate value.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To create sFlow counter poller, which sample port 1 to analyzer server 1:

```
DGS-1210-28MP/ME:5# create sflow counter_poller ports 1 analyzer_server_id 1
Command: create sflow counter_poller ports 1 analyzer_server_id 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config sflow counter\_poller ports

Purpose	Used to configure the sFlow counter poller. If the user wants the change the analyzer_server_id, he needs to delete the counter_poller and creates a new one.
Syntax	<b>config sflow counter_poller ports [&lt;portlist&gt;   all] interval [disable   &lt;sec 20-120&gt;]</b>
Description	The <b>config sflow counter_poller ports</b> command is used to configure the sFlow counter poller.
Parameters	<p><i>&lt;portlist&gt;   all</i> – Specify the list of ports or all ports to be configured.</p> <p><i>interval</i> – The maximum number of seconds between successive samples of the counters.</p> <p><i>[disable   &lt;sec 20-120&gt;]</i> – Specify disable to stop exporting counter. Or enter the maximum number of seconds between successive samples of the counters. This value must be between 20 and 120.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To configure the interval of sFlow counter poller port 1 to be 0:

```
DGS-1210-28MP/ME:5# config sflow counter_poller ports 1 interval disable
Command: config sflow counter_poller ports 1 interval disable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## delete sflow counter\_poller ports

Purpose	Used to delete the sFlow counter poller from the specified port.
Syntax	<b>delete sflow counter_poller ports [&lt;portlist&gt;   all]</b>
Description	The <b>delete sflow counter_poller ports</b> command is used to delete the sFlow counter poller from the specified port.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specify the list of ports or all ports to delete the counter poller.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

Example usage:

To delete sFlow counter poller on port 1:

```
DGS-1210-28MP/ME:5# delete sflow counter_poller ports 1
Command: delete sflow counter_poller ports 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show sflow counter\_poller

Purpose	Used to display the sFlow counter pollers which have been configured for port.
Syntax	<b>show sflow counter_poller</b>
Description	The <b>show sflow counter_poller</b> command is used to display the sFlow counter pollers which have been configured for port.
Parameters	None.
Restrictions	None.

Example usage:



To show the sFlow counter poller information of ports which have been created:

```
DGS-1210-28MP/ME:5# show sflow counter_poller
```

```
Command: show sflow counter_poller
```

```
Port Analyzer Server ID Polling Interval (sec)
```

```
---- -
```

```
Total Entries: 0
```

```
DGS-1210-28MP/ME:5#
```

## D-LINK UNIDIRECTIONAL LINK DETECTION (DULD) COMMANDS

The D-Link Unidirectional Link Detection (DULD) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config duld ports	[<portlist>   all] {state [enable   disable]   mode [shutdown   normal]   discovery_time <sec 5-65535>}
show duld ports	{<portlist>   all}
config duld recover_timer	[0   <sec 60-1000000>]
show duld recover_timer	

Each command is listed in detail, as follows:

config duld ports	
Purpose	To configure unidirectional link detection on ports.
Syntax	<b>config duld ports</b> [<portlist>   all] {state [enable   disable]   mode [shutdown   normal]   discovery_time <sec 5-65535>}
Description	Unidirectional link detection Provides discovery mechanism based on 802.3ah to discovery its neighbor. If the OAM discovery can complete in configured discovery time, it concludes the link is bidirectional. Otherwise, it starts detecting task to detect the link status.
Parameters	<p>[&lt;portlist&gt;   all] – Specifies a port, a range of ports or all ports to be configured.</p> <p>state [enable   disable] – Specifies the unidirectional link detection status to be enabled or disabled.</p> <p>mode [shutdown   normal] – Specifies the mode the unidirectional link detection will be set to.</p> <ul style="list-style-type: none"> <li>● <i>shutdown</i> – If any unidirectional link is detected, disable the port and log an event.</li> <li>● <i>normal</i> – Only log an event when a unidirectional link is detected.</li> </ul> <p>discovery_time &lt;sec 5-65535&gt; – Enter the discovery time value here. This value must be between 5 and 65535.</p>
Restrictions	Only Administrator and operator-level users can issue this command.

Example usage:

To enable unidirectional link detection on port 1:

```
DGS-1210-28MP/ME:5# config duld ports 1 state enable
Command: config duld ports 1 state enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show duld ports

Purpose	To show unidirectional link detection information.
Syntax	<b>show duld ports {&lt;portlist&gt;   all}</b>
Description	This <b>show duld ports</b> command is used to show unidirectional link detection information.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be displayed.
Restrictions	None.

Example usage:

To show unidirectional link detection information of port 1:

```
DGS-1210-28MP/ME:5# show duld ports 1
```

```
Command: show duld ports 1
```

port	Admin State	Oper Status	Mode	Link Status	Discovery Time(Sec)
1	Enabled	Disabled	Normal	Unknown	10

```
DGS-1210-28MP/ME:5#
```

## config duld recover\_timer

Purpose	To configure unidirectional link detection recover time.
Syntax	<b>config duld recover_timer [0   &lt;sec 60-1000000&gt;]</b>
Description	The <b>config duld recover_timer</b> command is used to configure unidirectional link detection recover time.
Parameters	<i>[0   &lt;sec 60-1000000&gt;]</i> – Specifies the recover time of unidirectional link detection function.
Restrictions	Only Administrator and operator-level users can issue this command.

Example usage:

To configure the unidirectional link detection recovery time to 100 seconds:

```
DGS-1210-28MP/ME:5# config duld recover_timer 100
Command: config duld recover_timer 100
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show duld recover\_timer

Purpose	To display unidirectional link detection recover time.
Syntax	<b>show duld recover_timer</b>
Description	The <b>show duld recover_timer</b> command is used to display unidirectional link detection recover time.
Parameters	<i>[0   &lt;sec 60-1000000&gt;]</i> – Specifies the recover time of unidirectional link detection function.
Restrictions	None.

Example usage:

To display the unidirectional link detection recovery time:

```
DGS-1210-28MP/ME:5# show duld recover_timer
Command: show duld recover_timer
```

```
DULD Recover Time : 100
```

```
DGS-1210-28MP/ME:5#
```

## IPv6 Neighbor Discovery Commands

The IPv6 Neighbor Discovery commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create ipv6 neighbor_cache	ipif <string 12> <ipv6_addr> <mac_addr>
delete ipv6 neighbor_cache	[<string 12>  all] [<ipv6_addr>   static   dynamic   all]
show ipv6 neighbor_cache	ipif [<ipif_name 12>   all] [ipv6address <ipv6_addr>   static   dynamic   all]
show ipv6 nd	{ipif <string 12>}
config ipv6 nd ns ipif	<string 12> retrans_time <integer 1-3600>
enable ipif_ipv6_link_local_auto	<ipif_name 12>
disable ipif_ipv6_link_local_auto	<ipif_name 12>

Each command is listed in detail, as follows:

<b>create ipv6 neighbor_cache</b>	
Purpose	Used to add a static neighbor on an IPv6 interface.
Syntax	<b>create ipv6 neighbor_cache ipif &lt;string 12&gt; &lt;ipv6_addr&gt; &lt;mac_addr&gt;</b>
Description	This <b>create ipv6 neighbor_cache</b> command is used to add a static neighbor on an IPv6 interface.
Parameters	<ipif_name 12> –The IPv6 interface name. <ipv6_addr> –The IPv6 address of the neighbor. <mac_addr> –The MAC address of the neighbor.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create a static neighbor cache entry on the interface System, with an IPv6 address of 3ffc::1 and a MAC address of 00:01:02:03:04:05:

```
DGS-1210-28MP/ME:5# create ipv6 neighbor_cache ipif System 3ffc::1 00:01:02:03:04:05
Command: create ipv6 neighbor_cache ipif System 3ffc::1 00:01:02:03:04:05

Success.

DGS-1210-28MP/ME:5#
```

**delete ipv6 neighbor\_cache**

Purpose	Used to remove a static neighbor on an IPv6 interface.
Syntax	<b>delete ipv6 neighbor_cache [ipif &lt;string 12&gt;   all] [&lt;ipv6_addr&gt;   static   dynamic]</b>
Description	This <b>delete ipv6 neighbor_cache</b> command is used to remove a static neighbor on an IPv6 interface.
Parameters	<p><i>&lt;ipif_name 12&gt;</i> –The IPv6 interface name.</p> <p><i>&lt;ipv6_addr&gt;</i> –The IPv6 address of the neighbor.</p> <p><i>static</i> – Delete matching static entries.</p> <p><i>dynamic</i> – Delete matching dynamic entries.</p> <p><i>all</i> – All entries including static and dynamic entries will be deleted.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To delete a static neighbor cache entry on the interface System, with an IPv6 address of 3ffc::1:

```
DGS-1210-28MP/ME:5# delete ipv6 neighbor_cache 3ffc::1
Command: delete ipv6 neighbor_cache 3ffc::1
```

Success.

```
DGS-1210-28MP/ME:5#
```

**show ipv6 neighbor\_cache**

Purpose	Used to display the IPv6 neighbor cache.
Syntax	<b>show ipv6 neighbor_cache [ipif &lt;ipif_name 12&gt;   all] [ipv6address &lt;ipv6_addr&gt;   static   dynamic   all]</b>
Description	This <b>show ipv6 neighbor_cache</b> command is used to display the neighbor cache entry for the specified interface. You can display a specific entry, all static entries, all dynamic entries, or all entries.
Parameters	<p><i>&lt;ipif_name 12&gt;</i> –The IPv6 interface name.</p> <p><i>all</i> - Displays all interfaces.</p> <p><i>ipv6address &lt;ipv6_addr&gt;</i> –The IPv6 address of the neighbor.</p> <p><i>static</i> – Display all static neighbor cache entries.</p> <p><i>dynamic</i> – Display all dynamic entries.</p> <p><i>all</i> – Displays all entries including static and dynamic entries.</p>
Restrictions	None.

Example usage:

To show all neighbor cache entries on the switch:

```
DGS-1210-28MP/ME:5# show ipv6 neighbor_cache ipif all all
```

```
Command: show ipv6 neighbor_cache ipif all all
```

IPv6 Address	Link-layer Addr	State	Interface
-----	-----	-----	-----

```
Total Entries: 0
```

```
DGS-1210-28MP/ME:5#
```

## show ipv6 nd

Purpose	Used to display information regarding neighbor detection on the switch.
Syntax	<b>show ipv6 nd {ipif &lt;string 12&gt;}</b>
Description	This <b>show ipv6 nd</b> command is used to display information regarding neighbor detection on the switch.
Parameters	<i>ipif &lt;string 12&gt;</i> - Specifies the IPv6 interface name.
Restrictions	None.

Example usage:

To show IPv6 ND related configuration:

```
DGS-1210-28MP/ME:5# show ipv6 nd
```

```
Command: show ipv6 nd
```

```
Interface Name      : System
NS Retransmit Time  : 1(ms)
```

```
DGS-1210-28MP/ME:5#
```

## config ipv6 nd ns ipif

Purpose	Configures the IPv6 ND neighbor solicitation retransmit time , which is the time between the retransmission of neighbor solicitation messages to a neighbor, when resolving the address or when probing the reachability of a neighbor.
Syntax	<b>config ipv6 nd ns ipif &lt;string 12&gt; retrans_time &lt;integer 1-3600&gt;</b>
Description	This <b>config ipv6 nd ns ipif</b> command is used to configures the retransmit time of IPv6 ND neighbor solicitation
Parameters	<i>&lt;string 12&gt;</i> - The IPv6 interface name. <i>retrans_time &lt;integer 1 - 3600&gt;</i> – Neighbor solicitation’s retransmit timer in milliseconds. It has the same value as the RA retrans_time in the config IPv6 ND RA command. If the retrans_time parameter is configured in one of the commands, the retrans_time value in the other command will also change so that the values in both commands are the same. The range if 1 to 3600.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the `retrans_time` of IPv6 ND neighbor solicitation to be 100:

```
DGS-1210-28MP/ME:5# config ipv6 nd ns ipif System retrans_time 100
Command: config ipv6 nd ns ipif System retrans_time 100
```

Success.

```
DGS-1210-28MP/ME:5#
```

### enable ipif\_ipv6\_link\_local\_auto

Purpose	Used to enable the autoconfiguration of the link local address when no IPv6 address is configured.
Syntax	<b>enable ipif_ipv6_link_local_auto &lt;ipif_name 12&gt;</b>
Description	This <b>enable ipif_ipv6_link_local_auto</b> command will automatically create an IPv6 link local address for the Switch if no IPv6 address has previously been configured.
Parameters	<ipif_name 12> - Specifies the name.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the IP interface IPv6 link-local settings on the switch:

```
DGS-1210-28MP/ME:5# enable ipif_ipv6_link_local_auto System
Command: enable ipif_ipv6_link_local_auto System
```

Success.

```
DGS-1210-28MP/ME:5#
```

### disable ipif\_ipv6\_link\_local\_auto

Purpose	Used to disable the autoconfiguration of the IPv6 link local address.
Syntax	<b>disable ipif_ipv6_link_local_auto &lt;ipif_name 12&gt;</b>
Description	This <b>disable ipif_ipv6_link_local_auto</b> command will disable the automatic creation of an IPv6 link local address for the Switch. Once this command is entered, any previous IPv6 link local address that has been created for the IP interface selected will be deleted from the switch.
Parameters	<ipif_name 12> - Specifies the name.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the IP interface IPv6 link-local settings on the switch:



**DGS-1210-28MP/ME:5# disable ipif\_ipv6\_link\_local\_auto System**

**Command: disable ipif\_ipv6\_link\_local\_auto System**

**Success.**

**DGS-1210-28MP/ME:5#**

## SYSTEM LOG COMMANDS

The System Log commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config log_save_timing	[log_trigger   on_demand   time_interval <minutes 1-65535>]
show log_save_timing	
show log	{index <indexlist>   module <string 32>   severity [warning   all   informational]}

Each command is listed in detail, as follows:

<b>config log_save_timing</b>	
Purpose	Used to configure the method of saving logs to the Switch's Flash memory.
Syntax	<b>config log_save_timing [log_trigger   on_demand   time_interval &lt;minutes 1-65535&gt;]</b>
Description	This <b>config log_save_timing</b> command is used to configure the method used in saving logs to the Switch's Flash memory.
Parameters	<p><i>log_trigger</i> – Users who choose this method will have logs saved to the Switch every time a log event occurs on the Switch.</p> <p><i>on_demand</i> – Users who choose this method will only save logs when they manually tell the Switch to do so, using the save all or save log command.</p> <p><i>time_interval &lt;minutes 1-65535&gt;</i> – Use this parameter to configure the time interval that will be implemented for saving logs. The logs will be saved every x number of minutes that are configured here.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the time interval as every 30 minutes for saving logs:

```
DGS-1210-28MP/ME:5# config log_save_timing time_interval 30
Command: config log_save_timing time_interval 30

Success.

DGS-1210-28MP/ME:5#
```

**show log\_save\_timing**

Purpose	Used to show the log save timing.
Syntax	<b>show log_save_timing</b>
Description	This command allows display of the log save timing on the Switch.
Parameters	None.
Restrictions	None.

Usage Example:

To show the log\_save\_timing:

```
DGS-1210-28MP/ME:5# show log_save_timing
Command: show log_save_timing

Saving log method: time_interval
                Interval : 100

DGS-1210-28MP/ME:5#
```

**show log**

Purpose	Used to show the log.
Syntax	<b>show log {index &lt;indexlist&gt;   module &lt;string 32&gt;   severity [warning   all   informational]}</b>
Description	This command allows display the log.
Parameters	<i>index &lt;indexlist&gt;</i> – Specifies the index of logs to be displayed. <i>module &lt;string 32&gt;</i> – Specifies the module of logs to be displayed. <i>severity [warning   all   informational]</i> – Specifies the severity of logs to be displayed.
Restrictions	None.

Usage Example:

To show the log index 1 on the Switch:

```
DGS-1210-28MP/ME:5# show log index 1
Command: show log index 1

Index Time          Log Text
-----
 1  Jan 1 00:00:16:SYSTEM-6:Side Fan is in low speed.

DGS-1210-28MP/ME:5#
```

## COMMAND HISTORY LIST COMMANDS

The Command History List commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
?	
show command_history	
dir	

Each command is listed in detail, as follows:

?	
Purpose	To display all commands in the Command Line Interface (CLI).
Syntax	?
Description	The ? command displays all of the commands available through the Command Line Interface (CLI).
Parameters	{<command>} – Lists all the corresponding parameters for the specified command, along with a brief Description of the command's function and similar commands having the same words in the command.
Restrictions	None.

Example usage:

To display all of the commands in the CLI:

DGS-1210-28MP/ME:5# ?

Command: ?

?

cable diagnostic port

clear address\_binding dhcp\_snoop binding\_entry ports

clear arptable

clear counters

clear ethernet\_oam ports

clear fdb

clear flood\_fdb

clear igmp\_snooping data\_driven\_group

clear log

clear mld\_snooping data\_driven\_group

clear tech support

config 802.1p default\_priority

config 802.1p user\_priority

config 802.1x auth\_mode ports

config 802.1x auth\_parameter ports

config 802.1x auth\_protocol

config 802.1x capability ports

config 802.1x fwd\_pdu system

config 802.1x guest\_vlan ports

CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL

## show command\_history

Purpose	To display the command history.
Syntax	<b>show command_history</b>
Description	The <b>show command_history</b> command displays the command history.
Parameters	None.
Restrictions	None.

Example usage:

To display the command history:

DGS-1210-28MP/ME:5# show command\_history

Command: show command\_history

?

show log

show log\_save\_timing

show log\_save\_timing

DGS-1210-28MP/ME:5#

**dir**

Purpose	To display all commands.
Syntax	<b>dir</b>
Description	The <b>dir</b> command displays all commands.
Parameters	None.
Restrictions	None.

Example usage:

To display all of the commands:

```
DGS-1210-28MP/ME:5# dir
Available commands:
?          cable      clear      config

create     delete     disable    download

enable     logout     ping       reboot

reset      save       show       smtp

upload

DGS-1210-28MP/ME:5#
```

## COMMAND LOGGING COMMANDS

The Command Logging commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable command logging	
disable command logging	
show command logging	

Each command is listed in detail, as follows:

### enable command logging

Purpose	To enable command logging.
Syntax	<b>enable command logging</b>
Description	The <b>enable command logging</b> command is used to enable command logging.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the command logging functio:

```
DGS-1210-28MP/ME:5# enable command logging
Command: enable command logging

Success.
DGS-1210-28MP/ME:5#
```

### disable command logging

Purpose	To disable command logging.
Syntax	<b>disable command logging</b>
Description	The <b>disable command logging</b> command is used to disable command logging.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable the command logging functio:

```
DGS-1210-28MP/ME:5# disable command logging
```

```
Command: disable command logging
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show command logging

Purpose	To display the switch's general command logging configuration status.
Syntax	<b>show command logging</b>
Description	The <b>show command logging</b> command is used to show the command logging configuration status.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To show the command logging configuration status:

```
DGS-1210-28MP/ME:5# show command logging
```

```
Command: show command logging
```

```
Command Logging State : Enabled
```

```
DGS-1210-28MP/ME:5#
```



## SSH COMMANDS

The SSH commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable ssh	
disable ssh	
config ssh algorithm	[3DES-CBC AES128-CBC AES128-CTR AES192-CBC AES192-CTR AES256-CBC AES256-CTR MD5 RSA SHA] [disable   enable]
config ssh authmode	[publickey   hostbased   password] [enable   disable]
show ssh authmode	
config ssh server	[authfail <int 2-20>   contimeout <sec 120-600>   maxsession <int 1-5>   rekey [10min   30min   60min   never]][login_idle_timeout <sec (30-180)>]
show ssh server	
show ssh algorithm	
config ssh user	<string 15> authmode [hostbased hostname <domain_name 32> hostname_IP <ip_addr>   password   publickey]
show ssh user authmode	

Each command is listed in detail, as follows:

<b>enable ssh</b>	
Purpose	To enable SSH.
Syntax	<b>enable ssh</b>
Description	The <b>enable ssh</b> command enables SSH on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable SSH:

**DGS-1210-28MP/ME:5# enable ssh**

**Command: enable ssh**

**Success.**

**The SSH server is enabled.**

**DGS-1210-28MP/ME:5#**

## disable ssh

Purpose	To disable SSH.
Syntax	<b>disable ssh</b>
Description	The <b>disable ssh</b> command disables SSH on the Switch.
Parameters	None.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To disable SSH:

**DGS-1210-28MP/ME:5# disable ssh**

**Command: disable ssh**

**Success.**

**The SSH server is disable.**

**DGS-1210-28MP/ME:5#**

## config ssh algorithm

Purpose	To configure the SSH algorithm.
Syntax	<b>config ssh algorithm [3DES-CBC AES128-CBC AES128-CTR AES192-CBC AES192-CTR AES256-CBC AES256-CTR MD5 RSA SHA] [disable   enable]</b>
Description	The <b>config ssh algorithm</b> command configures the SSH algorithm setting on the Switch.
Parameters	Select the algorithm to be disabled or enabled: <ul style="list-style-type: none"> <li>▪ AES – AES is a symmetric encryption algorithm and a block cipher</li> <li>▪ 3DES – Triple Data Encryption Standard encryption algorithm with Cipher Block Chaining.</li> <li>▪ MD5 – Hash for Message Authentication Code (HMAC) MD5 Message Digest (MD5) mechanism.</li> <li>▪ RSA – Hash for Message Authentication Code (HMAC) mechanism utilizing the RSA encryption algorithm.</li> <li>▪ SHA1 – Hash for Message Authentication Code (HMAC) Secure Hash Algorithm (SHA) mechanism.</li> </ul>

	<i>[disable   enable]</i> – Enables or Disables the SSH algorithm on the Switch.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure SSH algorithm:

```
DGS-1210-28MP/ME:5# config ssh algorithm 3DES-CBC enable
Command: config ssh algorithm 3DES-CBC enable

Success.

DGS-1210-28MP/ME:5#
```

### config ssh authmode

Purpose	To configure the SSH authentication mode setting.
Syntax	<b>config ssh authmode [publickey   hostbased   password] [enable   disable]</b>
Description	The <b>config ssh authmode</b> command configures the SSH authentication mode for users attempting to access the Switch.
Parameters	<i>publickey [enable   disable]</i> – Specifies that a publickey configuration set on a SSH server is to be used for authentication. Enables or disables SSH authentication on the Switch.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To enable the SSH authentication mode:

```
DGS-1210-28MP/ME:5# config ssh authmode password enable
Command: config ssh authmode password enable

Success.

DGS-1210-28MP/ME:5#
```

### show ssh authmode

Purpose	To display the SSH authentication mode setting.
Syntax	<b>show ssh authmode</b>
Description	The <b>show ssh authmode</b> command displays the current SSH authentication set on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the current authentication mode set on the Switch:

```
DGS-1210-28MP/ME:5# show ssh authmode
```

```
Command: show ssh authmode
```

```
The SSH Authmode :
```

```
-----
```

```
Password : Enabled
```

```
Publickey : Enabled
```

```
Hostbased : Disabled
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config ssh server

Purpose	To configure the SSH server.
Syntax	<b>config ssh server</b> [ <b>authfail</b> <int 2-20>   <b>contimeout</b> <sec 120-600>   <b>maxsession</b> <int 1-5>   <b>rekey</b> [10min   30min   60min   never]] [ <b>login_idle_timeout</b> <sec (30-180)>]
Description	The <b>config ssh server</b> command configures the SSH server.
Parameters	<p><i>authfail</i> &lt;int 2-20&gt; - Specifies the authfail times. The value may be between 2 and 20 times.</p> <p><i>contimeout</i> &lt;sec 120-600&gt; - Specifies the connection timeout. The value may be between 120 and 600 seconds. The default is 600 seconds.</p> <p><i>maxsession</i> &lt;int 1-5&gt; – Specifies the maxsession of ssh server.</p> <p><i>rekey</i> [10min   30min   60min   never] – Specifies the rekey time. The possible values are 10min, 30min, 60min and never.</p> <p><i>Login_idle_timeout</i> &lt;sec (30-180)&gt; - This setting an idle timeout interval in seconds (default 30). After this interval has passed, the idle user will be automatically logged out.</p>
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure the SSH server:

```
DGS-1210-28MP/ME:5# config ssh server authfail 20 maxsession 1
```

```
Command: config ssh server authfail 20 maxsession 1
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show ssh server

Purpose	To display the SSH server setting
Syntax	<b>show ssh server</b>
Description	The <b>show ssh server</b> command displays the current SSH server settings.
Parameters	None.
Restrictions	None.

Example usage:

To display the SSH server:

```
DGS-1210-28MP/ME:5# show ssh server
Command: show ssh server

The SSH Server Configuration :
Max Session           : 1
Connection Timeout   : 120
Authfail Attempts     : 20
Rekey Timeout         : 60min
LoginIdle Timeout     : 30

DGS-1210-28MP/ME:5#
```

## show ssh algorithm

Purpose	To display the SSH algorithm setting.
Syntax	<b>show ssh algorithm</b>
Description	The <b>show ssh algorithm</b> command displays the current SSH algorithm setting status.
Parameters	None.
Restrictions	None.

Example usage:

To display SSH algorithms currently set on the Switch:

```
DGS-1210-28MP/ME:5# show ssh algorithm
Command: show ssh algorithm

Encryption Algorithm
-----
3DES      : Enabled

Data Integrity Algorithm
-----
MD5       : Enabled
SHA1      : Enabled

Public Key Algorithm
-----
RSA       : Enabled
Success.

DGS-1210-28MP/ME:5#
```

**config ssh user**

Purpose	To specify which SSH public key is manually configured.
Syntax	<b>config ssh user &lt;string 15&gt; authmode [hostbased hostname &lt;domain_name 32&gt; hostname_IP &lt;ip_addr&gt;   password   publickey]</b>
Description	The <b>config ssh crypto</b> command specifies which SSH public key is manually configured.
Parameters	<i>&lt;string 15&gt;</i> – Specifies the name of SSH user. <i>hostbased hostname &lt;domain_name 32&gt;</i> – The username of the remote SSH client. <i>hostname_IP &lt;ip_addr&gt;</i> – The IP address of the remote SSH client. <i>[hostbased   password   publickey]</i> – Specifies which configuration will be set on a SSH server for authentication.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the SSH user:

```
DGS-1210-28MP/ME:5# config ssh user dlink authmode publickey
Command: config ssh user dlink authmode publickey

Success.

DGS-1210-28MP/ME:5#
```

**show ssh user authmode**

Purpose	To display the SSH public key stored on the device.
Syntax	<b>show ssh user authmode</b>
Description	The <b>show ssh user authmode</b> command displays the SSH user stored on the device.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display the SSH public key on the device:

```
DGS-1210-28MP/ME:5# show ssh user authmode
Command: show ssh user authmode

Account is empty!
Total Entries: 0

Success.

DGS-1210-28MP/ME:5#
```

## SSL COMMANDS

The SSL commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable ssl	{ciphersuite [ECDHE-RSA-AES128-SHA   ECDHE-ECDSA-AES256-SHA   DHE-RSA-AES256-SHA   ECDHE-RSA-AES256-SHA   ECDHE-ECDSA-AES128-SHA   DHE-RSA-AES128-SHA   AES128-SHA   AES256-SHA   ECDHE-RSA-AES256-SHA384   DHE-RSA-AES256-SHA256]}
disable ssl	{ciphersuite [DH-RSA-3DES-SHA1   DH-RSA-DES-SHA1   RSA-3DES-SHA1   RSA-DES-SHA1   RSA-EXP1024-DES-SHA1   RSA-NULL-MD5   RSA-NULL-SHA1]}
show ssl	
download ssl certificate	[<ipaddr>   <ip6_addr>] certfilename <path_filename 64>

Each command is listed in detail, as follows:

enable ssl	
Purpose	To enable the SSL function on the Switch.
Syntax	<b>enable ssl {ciphersuite [ECDHE-RSA-AES128-SHA   ECDHE-ECDSA-AES256-SHA   DHE-RSA-AES256-SHA   ECDHE-RSA-AES256-SHA   ECDHE-ECDSA-AES128-SHA   DHE-RSA-AES128-SHA   AES128-SHA   AES256-SHA   ECDHE-RSA-AES256-SHA384   DHE-RSA-AES256-SHA256]}</b>
Description	The <b>enable ssl</b> command enables SSL on the Switch by implementing every combination of listed ciphersuites on the Switch. Entering this command enables the SSL status on the Switch. Enabling SSL disables the web-manager on the Switch.
Parameters	<p>ciphersuite - A security string that determines the exact cryptographic parameters, specific encryption algorithms and key sizes to be used for an authentication session. The user may choose any combination of the following:</p> <ul style="list-style-type: none"> <li>● AES128-SHA</li> <li>● AES256-SHA</li> <li>● DHE-RSA-AES128-SHA</li> <li>● DHE-RSA-AES256-SHA</li> <li>● DHE-RSA-AES256-SHA256</li> <li>● ECDHE-RSA-AES128-SHA</li> <li>● ECDHE-RSA-AES256-SHA</li> <li>● ECDHE-RSA-AES256-SHA384</li> <li>● ECDHE-ECDSA-AES128-SHA</li> <li>● ECDHE-ECDSA-AES256-SHA</li> </ul> <p>The ciphersuites are enabled by default on the Switch, yet the SSL</p>

status is disabled by default. Enabling SSL with a ciphersuite will not enable the SSL status on the Switch.

Restrictions Only administrator-level users can issue this command.

Example usage:

To enable SSL on the Switch for all ciphersuites:

**DGS-1210-28MP/ME:5# enable ssl**

**Command: enable ssl**

**Note: HTTP will be disabled if SSL is enabled.**

**Success.**

**DGS-1210-28MP/ME:5#**

## disable ssl

Purpose	To disable the SSL function on the Switch.
Syntax	<b>disable ssl {ciphersuite [ECDHE-RSA-AES128-SHA   ECDHE-ECDSA-AES256-SHA   DHE-RSA-AES256-SHA   ECDHE-RSA-AES256-SHA   ECDHE-ECDSA-AES128-SHA   DHE-RSA-AES128-SHA   AES128-SHA   AES256-SHA   ECDHE-RSA-AES256-SHA384   DHE-RSA-AES256-SHA256]}</b>
Description	The <b>disable ssl</b> command disables SSL on the Switch and can be used to disable all combinations of listed ciphersuites on the Switch. Note that disabling SSL will not enable WEB access automatically (WEB access will stay disabled), and you'll need to enable it manually.
Parameters	ciphersuite - A security string that determines the exact cryptographic parameters, specific encryption algorithms and key sizes to be used for an authentication session. The user may choose any combination of the following: <ul style="list-style-type: none"> <li>● AES128-SHA</li> <li>● AES256-SHA</li> <li>● DHE-RSA-AES128-SHA</li> <li>● DHE-RSA-AES256-SHA</li> <li>● DHE-RSA-AES256-SHA256</li> <li>● ECDHE-RSA-AES128-SHA</li> <li>● ECDHE-RSA-AES256-SHA</li> <li>● ECDHE-RSA-AES256-SHA384</li> <li>● ECDHE-ECDSA-AES128-SHA</li> <li>● ECDHE-ECDSA-AES256-SHA</li> </ul>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the SSL status on the Switch:



**DGS-1210-28MP/ME:5# disable ssl****Command: disable ssl****Success.****DGS-1210-28MP/ME:5#****show ssl**

Purpose	To view the SSL status and the certificate file status on the Switch
Syntax	<b>show ssl</b>
Description	The <b>show ssl</b> command displays the SSL status and the certificate file status on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the SSL status on the Switch:

**DGS-1210-28MP/ME:5# show ssl****Command: show ssl**

```

SSL Status                               Enabled
RSA-NULL-MD5           0x0001 Disabled
RSA-NULL-SHA1         0x0002 Enabled
RSA-DES-SHA1          0x0004 Disabled
RSA-3DES-SHA1         0x0008 Disabled
DH-RSA-DES-SHA1       0x0010 Disabled
DH-RSA-3DES-SHA1     0x0020 Disabled
RSA-EXP1024-DES-SHA1 0x0040 Disabled

```

**Success.****DGS-1210-28MP/ME:5#****download ssl certificate**

Purpose	To download ssl certificate file on the Switch.
Syntax	<b>download ssl certificate</b> [<ipaddr>   <ip6_addr>] certfilename <path_filename 64>
Description	The <b>download ssl certificate</b> command downloads the SSL file on the Switch.
Parameters	<ipaddr> – Specifies the IPv4 address of SSL file. <ip6_addr> – Specifies the IPv6 address of SSL file. <path_filename 64> –The DOS path and filename of the SSL file, up to 64 characters, on the TFTP server. For example, C:\1210.had.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To download SSL on the Switch:

```
DGS-1210-28MP/ME:5# download ssl certificate 10.48.47.22 certfilename 1210.had
```

```
Command: download ssl certificate 10.48.47.22 certfilename 1210.had
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## ACCESS AUTHENTICATION CONTROL COMMANDS

The Access Authentication Control commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create authen_login method_list_name	<string 15>
config authen_login	[default   method_list_name <string 15>] method [tacacs+   radius   local   server_group <string 15>   none]
delete authen_login method_list_name	<string 15>
show authen_login	[all   default   method_list_name <string 15>]
show authen_policy	
create authen_enable method_list_name	<string 15>
config authen_enable	[default   method_list_name <string 15>] method {tacacs+   radius   local   server_group <string 15>   none}
delete authen_enable method_list_name	<string 15>
show authen_enable	[all   default   method_list_name <string 15>]
enable authen_policy	
disable authen_policy	
config authen application	{console   http   ssh   telnet   all} [login   enable] [default   method_list_name <string 15>]
show authen application	
config authen parameter	[attempt <int 1-255>   response_timeout <int 0-255>]
show authen parameter	
create authen server_host	[<ipaddr>   ipv6address <ipv6addr>] protocol [radius   tacacs+] { acct_port <int 1-65535>   port <int 1-65535>   key [<string 254>   encryption_key <string 800>   none]   timeout <int 1-255>   retransmit <int 1-255>}
config authen server_host	[<ipaddr>   ipv6address <ipv6addr>] protocol [tacacs+   radius] {acct_port <int 1-65535>   port <int 1-65535>   encryption_key <string 800>   key [<string 254>   none]   timeout <int 1-255>   retransmit <int 1-255>}
delete authen server_host	[<ipaddr>   ipv6address <ipv6addr>] protocol [tacacs+   radius]
show authen server_host	
create authen server_group	<string 15>
config authen server_group	[<string 15>   radius   tacacs+] [add   delete] server_host [<ipaddr>

Command	Parameter
	ipv6address <ipv6addr>] protocol [radius   tacacs+]
delete authen server_group	<string 15>
show authen server_group	{<string 15>}
enable admin	
config admin local_enable	
config accounting	[default   method_list_name <string 32>] method {tacacs+   radius   server_group <string 32>   none}
config accounting service	[network   shell   system] state [enable {[radius_only   method_list_name <string 32>   default_method_list]}   disable]
config accounting service command	{administrator   operator   power_user   user} [method_list_name <string>   none]
create accounting method_list_name	<string 32>
delete accounting method_list_name	<string 32>
show accounting	[all   default   method_list_name <string 32>]
enable aaa_server_password_encryption	
disable aaa_server_password_encryption	
show aaa	

Each command is listed in detail, as follows:

<b>create authen_login method_list_name</b>	
Purpose	To create a user-defined list of authentication methods for users logging on to the Switch.
Syntax	<b>create authen_login method_list_name &lt;string 15&gt;</b>
Description	The <b>create authen_login method_list_name</b> command creates a list of authentication techniques for user login. The Switch can support up to eight method lists, but one is reserved as a default and cannot be deleted. Multiple method lists must be created and configured separately.
Parameters	<string 15> - Defines the <i>method_list_name</i> to be created as a string of up to 15 alphanumeric characters.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To create the method list 'Trinity'.

DGS-1210-28MP/ME:5# create authen\_login method\_list\_name Trinity

Command: create authen\_login method\_list\_name Trinity

Success.

DGS-1210-28MP/ME:5#

## config authen\_login

Purpose	To configure a user-defined or default <i>method list</i> of authentication methods for user login.
Syntax	<b>config authen_login [default   method_list_name &lt;string 15&gt;] method [tacacs+   radius   local   server_group &lt;string 15&gt;   none]</b>
Description	<p>The <b>config authen_login</b> command configures a user-defined or default <i>method list</i> of authentication methods for users logging on to the Switch. The sequence of methods implemented in this command affects the authentication result. For example, if a user enters a sequence of methods like <i>tacacs – local</i>, the Switch sends an authentication request to the first <i>tacacs</i> host in the server group. If no response comes from the server host, the Switch sends an authentication request to the second <i>tacacs</i> host in the server group and so on, until the list is exhausted. When the local method is used, the privilege level is dependant on the local account privilege configured on the Switch.</p> <p>Successful login using any of these methods gives the user a ‘user’ privilege only. If the user wishes to upgrade his or her status to the administrator level, the user must implement the <i>enable admin</i> command, followed by a previously configured password. (See the <b>enable admin</b> part of this section for more detailed information, concerning the <b>enable admin</b> command.)</p>
Parameters	<p><i>default</i> – The default method list for access authentication, as defined by the user. The user may choose one or more of the following authentication methods:</p> <ul style="list-style-type: none"> <li>▪ <i>tacacs+</i> – Specifies that the user is to be authenticated using the TACACS+ protocol from the remote TACACS+ <i>server hosts</i> of the TACACS+ <i>server group</i> list.</li> <li>▪ <i>radius</i> - Specifies that the user is to be authenticated using the RADIUS protocol from the remote RADIUS <i>server hosts</i> of the RADIUS <i>server group</i> list.</li> <li>▪ <i>local</i> - Specifies that the user is to be authenticated using the local <i>user account</i> database on the Switch.</li> <li>▪ <i>server_group &lt;string 15&gt;</i> – Specifies that the user is to be authenticated using the server group <i>account</i> database on the Switch.</li> <li>▪ <i>none</i> – Specifies that no authentication is required to access the Switch.</li> </ul> <p><i>method_list_name &lt;string 15&gt;</i> – Specifies a previously created method list name defined by the user. One or more of the following authentication methods may be added to this method list:</p> <ul style="list-style-type: none"> <li>▪ <i>tacacs+</i> – Specifies that the user is to be authenticated</li> </ul>

	<p>using the <i>TACACS+</i> protocol from a remote <i>TACACS+</i> server.</p> <ul style="list-style-type: none"> <li>▪ <i>radius</i> - Specifies that the user is to be authenticated using the <i>RADIUS</i> protocol from a remote <i>RADIUS</i> server.</li> <li>▪ <i>local</i> - Specifies that the user is to be authenticated using the local <i>user account</i> database on the Switch.</li> <li>▪ <i>server_group &lt;string 15&gt;</i> –Specifies that the user is to be authenticated using the server group <i>account</i> database on the Switch.</li> <li>▪ <i>none</i> – Specifies that no authentication is required to access the Switch.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To configure the user defined method list 'Trinity' with authentication methods *TACACS+*, *RADIUS* and *local*, in that order.

```
DGS-1210-28MP/ME:5# config authn_login method_list_name Trinity method
tacacs+ radius local
Command: config authn_login method_list_name Trinity method tacacs+ radius
local

Success.

DGS-1210-28MP/ME:5#
```

## delete authn\_login method\_list\_name

Purpose	To delete a previously configured user defined list of authentication methods for users logging on to the Switch.
Syntax	<b>delete authn_login method_list_name &lt;string 15&gt;</b>
Description	The <b>delete authn_login method_list_name</b> command deletes a list of authentication methods for user login.
Parameters	<string 15> - The previously created <i>method_list_name</i> to delete.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete the method list name 'Trinity':

```
DGS-1210-28MP/ME:5# delete authn_login method_list_name Trinity
Command: delete authn_login method_list_name Trinity

Success.

DGS-1210-28MP/ME:5#
```

## show authn\_login

Purpose	To display a previously configured user defined method list of authentication methods for users logging on to the Switch.
---------	---

Syntax	<b>show authen_login [all   default   method_list_name &lt;string 15&gt;]</b>
Description	The <b>show authen_login</b> command displays a list of authentication methods for user login.
Parameters	<p><i>default</i> – Displays the default method list for users logging on to the Switch.</p> <p><i>method_list_name &lt;string 15&gt;</i> - Specifies the <i>method_list_name</i> to display.</p> <p><i>all</i> – Displays all the authentication login methods currently configured on the Switch.</p> <p>The command displays the following parameters:</p> <ul style="list-style-type: none"> <li>• Method List Name – The name of a previously configured method list name.</li> <li>• Method Name – Defines which security protocols are implemented, per method list name.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To view all authentication login method list names:

```
DGS-1210-28MP/ME:5# show authen_login all
Command: show authen_login all
```

Method List Name	Priority	Method Name	Comment
default	1	local	Keyword
Trinity	1	none	Keyword

```
DGS-1210-28MP/ME:5#
```

## show authen\_policy

Purpose	Used to display the system access authentication policy status on the Switch.
Syntax	<b>show authen_policy</b>
Description	The <b>show authen_policy</b> command display the system access authentication policy status on the Switch.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To display the system access authentication policy:

```
DGS-1210-28MP/ME:5# show authen_policy
```

```
Command: show authen_policy
```

```
Authentication Policy : Disabled
```

```
DGS-1210-28MP/ME:5#
```

## create authen\_enable method\_list\_name

Purpose	To create a user-defined method list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	<b>create authen_enable method_list_name &lt;string 15&gt;</b>
Description	The <b>create authen_enable method_list_name</b> command creates a list of authentication methods for promoting users with normal level privileges to Administrator level privileges using authentication methods on the Switch. Once a user acquires normal user level privileges on the Switch, he or she must be authenticated by a method on the Switch to gain administrator privileges on the Switch, which is defined by the Administrator. A maximum of eight (8) enable method lists can be implemented on the Switch.
Parameters	<string 15> - Defines the <i>authen_enable method_list_name</i> to be created as a string of up to 15 alphanumeric characters.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To create a user-defined method list, named 'Permit' for promoting user privileges to Administrator privileges:

```
DGS-1210-28MP/ME:5# create authen_enable method_list_name Permit
```

```
Command: create authen_enable method_list_name Permit
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config authen\_enable

Purpose	To configure a user-defined method list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	<b>config authen_enable [default   method_list_name &lt;string 15&gt;] method {tacacs+   radius   local   server_group &lt;string 15&gt;   none}</b>
Description	The <b>config authen_enable</b> command configures a user-defined list of authentication methods for promoting normal user level privileges to Administrator level privileges using authentication methods on the Switch. Once a user acquires normal user level privileges on the Switch, he or she must be authenticated by a method on the Switch to gain administrator privileges on the Switch, which is defined by the Administrator. A maximum of eight (8) enable method lists can be implemented simultaneously on the Switch.



	<p>The sequence of methods implemented in this command affects the authentication result. For example, if a user enters a sequence of methods like <i>tacacs+ – radius – local_enable</i>, the Switch sends an authentication request to the first <i>TACACS+</i> host in the server group. If no verification is found, the Switch sends an authentication request to the second <i>TACACS+</i> host in the server group and so on, until the list is exhausted. At that point, the Switch restarts the same sequence with the following protocol listed, <i>radius</i>. If no authentication takes place using the <i>radius</i> list, the <i>local_enable</i> password set in the Switch is used to authenticate the user.</p> <p>Successful authentication using any of these methods gives the user an 'Admin' level privilege.</p>
Parameters	<p><i>default</i> – The default method list for administration rights authentication, as defined by the user. The user may choose one or more of the following authentication methods:</p> <ul style="list-style-type: none"> <li>• <i>tacacs+</i> – Specifies that the user is to be authenticated using the <i>TACACS+</i> protocol from the remote <i>TACACS+ server hosts</i> of the <i>TACACS+ server group</i> list.</li> <li>• <i>radius</i> – Specifies that the user is to be authenticated using the <i>RADIUS</i> protocol from the remote <i>RADIUS server hosts</i> of the <i>RADIUS server group</i> list.</li> <li>• <i>local</i> - Specifies that the user is to be authenticated using the local <i>user account</i> database on the Switch.</li> <li>• <i>server_group &lt;string 15&gt;</i> – Specifies the server group name for authentication.</li> <li>• <i>none</i> – Specifies that no authentication is required to access the Switch.</li> </ul> <p><i>method_list_name &lt;string 15&gt;</i> – Specifies a previously created <i>authen_enable method_list_name</i>. The user may add one or more of the following authentication methods to this method list:</p> <ul style="list-style-type: none"> <li>• <i>tacacs+</i> – Specifies that the user is to be authenticated using the <i>TACACS+</i> protocol from a remote <i>TACACS+ server</i>.</li> <li>• <i>radius</i> - Specifies that the user is to be authenticated using the <i>RADIUS</i> protocol from a remote <i>RADIUS server</i>.</li> <li>• <i>local</i> - Specifies that the user is to be authenticated using the local <i>user account</i> database on the Switch. The local enable password of the device can be configured using the '<b>config admin local_password</b>' command.</li> <li>• <i>server_group &lt;string 15&gt;</i> – Specifies that the user is to be authenticated using the server group account database on the Switch.</li> <li>• <i>none</i> – Specifies that no authentication is required to access the Switch.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.

## Example usage:

To configure the user defined method list 'Permit' with authentication methods TACACS+, RADIUS and local\_enable, in that order.

```
DGS-1210-28MP/ME:5# config authen_enable method_list_name Trinity method
tacacs+ radius local
Command: config authen_enable method_list_name Trinity method tacacs+ radius
local
```

Success.

```
DGS-1210-28MP/ME:5#
```

## delete authen\_enable method\_list\_name

Purpose	To delete a user-defined list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	<b>delete authen_enable method_list_name &lt;string 15&gt;</b>
Description	The <b>delete authen_enable method_list_name</b> command deletes a user-defined list of authentication methods for promoting user level privileges to Administrator level privileges.
Parameters	<i>&lt;string 15&gt;</i> - The previously created <i>authen_enable method_list_name</i> to be deleted.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete the user-defined method list 'Permit'

```
DGS-1210-28MP/ME:5# delete authen_enable method_list_name Permit
Command: delete authen_enable method_list_name Permit
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show authen\_enable

Purpose	To display the list of authentication methods for promoting normal user level privileges to Administrator level privileges on the Switch.
Syntax	<b>show authen_enable [all   default   method_list_name &lt;string 15&gt;]</b>
Description	The <b>show authen_enable</b> command displays a user-defined list of authentication methods for promoting user level privileges to Administrator level privileges.
Parameters	<p><i>default</i> – Displays the default method list for users attempting to gain access to Administrator level privileges on the Switch.</p> <p><i>method_list_name &lt;string 15&gt;</i> – The <i>method_list_name</i> to be displayed.</p> <p><i>all</i> – Displays all the authentication login methods currently configured on the Switch.</p> <p>The command displays the following parameters:</p> <ul style="list-style-type: none"> <li>Method List Name – The name of a previously configured</li> </ul>

	method list name.
	<ul style="list-style-type: none"> <li>Method Name – Defines which security protocols are implemented, per method list name.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To display all method lists for promoting user level privileges to administrator level privileges.

```
DGS-1210-28MP/ME:5# show authen_enable all
Command: show authen_enable all

Method List Name Priority Method Name Comment
-----
default          1      local      Keyword

DGS-1210-28MP/ME:5#
```

### enable authen\_policy

Purpose	To enable the authentication policy on the Switch.
Syntax	<b>enable authen_policy</b>
Description	The <b>enable authen_policy</b> command enables the authentication policy on the Switch.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To enable the authentication policy:

```
DGS-1210-28MP/ME:5# enable authen_policy
Command: enable authen_policy

Success.
DGS-1210-28MP/ME:5#
```

### disable authen\_policy

Purpose	To disable the authentication policy on the Switch.
Syntax	<b>disable authen_policy</b>
Description	The <b>disable authen_policy</b> command disables the authentication policy on the Switch.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To disable the authentication policy:

```
DGS-1210-28MP/ME:5# disable authen_policy
```

```
Command: disable authen_policy
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config authen application

Purpose	To configure various applications on the Switch for authentication using a previously configured method list.
Syntax	<b>config authen application {console   http   ssh   telnet   all} [login   enable] [default   method_list_name &lt;string 15&gt;]</b>
Description	The <b>config authen application</b> command configures Switch applications (console, Telnet, SSH) for login at the user level and at the administration level ( <i>authen_enable</i> ), utilizing a previously configured method list.
Parameters	<p><i>application</i> – Specifies the application to configure. One of the following four options may be selected:</p> <ul style="list-style-type: none"> <li>• <i>console</i> – Configures the command line interface login method.</li> <li>• <i>http</i> – Configures the http login method.</li> <li>• <i>ssh</i> – Configures the Secure Shell login method.</li> <li>• <i>telnet</i> – Configures the telnet login methods.</li> <li>• <i>all</i> – Configures all applications as (console, Telnet, SSH) login methods.</li> </ul> <p><i>login</i> – Configures an application for normal login on the user level, using a previously configured method list.</p> <p><i>enable</i> – Configures an application for upgrading a normal user level to administrator privileges, using a previously configured method list.</p> <p><i>default</i> – Configures an application for user authentication using the default method list.</p> <p><i>method_list_name &lt;string 15&gt;</i> – Configures an application for user authentication using a previously configured <i>method_list_name</i>.</p>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To configure the default method list for the command line interface:

```
DGS-1210-28MP/ME:5# config authen application http login default
```

```
Command: config authen application http login default
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## show authen application

Purpose	To display authentication methods for the various applications on the Switch.
---------	---

Syntax	<b>show authen application</b>
Description	The <b>show authen application</b> command displays all of the authentication method lists (login, enable administrator privileges) for Switch configuration applications (console, Telnet, SSH) currently configured on the Switch.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To display the login and enable method list for all applications on the Switch:

<b>DGS-1210-28MP/ME:5# show authen application</b>		
<b>Command: show authen application</b>		
<b>Application</b>	<b>Login Method List</b>	<b>Enable Method List</b>
-----	-----	-----
<b>Console</b>	<b>default</b>	<b>default</b>
<b>Telnet</b>	<b>default</b>	<b>default</b>
<b>SSH</b>	<b>default</b>	<b>default</b>
<b>HTTP</b>	<b>default</b>	<b>default</b>
<b>DGS-1210-28MP/ME:5#</b>		

### config authen parameter

Purpose	To provide user to configure the authentication parameters on the Switch.
Syntax	<b>config authen parameter [attempt &lt;int 1-255&gt;   response_timeout &lt;int 0-255&gt;]</b>
Description	The <b>config authen parameter attempt</b> command Provides user to configure the authentication parameters on the Switch.
Parameters	<i>attempt &lt;integer 1-255&gt;</i> – Specifies the attempt of authentication parameter on the Switch. The value range is between 1 and 255. <i>response_timeout &lt;integer 0-255&gt;</i> – Specifies the response timeout of authentication parameter on the Switch. The value range is between 0 and 255.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To configure the default method list for the command line interface:

<b>DGS-1210-28MP/ME:5# config authen parameter attempt 10</b>	
<b>Command: config authen parameter attempt 10</b>	
<b>Success.</b>	
<b>DGS-1210-28MP/ME:5#</b>	

**show authen parameter**

Purpose	To display authentication parameters for the various applications on the Switch.
Syntax	<b>show authen parameter</b>
Description	The <b>show authen parameter</b> command displays the authentication parameter on the Switch.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To display the authentication parameters for all applications on the Switch:

```
DGS-1210-28MP/ME:5# show authen parameter
Command: show authen parameter
```

```
Response Timeout : 30 seconds
```

```
User Attempts : 3
```

```
DGS-1210-28MP/ME:5#
```

**create authen server\_host**

Purpose	To create an authentication server host.
Syntax	<b>create authen server_host</b> [ <i>&lt;ipaddr&gt;</i>   <i>ipv6address &lt;ipv6addr&gt;</i> ] <b>protocol</b> [ <i>radius</i>   <i>tacacs+</i> ] { <i>acct_port &lt;int 1-65535&gt;</i>   <i>port &lt;int 1-65535&gt;</i>   <i>encryption_key &lt;string 800&gt;</i>   <i>key [&lt;string 254&gt;</i>   <i>none]</i>   <i>timeout &lt;int 1-255&gt;</i>   <i>retransmit &lt;int 1-255&gt;</i> }
Description	The <b>create authen server_host</b> command creates an authentication server host for the TACACS+/RADIUS security protocols on the Switch. When a user attempts to access the Switch with authentication protocol enabled, the Switch sends authentication packets to a remote TACACS+/RADIUS server host on a remote host. The TACACS+/RADIUS server host then verifies or denies the request and returns the appropriate message to the Switch. More than one authentication protocol can be run on the same physical server host but, remember that TACACS+/RADIUS are separate entities and are not compatible with each other. The maximum supported number of server hosts is 16.
Parameters	<i>&lt;ipaddr&gt;</i>   <i>ipv6address &lt;ipv6addr&gt;</i> ] – The IPv4 or IPv6 address of the remote server host to add. <i>protocol</i> – The protocol used by the server host. The options are: <ul style="list-style-type: none"> <li>• <i>tacacs+</i> – Specifies that the server host utilizes the TACACS+ protocol.</li> <li>• <i>radius</i> – Specifies that the server host utilizes the RADIUS protocol.</li> </ul> <i>acct_port &lt;int 1-65535&gt;</i> - Specifies the accepted port number of the authentication protocol on a server host. <i>port &lt;int 1-65535&gt;</i> – The virtual port number of the authentication protocol on a server host. The value must be between 1 and 65535. The default port number is 49 for TACACS/TACACS+ servers and 1812 and 1813 for RADIUS servers but the user may set a unique port number for higher security.

*encryption\_key* <string 800> - Specifies the encryption key.

*key* [<string 254> | none] – The authentication key to be shared with a configured TACACS+ or RADIUS server only. The value is a string of up to 254 alphanumeric characters, or *none*.

*timeout* <int 1-255> – The time in seconds the Switch waits for the server host to reply to an authentication request. The default value is 5 seconds.

*retransmit* <int 1-255> – The number of times the device resends an authentication request when the server does not respond. The value is between 1 and 255. This field is inoperable for the TACACS+ protocol.

**Restrictions**

Only Administrator-level users can issue this command.

**Example usage:**

To create a TACACS+ authentication server host, with port number 1234, a timeout value of 10 seconds and a retransmit count of 5.

```
DGS-1210-28MP/ME:5# create authn server_host 10.1.1.121 protocol tacacs+
port 1234 timeout 10 retransmit 5
```

```
Command: create authn server_host 10.1.1.121 protocol tacacs+ port 1234
timeout 10 retransmit 5
```

**Key is empty for TACACS+ or RADIUS.**

**Retransmit is meaningless for TACACS+.**

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config authn server\_host

Purpose	To configure a user-defined authentication server host.
Syntax	<b>config authn server_host</b> [<ipaddr>   ipv6address <ipv6addr>] <b>protocol</b> [tacacs+   radius] {acct_port <int 1-65535>   port <int 1-65535>   encryption_key <string 800>   key [<string 254>   none]   timeout <int 1-255>   retransmit <int 1-255>}
Description	The <b>config authn server_host</b> command configures a user-defined authentication server host for the TACACS+/RADIUS security protocols on the Switch. When a user attempts to access the Switch with the authentication protocol enabled, the Switch sends authentication packets to a remote TACACS+/RADIUS server host on a remote host. The TACACS+/RADIUS server host then verifies or denies the request and returns the appropriate message to the Switch. More than one authentication protocol can be run on the same physical server host but, remember that TACACS+/RADIUS are separate entities and are not compatible with each other. The maximum supported number of server hosts is 16.
Parameters	<p>[&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;] – The IPv4 or IPv6 address of the remote server host the user wishes to alter.</p> <p><i>protocol</i> – The protocol used by the server host. The options are:</p> <ul style="list-style-type: none"> <li><i>tacacs+</i> – Specifies that the server host utilizes the TACACS+ protocol.</li> </ul>

- *radius* – Specifies that the server host utilizes the RADIUS protocol.

*acct\_port* <int 1-65535> - Specifies the accepted port number of the authentication protocol on a server host.

*port* <int 1-65535> – The virtual port number of the authentication protocol on a server host. The value must be between 1 and 65535. The default port number is 49 for TACACS/TACACS+ servers and 1812 and 1813 for RADIUS servers but the user may set a unique port number for higher security.

*encryption\_key* <string 800> - Specifies the encryption key.

*key* [<string 254> | none] – The authentication key to be shared with a configured TACACS+ or RADIUS server only. The value is a string of up to 254 alphanumeric characters, or none.

*timeout* <int 1-255> – The time in seconds the Switch waits for the server host to reply to an authentication request. The default value is 5 seconds.

*retransmit* <int 1-255> – The number of times the device resends an authentication request when the server does not respond. The value is between 1 and 255. This field is inoperable for the TACACS+ protocol.

Restrictions

Only Administrator-level users can issue this command.

Example usage:

To configure a TACACS+ authentication server host, with port number 4321, a timeout value of 12 seconds and a retransmit count of 4.

```
DGS-1210-28MP/ME:5# config authn server_host 10.1.1.121 protocol tacacs+ port 4321 timeout 12 retransmit 4
```

```
Command: config authn server_host 10.1.1.121 protocol tacacs+ port 4321 timeout 12 retransmit 4
```

Retransmit is meaningless for TACACS+.

Success.

```
DGS-1210-28MP/ME:5#
```

## delete authn server\_host

Purpose	To delete a user-defined authentication server host.
Syntax	<b>delete authn server_host</b> [<ipaddr>   ipv6address <ipv6addr>] <b>protocol</b> [tacacs+   radius]
Description	The <b>delete authn server_host</b> command deletes a user-defined authentication server host previously created on the Switch.
Parameters	<i>server_host</i> [<ipaddr>   ipv6address <ipv6addr>] - The IPv4 or IPv6 address of the remote server host to be deleted. <i>protocol</i> – The protocol used by the server host the user wishes to delete. The options are: <ul style="list-style-type: none"> <li>• <i>tacacs+</i> – Specifies that the server host utilizes the TACACS+ protocol.</li> <li>• <i>radius</i> – Specifies that the server host utilizes the RADIUS protocol.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.



Example usage:

To delete a user-defined RADIUS authentication server host:

```
DGS-1210-28MP/ME:5# delete authn server_host 10.1.1.121 protocol radius
Command: delete authn server_host 10.1.1.121 protocol radius
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show authn server\_host

Purpose	To view a user-defined authentication server host.
Syntax	<b>show authn server_host</b>
Description	<p>The <b>show authn server_host</b> command displays user-defined authentication server hosts previously created on the Switch.</p> <p>The following parameters are displayed:</p> <p><i>IP Address</i> – The IP address of the authentication server host.</p> <p><i>Protocol</i> – The protocol used by the server host. Possible results include TACACS+ or RADIUS.</p> <p><i>Port</i> – The virtual port number on the server host. The default value is 49.</p> <p><i>Timeout</i> - The time in seconds the Switch waits for the server host to reply to an authentication request.</p> <p><i>Retransmit</i> - The value in the retransmit field denotes how many times the device resends an authentication request when the TACACS server does not respond. This field is inoperable for the tacacs+ protocol.</p> <p><i>Key</i> - Authentication key to be shared with a configured TACACS+ server only.</p>
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To view authentication server hosts currently set on the Switch:

```
DGS-1210-28MP/ME:5# show authen server_host
Command: show authen server_host

IP Address  Protocol  Port  Timeout  Retransmit  Key
-----
10.1.1.121  tacacs+  4321  -----  -1

Total Entries : 1

DGS-1210-28MP/ME:5#
```

### create authen server\_group

Purpose	To create an authentication server host.
Syntax	<b>create authen server_group &lt;string 15&gt;</b>
Description	The <b>create authen server_group</b> command creates an authentication server group for the protocols on the Switch.
Parameters	<string 15> – Defines the authentication group name as a string of up to 15 alphanumeric characters.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To create a server group "dlinkgroup":

```
DGS-1210-28MP/ME:5# create authen server_group dlinkgroup
Command: create authen server_group dlinkgroup

Success.
DGS-1210-28MP/ME:5#
```

### config authen server\_group

Purpose	To configure a user-defined authentication server host.
Syntax	<b>config authen server_group [&lt;string 15&gt;   radius   tacacs+] [add   delete] server_host [&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;] protocol [radius   tacacs+]</b>
Description	The <b>config authen server_group</b> command configures a user-defined authentication server group for the TACACS+/RADIUS security protocols on the Switch. When a user attempts to access the Switch with the authentication protocol enabled, the Switch sends authentication packets to a remote TACACS+/RADIUS server group on a remote host. The TACACS+/RADIUS server group then verifies or denies the request and returns the appropriate message to the Switch. More than one authentication protocol can be run on the same physical server host but, remember that TACACS+/RADIUS are separate entities and are not compatible

	with each other. The maximum supported number of server group is 16.
Parameters	<p><b>&lt;string 15&gt;</b> – Defines the authentication group name as a string of up to 15 alphanumeric characters.</p> <p><b>server_host [<i>&lt;ipaddr&gt;</i>   <i>ipv6address &lt;ipv6addr&gt;</i>]</b> – The IPv4 or IPv6 address of the remote server group the user wishes to alter.</p> <p><b>[add   delete]</b> – Specifies the authentication server host will be add or deleted of the server group.</p> <p><b>protocol</b> – The protocol used by the server host. The options are:</p> <ul style="list-style-type: none"> <li>• <b>tacacs+</b> – Specifies that the server host utilizes the TACACS+ protocol.</li> <li>• <b>radius</b> – Specifies that the server host utilizes the RADIUS protocol.</li> </ul>
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To configure a RADIUS authentication server group:

```
DGS-1210-28MP/ME:5# config authn server_group dlinkgroup add server_host
10.1.1.121 protocol radius
Command: config authn server_group dlinkgroup add server_host 10.1.1.121
protocol radius

Success.
DGS-1210-28MP/ME:5#
```

## delete authn server\_group

Purpose	To delete a user-defined authentication server host.
Syntax	<b>delete authn server_group &lt;string 15&gt;</b>
Description	The <b>delete authn server_group</b> command deletes a user-defined authentication server group previously created on the Switch.
Parameters	<b>&lt;string 15&gt;</b> – Specifies the authentication server group name to be deleted.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To delete a user-defined rd1 authentication server group:

```
DGS-1210-28MP/ME:5# delete authn server_group dlinkgroup
Command: delete authn server_group dlinkgroup

Success.
DGS-1210-28MP/ME:5#
```

## show authn server\_group

Purpose	To view a user-defined authentication server host.
---------	--

Syntax	<b>show authen server_group {&lt;string 15&gt;}</b>
Description	The <b>show authen server_group</b> command displays user-defined authentication server groups previously created on the Switch. The following parameters are displayed: Group Name – The name of the server group. IP Address – The IP address of the authentication server group. Protocol – The protocol used by the server group. Possible results include TACACS+ or RADIUS.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

Example usage:

To view authentication server hosts currently set on the Switch:

```
DGS-1210-28MP/ME:5# show authen server_group dlinkgroup
Command: show authen server_group dlinkgroup
```

```
(1) Group Name: dlinkgroup
```

```
(No servers in this group)
```

```
Total Entries : 1
```

```
DGS-1210-28MP/ME:5#
```

## enable admin

Purpose	To promote user level privileges to administrator level privileges.
Syntax	<b>enable admin</b>
Description	The <b>enable admin</b> command enables a user to be granted administrative privileges on to the Switch. After logging on to the Switch, users have only 'user' level privileges. To gain access to administrator level privileges, the user may enter this command. The system then prompts for an authentication password. Possible authentication methods for this function include TACACS, TACACS+, RADIUS, user defined server groups, local enable (local account on the Switch), or no authentication (none). Because TACACS does not support the enable function, the user must create a special account on the server host which has the username 'enable', and a password configured by the administrator that will support the 'enable' function. This function becomes inoperable when the authentication policy is disabled.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable administrator privileges on the Switch:

```
DGS-1210-28MP/ME:5# enable admin
Command: enable admin
```

```
Success.
DGS-1210-28MP/ME:5#
```

## config admin local\_enable

Purpose	To configure the local_enable password for administrator level privileges.
Syntax	<b>config admin local_enable</b>
Description	<p>The <b>config admin local_enable</b> command changes the locally enabled password for the <b>local_enable admin</b> command. When a user chooses the '<i>local_enable</i>' method to promote user level privileges to administrator privileges, the user is prompted to enter the password configured here.</p> <p>After entering the <b>config admin local_enable</b> command, the user is prompted to enter the old password then a new password in a string of no more than 15 alphanumeric characters, and finally prompted to enter the new password again for confirmation. See the example below.</p>
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the password for the 'local\_enable' authentication method:

```
DGS-1210-28MP/ME:5# config admin local_enable
Command: config admin local_enable

Enter the old password:
Enter the case-sensitive new password:*****
Enter the new password again for confirmation:*****
Success.

DGS-1210-28MP/ME:5#
```

## config accounting

Purpose	To configure a user-defined or default method list of accounting methods.
Syntax	<b>config accounting [default   method_list_name &lt;string 32&gt;] method {tacacs+   radius   server_group &lt;string 32&gt;   none}</b>
Description	The <b>config accounting</b> command is used to configure a user-defined or default method list of accounting methods.
Parameters	<p><i>default</i> - Specifies the default method list of accounting methods.</p> <p><i>method_list_name &lt;string 32&gt;</i> - Specifies the user-defined method list of accounting methods. This name can be up to 15 characters long.</p> <ul style="list-style-type: none"> <li>• <i>method</i> - Specifies the accounting method used.</li> <li>• <i>tacacs+</i> - Specifies to use the built-in server group 'tacacs+'.</li> <li>• <i>radius</i> - Specifies to use the built-in server group 'radius'.</li> </ul>

	<ul style="list-style-type: none"> <li>• <i>server_group</i> &lt;string 15&gt; - Specifies the user-defined server group.</li> <li>• <i>none</i> – Specifies no accounting.</li> </ul>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure a user-defined method list called "shell\_acct", that specifies a sequence of the built-in "tacacs+" server group, followed by the "radius" server group for accounting service on switch:

```
DGS-1210-28MP/ME:5# config accounting method_list_name shell_acct method
tacacs+ radius
Command: config accounting method_list_name shell_acct method tacacs+ radius
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config accounting service

Purpose	To configure the state of the specified RADIUS accounting service.
Syntax	<b>config accounting service [network   shell   system] state [enable {[radius_only   method_list_name &lt;string 32&gt;   default_method_list]}   disable]</b>
Description	The <b>config accounting service</b> command is used to configure the state of the specified RADIUS accounting service.
Parameters	<p><i>network</i> – Specifies that when enabled, the Switch will send informational packets to a remote RADIUS server when 802.1X access control events occur on the Switch. By default, the service is disabled.</p> <p><i>shell</i> – Specifies that when enabled, the Switch will send informational packets to a remote RADIUS server when a user either logs in, logs out or times out on the Switch, using the console, Telnet, or SSH. By default, the service is disabled.</p> <p><i>system</i> – Specifies that when enabled, the Switch will send informational packets to a remote RADIUS server when system events occur on the Switch, such as a system reset or system boot. By default, the service is disabled.</p> <p><i>state</i> – Specifies the state of the accounting service.</p> <p><i>enable</i> – Enable the specified accounting service.</p> <p><i>radius_only</i> – Specifies that the accounting service should only use the RADIUS group.</p> <p><i>method_list_name</i> &lt;string&gt; - Specifies that the accounting service should use the AAA user-defined method list.</p> <p><i>default_method_list</i> - Specifies that the accounting service should use the AAA default method list.</p> <p><i>disable</i> – Disable the specified accounting service.</p>
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the state of the RADIUS accounting service shell to enable:

```
DGS-1210-28MP/ME:5# config accounting service shell state enable radius_only
Command: config accounting service shell state enable radius_only
```

**Success.**

**DGS-1210-28MP/ME:5#**

## config accounting service command

Purpose	To configure the state of the specified accounting service.
Syntax	<b>config accounting service command {administrator   operator   power_user   user} [method_list_name &lt;string&gt;   none]</b>
Description	The <b>config accounting service command</b> command is used to configure the state of the specified accounting service.
Parameters	<p><i>administrator</i> – Specifies the accounting service for all administrator level commands.</p> <p><i>operator</i> – Specifies the accounting service for all operator level commands.</p> <p><i>power_user</i> – Specifies the accounting service for all power-user level commands.</p> <p><i>user</i> - Specifies the accounting service for all user level commands.</p> <p><i>method_list_name &lt;string 32&gt;</i> - Specifies the accounting service by the AAA user-defined method list.</p> <p><i>none</i> - Specifies to disable accounting services for the specified command level.</p>
Restrictions	Only administrator-level users, Operator and Power-User level users can issue this command.

Example usage:

To configure the AAA accounting methodlist "admin\_acct" for accounting to all administrator commands:

```
DGS-1210-28MP/ME:5# #config accounting service command administrator
method_list_name admin_acct
Command: config accounting service command administrator method_list_name
admin_acct
```

**Success.**

**DGS-1210-28MP/ME:5#**

## create accounting method\_list\_name

Purpose	To create a user-defined list of accounting methods for accounting services on the Switch..
Syntax	<b>create accounting method_list_name &lt;string 32&gt;</b>
Description	The <b>create accounting method_list_name</b> command is used to create a user-defined list of accounting methods for accounting services on the Switch.
Parameters	<i>&lt;string 15&gt;</i> - Specifies the built-in or user-defined method list.
Restrictions	Only administrator-level users, Operator and Power-User level users can issue this command.

Example usage:

To create a user-defined accounting method list called "shell\_acct":

```
DGS-1210-28MP/ME:5# create accounting method_list_name shell_acct
Command: create accounting method_list_name shell_acct

Success.

DGS-1210-28MP/ME:5#
```

### delete accounting method\_list\_name

Purpose	To delete a user-defined list of accounting methods for accounting services on the Switch.
Syntax	<b>delete accounting method_list_name &lt;string 15&gt;</b>
Description	The <b>delete accounting service command</b> command is used to delete a user-defined list of accounting methods for accounting services on the Switch.
Parameters	<string 15> - Specifies the built-in or user-defined method list.
Restrictions	Only administrator-level users, Operator and Power-User level users can issue this command.

Example usage:

To delete a user-defined accounting method list called "shell\_acct":

```
DGS-1210-28MP/ME:5# delete accounting method_list_name shell_acct
Command: delete accounting method_list_name shell_acct

Success.

DGS-1210-28MP/ME:5#
```

### show accounting method\_list\_name

Purpose	To display the user-defined list of accounting methods for accounting services on the Switch.
Syntax	<b>show accounting [all   default   method_list_name &lt;string 15&gt;]</b>
Description	The <b>show accounting</b> command is used to display the user-defined list of accounting methods for accounting services on the Switch.
Parameters	<i>all</i> - Specifies all user-defined method list. <i>default</i> - Specifies the default user-defined method list. <string 15> - Specifies the built-in or user-defined method list.
Restrictions	None.

Example usage:

To display all user-defined accounting method list:

```
DGS-1210-28MP/ME:5# show accounting all
```



**Command: show accounting all**

Method List Name	Priority	Method Name	Comment
default	1	none	Keyword

DGS-1210-28MP/ME:5#

### enable aaa\_server\_password\_encryption

Purpose	To enable AAA server password encryption.
Syntax	<b>enable aaa_server_password_encryption</b>
Description	The <b>enable aaa_server_password_encryption</b> command is used to enable AAA server password encryption.
Parameters	None.
Restrictions	Only administrator-level users, Operator and Power-User level users can issue this command.

Example usage:

To enable AAA server password encryption:

DGS-1210-28MP/ME:5# **enable aaa\_server\_password\_encryption**

**Command: enable aaa\_server\_password\_encryption**

**Success.**

DGS-1210-28MP/ME:5#

### disable aaa\_server\_password\_encryption

Purpose	To disable AAA server password encryption.
Syntax	<b>disable aaa_server_password_encryption</b>
Description	The <b>disable aaa_server_password_encryption</b> command is used to disable AAA server password encryption.
Parameters	None.
Restrictions	Only administrator-level users, Operator and Power-User level users can issue this command.

Example usage:

To disable AAA server password encryption:

DGS-1210-28MP/ME:5# **disable aaa\_server\_password\_encryption**

**Command: disable aaa\_server\_password\_encryption**

**Success.**

DGS-1210-28MP/ME:5#
---------------------

## show aaa

Purpose	To display AAA global configuration.
Syntax	<b>show aaa</b>
Description	The <b>show aaa</b> command is used to display AAA global configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display AAA global configuration:

```
DGS-1210-28MP/ME:5# show aaa
Command: show aaa

Authentication Policy: Disabled
Accounting Network Service State: Disabled
Accounting Network Service Method:
Accounting Shell Service State: Disabled
Accounting Shell Service Method:
Accounting System Service State: Disabled
Accounting System Service Method:
Accounting Admin Command Service Method:
Accounting Operator Command Service Method:
Accounting PowerUser Command Service Method:
Accounting User Command Service Method:
Server Password Encryption: Enabled

DGS-1210-28MP/ME:5#
```

## ENERGY EFFICIENT ETHERNET COMMANDS

The Energy Efficient Ethernet (EEE) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config EEE port	[all   <portlist>] state [enable   disable]
show EEE_mode	{ports <portlist>}

Each command is listed in detail, as follows:

config EEE port	
Purpose	To enable or disable the EEE function on the specified port(s) on the Switch.
Syntax	<b>config EEE port [all   &lt;portlist&gt;] state [enable   disable]</b>
Description	The <b>config EEE port</b> command is used to enable or disable the EEE function on the specified port(s) on the Switch.
Parameters	<i>[all   &lt;portlist&gt;</i> - A range of ports or all ports to be configured. <i>[enable   disable]</i> – Specifies to enable or disable the EEE function for the specified ports.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the EEE function of ports 1-5:

```
DGS-1210-28MP/ME:5# config EEE port 1-5 state enable
Command: config EEE port 1-5 state enable

Success.

DGS-1210-28MP/ME:5#
```

show EEE_mode port	
Purpose	To display the EEE function state on the specified port(s).
Syntax	<b>show EEE_mode {ports &lt;portlist&gt;}</b>
Description	The <b>show EEE_mode port</b> command is used to display the EEE function state on the specified port(s).
Parameters	<i>&lt;portlist&gt;</i> - A range of ports or all ports to be displayed.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To display the EEE state:

```
DGS-1210-28MP/ME:5# show EEE_mode ports 1-3  
Command: show EEE_mode ports 1-3
```

```
Port  EEE state
```

```
---- -  
1  enabled  
2  enabled  
3  enabled
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## LACP COMMANDS

The LACP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config lacp port_priority	<portlist> <value 0-65535> [timeout <long   short>]
show lacp	{<portlist>}
config lacp_ports	<portlist> mode [active   passive]

Each command is listed in detail, as follows:

<b>config lacp port_priority</b>	
Purpose	To set the priority value of a physical port in an LACP group.
Syntax	<b>config lacp port_priority &lt;portlist&gt; &lt;value 0-65535&gt; [timeout &lt;long   short&gt;]</b>
Description	The <b>config lacp port_priority</b> command sets the LACP priority value and administrative timeout of a physical port or range of ports in an LACP group.
Parameters	<p>&lt;portlist&gt; - A port or range of ports to be configured.</p> <p>&lt;value 0-65535&gt; - Specifies the LACP priority value for a port or range of ports to be configured. The default is 1.</p> <p>&lt;timeout&gt; - Specifies the administrative LACP timeout.</p> <ul style="list-style-type: none"> <li><i>long</i> – Specifies the LACP timeout to be 90 seconds. This is the default.</li> <li><i>short</i> – Specifies the LACP timeout to be 3 seconds.</li> </ul>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure the LACP priority of ports 1-3:

```
DGS-1210-28MP/ME:5# config lacp port_priority 1-3 100 timeout long
Command: config lacp port_priority 1-3 100 timeout long

Success.
DGS-1210-28MP/ME:5#
```

<b>show lacp</b>	
Purpose	To display current LACP port mode settings.
Syntax	<b>show lacp {&lt;portlist&gt;}</b>
Description	The <b>show lacp</b> command displays the current LACP mode settings.

Parameters	<portlist> - A port or range of ports whose LACP settings are to be displayed. If no parameter is specified, the system displays the current LACP status for all ports.
Restrictions	None.

Example usage:

To display LACP information for port1~3:

<b>DGS-1210-28MP/ME:5# show lacp 1-3</b>			
<b>Command: show lacp 1-3</b>			
<b>Port</b>	<b>Priority</b>	<b>Activity</b>	<b>Timeout</b>
-----	-----	-----	-----
1	100	Active	Long (90 sec)
2	100	Active	Long (90 sec)
3	100	Active	Long (90 sec)
<b>DGS-1210-28MP/ME:5#</b>			

## config lacp\_ports

Purpose	To configure settings for LACP compliant ports.
Syntax	<b>config lacp_ports &lt;portlist&gt; mode [active   passive]</b>
Description	The <b>config lacp_ports</b> command is used to configure ports that have been previously DGSigned as LACP ports.
Parameters	<p>&lt;portlist&gt; – Specifies a port or range of ports to be configured.</p> <p>mode – Select the mode to determine if LACP ports will process LACP control frames.</p> <ul style="list-style-type: none"> <li>• <i>active</i> – Active LACP ports are capable of processing and sending LACP control frames. This allows LACP compliant devices to negotiate the aggregated link so the group may be changed dynamically as needs require. In order to utilize the ability to change an aggregated port group, that is, to add or subtract ports from the group, at least one of the participating devices must DGSignate LACP ports as active. Both devices must support LACP.</li> <li>• <i>passive</i> – LACP ports that are DGSigned as passive cannot process LACP control frames. In order to allow the linked port group to negotiate adjustments and make changes dynamically, at one end of the connection must have “active” LACP ports (see above).</li> </ul>
Restrictions	Only Administrator, operator or power user–level users can issue this command.

Example usage:

To configure LACP port mode settings:

```
DGS-1210-28MP/ME:5# config lacp_ports 1 mode active
```

```
Command: config lacp_ports 1 mode active
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## LLDP COMMANDS

The LLDP commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable lldp	
disable lldp	
config lldp forward_message	[enable   disable]
config lldp message_tx_interval	<sec 5-32768>
config lldp message_tx_hold_multiplier	<int 2-10>
config lldp reinit_delay	<sec 1-10>
config lldp tx_delay	<sec 1-8192>
config lldp notification_interval	<sec 5-3600>
show lldp	
show lldp ports	{<portlist>}
show lldp local_ports	{<portlist>} {mode[brief   normal   detailed]}
show lldp remote_ports	{<portlist>} {mode[brief   normal   detailed]}
config lldp ports	[<portlist>   all] notification [enable   disable]
config lldp ports	[<portlist>   all] admin_status [tx_only   rx_only   tx_and_rx   disable]
config lldp ports	[<portlist> all] mgt_addr [ipv4 {<ipaddr>  auto}   ipv6 <ipv6addr>] [enable   disable]
config lldp ports	[<portlist> all] basic_tlvs [all   {port_Description   system_name   system_Description   system_capabilities}] [enable   disable]
config lldp ports	[<portlist> all] dot3_tlvs [all   link_aggregation   mac_phy_configuration_status   maximum_frame_size   power_via_mdi] [enable   disable]
config lldp ports	[<portlist> all] dot1_tlv_pvid [disable   enable]
config lldp ports	[<portlist> all] dot1_tlv_protocol_identity [all   eapol   gvrp   lacp   stp][disable   enable]
config lldp ports	[<portlist> all] dot1_tlv_vlan_name [vlan <vlan_name 32>   vlanid <vidlist>] [disable   enable]
config lldp ports	[all   <portlist>] dot1_tlv_protocol_vid [vlan {all   <vlan_name (32)>}   vlanid <vidlist>] [enable   disable]
show lldp mgt_addr	{ipv4 <ipaddr>   ipv6 <ipv6addr>}
show lldp statistics	{ports <portlist>}



Command	Parameter
show lldp power_pse_tlv	

Each command is listed in detail, as follows:

<b>enable lldp</b>	
Purpose	To enable LLDP on the switch.
Syntax	<b>enable lldp</b>
Description	The <b>enable lldp</b> command enables the <i>Link Layer Discovery Protocol</i> (LLDP) on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable LLDP on the switch:

<b>DGS-1210-28MP/ME:5# enable lldp</b>
<b>Command: enable lldp</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>disable lldp</b>	
Purpose	To disable LLDP on the switch.
Syntax	<b>disable lldp</b>
Description	The <b>disable lldp</b> command disables the <i>Link Discovery Protocol</i> (LLDP) on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To disable LLDP on the switch:

<b>DGS-1210-28MP/ME:5# disable lldp</b>
<b>Command: disable lldp</b>
<b>Success.</b>
<b>DGS-1210-28MP/ME:5#</b>

<b>config lldp forward_message</b>	
Purpose	This command is used to configure LLDP forwarding messages.
Syntax	<b>config lldp forward_message [enable   disable]</b>
Description	When LLDP is disabled and LLDP forward message is enabled, the received LLDPDU packet will be forwarded. The default state is disabled.

Parameters	<i>enable</i> –Enable LLDP forwarding messages. <i>disable</i> - Disable LLDP forwarding messages
Restrictions	Only Administrator or operator–level users can issue this command.

Example usage:

To enable LLDP forwarding messages:

```
DGS-1210-28/ME:5# config lldp forward_message enable
Command: config lldp forward_message enable

Success.

DGS-1210-28/ME:5#
```

### config lldp message\_tx\_interval

Purpose	To define the lldp message tx interval
Syntax	<b>config lldp message_tx_interval &lt;sec 5-32768&gt;</b>
Description	The <b>config lldp message_tx_interval</b> defines the lldp message interval of the incoming messages.
Parameters	<sec 5-32768> – Defines the message interval time. The range is between 5 and 32768.
Restrictions	Only Administrator or operator–level users can issue this command.

Example usage:

To configure LLDP message tx interval on the switch:

```
DGS-1210-28MP/ME:5# config lldp message_tx_interval 10
Command: config lldp message_tx_interval 10

Success.

DGS-1210-28MP/ME:5#
```

### config lldp message\_tx\_hold\_multiplier

Purpose	To define the lldp hold-multiplier on the switch.
Syntax	<b>config lldp message_tx_hold_multiplier &lt;int 2-10&gt;</b>
Description	The <b>config lldp message_tx_hold_multiplier</b> command specifies the amount of time the receiving device should hold a <i>Link Layer Discovery Protocol</i> (LLDP) packet before discarding it.
Parameters	<i>message_tx_hold_multiplier (int 2-10)</i> – Specifies the hold time to be sent in the LLDP update packets as a multiple of the timer value. (Range: 2-10). The default configuration is 4.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP Message tx hold multiplier settings:

```
DGS-1210-28MP/ME:5# config lldp message_tx_hold_multiplier 2
Command: config lldp message_tx_hold_multiplier 2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config lldp reinit\_delay

Purpose	To define the lldp reinit-delay on the switch.
Syntax	<b>config lldp reinit_delay &lt;sec 1-10&gt;</b>
Description	The <b>lldp reinit_delay seconds</b> command specifies the minimum time an LLDP port will wait before reinitializing LLDP transmission.
Parameters	<sec 1-10> – Specifies the minimum time in seconds an LLDP port will wait before reinitializing LLDP transmission. The range is 1 – 10 seconds. The default configuration is 2 seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP reinit delay:

```
DGS-1210-28MP/ME:5# config lldp reinit_delay 1
Command: config lldp reinit_delay 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

### config lldp tx\_delay

Purpose	To configure the lldp tx_delay on the switch.
Syntax	<b>config lldp tx_delay &lt;sec 1-8192&gt;</b>
Description	The <b>config lldp tx_delay</b> command specifies the delay between successive LLDP frame transmissions initiated by value/status changes in the LLDP local systems MIB, use the <b>lldp tx_delay</b> command in global configuration mode.
Parameters	<sec 1-8192> – Specifies the minimum time in seconds an LLDP port will wait before reinitializing LLDP transmission. The range is 1 – 8192 seconds. The default configuration is 2 seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP tx delay:

```
DGS-1210-28MP/ME:5# config lldp tx_delay 1
Command: config lldp tx_delay 1
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config lldp notification\_interval

Purpose	To configure the timer of the notification interval used to send notifications to configured SNMP trap receiver(s).
Syntax	<b>config lldp notification_interval &lt;sec 5-3600&gt;</b>
Description	The <b>config lldp notification_interval</b> command globally changes the interval between successive LLDP change notifications generated by the switch.
Parameters	<sec 5-3600> – The range is from 5 second to 3600 seconds. The default setting is 5 seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To change the notification interval:

```
DGS-1210-28MP/ME:5# config lldp notification_interval 10
Command: config lldp notification_interval 10
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## show lldp

Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) on the switch.
Syntax	<b>show lldp</b>
Description	The <b>show lldp</b> displays the LLDP configuration on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To show LLDP settings:

```
DGS-1210-28MP/ME:5# show lldp
```

```
Command: show lldp
```

```
LLDP System Information
```

```
Chassis Id Subtype : MAC Address
Chassis Id         : 00-12-10-28-33-95
System Name        :
System Description : DGS-1210-28MP/ME      7.01.B030
System Capabilities : Bridge
```

```
LLDP Configurations
```

```
LLDP Status        : Enable
Message Tx Interval : 30
Message Tx Hold Multiplier: 4
Reinit Delay       : 2
Tx Delay           : 2
Notification Interval : 5
```

```
DGS-1210-28MP/ME:5#
```

## show lldp ports

Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) ports configuration on the switch.
Syntax	<b>show lldp ports</b> {<portlist>}
Description	The <b>show lldp ports</b> command displays the information regarding the ports.
Parameters	<portlist> – A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To show the information for port 1:

```

DGS-1210-28MP/ME:5# show lldp ports 1

Port ID          : 1
-----
Admin Status     : TX_and_RX
Notification Status : Disable
Advertised TLVs Option :
  Port Description           Disable
  Port Description           Disable
  Port Description           Disable
  Port Description           Disable
  Enabled Management Address
  (NONE)
  Port VLAN ID              Disable
  Enabled Port_and_Protocol_VLAN_ID
  (None)
  Enabled VLAN Name
  (None)
  Enabled Protocol_Identity
  (None)
  MAC/PHY Configuration/Status  Disable
  Power Via MDI                Disable
  Link Aggregation              Disable
  Maximum Frame Size            Disable

DGS-1210-28MP/ME:5#

```

<b>show lldp local_ports</b>	
Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) configuration that is advertised from a specific port.
Syntax	<b>show lldp local_ports {&lt;portlist&gt;} {mode[brief   normal   detailed]}</b>
Description	The <b>show lldp local_ports</b> command displays the configuration that is advertised from a specific port.
Parameters	<portlist> – A port or range of ports to be displayed. {mode[brief   normal   detailed]} – defines which mode of information want to be displayed, brief, normal or detailed.
Restrictions	None.

Example usage:

To show the local port information for port 1 with mode brief:

```

DGS-1210-28MP/ME:5# show lldp local_ports 1 mode brief
Command: show lldp local_ports 1 mode brief

Port ID : 1
-----
Port ID Subtype      : Local
Port ID              : Slot0/1
Port ID Description  : D-Link DGS-1210-28X/ME Rev.B1/7.00.B055 Port 1

DGS-1210-28MP/ME:5#

```

## show lldp remote\_ports

Purpose	To display information regarding the neighboring devices discovered using LLDP.
Syntax	<b>show lldp remote_ports</b> {<portlist>} {mode[brief   normal   detailed]}
Description	The <b>show lldp remote_ports</b> command displays the information regarding neighboring devices.
Parameters	<portlist> – A port or range of ports to be displayed. [mode[brief   normal   detailed]] – defines which mode of information want to be displayed, brief, normal or detailed.
Restrictions	None.

Example usage:

To show the information for remote ports:

```
DGS-1210-28MP/ME:5# show lldp remote_ports 1 mode normal
Command: show lldp remote_ports 1 mode normal

Port ID : 1
-----
Remote Entities Count : 0
(NONE)

DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To enable LLDP notification on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist>   all] notification [enable   disable]
Description	The <b>config lldp ports</b> notification command defines lldp notification per port on the switch.
Parameter	<i>ports</i> [<portlist>   all] – Specify a port or ports to be configured. <i>s</i> notification [enable   disable] – defines is notification is enabled or disabled.
Restrictions	None.

Example usage:

To configure LLDP notification:

```
DGS-1210-28MP/ME:5# config lldp ports 1-3 notification enable
Command: config lldp ports 1-3 notification enable

Success.

DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP admin status on a port or ports.
---------	---

Syntax	<b>config lldp ports</b> [<portlist>   all] admin_status [tx_only   rx_only   tx_and_rx   disable]
Description	The <b>config lldp ports</b> admin status command defines lldp admin status per port on the switch.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specify a port or ports to be configured. <i>Admin status</i> – Defines admin status of ports on the switch. Tx- Tx only. Rx – Rx only. Both – Tx and RX. Disable – admin status disabled.
Restrictions	None.

Example usage:

To configure LLDP admin status

```
DGS-1210-28MP/ME:5# config lldp ports 2 admin_status disable
Command: config lldp ports 2 admin_status disable
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP management address advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] mgt_addr [ipv4 {<ipaddr>  auto}   ipv6 <ipv6addr>] [enable   disable]
Description	The <b>config lldp ports</b> mgt_addr command defines if lldp will advertise the switch's IP address the command is per port on the switch.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specify a port or ports to be configured. <i>mgt_addr</i> - The port types specified for advertising indicated management address instance <i>ipv4</i> –Specify the IP address of IPv4 <ipaddr> - Specify the IP address of IPv4. <i>auto</i> – Automatically use the current interface IP address. <i>ipv6</i> - Specify the IP address of IPv6. <ipv6addr> - Specify the IP address of IPv6.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP management address advertisement:



```
DGS-1210-28MP/ME:5# config lldp ports 1 mgt_addr ipv4 100.1.1.2 enabled
Command: config lldp ports 1 mgt_addr ipv4 100.1.1.2 enabled
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] <b>basic_tlvs</b> [all   {port_description   system_name   system_description   system_capabilities}] [enable   disable]
Description	The <b>config lldp ports</b> basic TLVs command defines if lldp will advertise the switch's basic TLVs the command is per port on the switch.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specify a port or ports to be configured. <i>Basic TLVs:</i> <i>all</i> – Advertisement of all the basic TLVs <i>port description</i> – Advertisement of port description <i>system name</i> – Advertisement of system name <i>system description</i> – Advertisement of system description <i>system capabilities</i> – Advertisement of system capabilities
Restrictions	None.

Example usage:

To configure LLDP Basis TLVs

```
DGS-1210-28MP/ME:5# config lldp ports 1 basic_tlvs all enable
Command: config lldp ports 1 basic_tlvs all enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] <b>dot3_tlvs</b> [all   link aggregation   mac_phy_configuration_status   maximum_frame_size   power_via_mdi] [enable   disable]
Description	The <b>config lldp ports</b> dot3 TLVs command defines if lldp will advertise the mac_phy_configuration_status the command is per port on the switch.
Parameters	<i>[&lt;portlist&gt;   all]</i> – Specify a port or ports to be configured. <i>dot3_tlvs</i> – defines if the advertisement is enabled or disabled. The possible values are: link_aggregation, mac_phy_configuration_status, maximum_frame_size, power_via_mdi or all.

Restrictions	Only Administrator or operator-level users can issue this command.
--------------	--

Example usage:

To configure LLDP mac\_phy\_configuration status:

```
DGS-1210-28MP/ME:5# config lldp ports 2 dot3_tlvs mac_phy_configuration_status enable
```

```
Command: config lldp ports 2 dot3_tlvs mac_phy_configuration_status enable
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] dot1_tlv_pvid [disable   enable]
Description	The <b>config lldp ports</b> dot1 TLVs command defines if lldp will advertise the mac_phy_configuration_status the command is per port on the switch.
Parameters	[<portlist>   all] – Specify a port or ports to be configured. [enable   disable] - Defines if the advertisement is enabled or disabled.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP TLV PVID:

```
DGS-1210-28MP/ME:5# config lldp ports all dot1_tlv_pvid disable
```

```
Command: config lldp ports all dot1_tlv_pvid disable
```

Success.

```
DGS-1210-28MP/ME:5#
```

### config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] dot1_tlv_protocol_identity [all   eapol   gvrp   lacp   stp][disable   enable]
Description	The <b>config lldp ports</b> dot1 TLVs command defines if lldp will advertise the mac_phy_configuration_status the command is per port on the switch.
Parameters	[<portlist>   all] – Specify a port or ports to be configured. dot1_tlv_protocol_identity – Defines if the advertisement is enabled or disabled. The possible values are: eapol, gvrp, lacp, stp or all.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP ports configuration status:

```
DGS-1210-28MP/ME:5# config lldp ports all dot1_tlv_protocol_identity eapol
enable
```

```
Command: config lldp ports all dot1_tlv_protocol_identity eapol enable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [<portlist> all] dot1_tlv_vlan_name [vlan <vlan_name 32>   vlanid <vidlist>] [disable   enable]
Description	The <b>config lldp ports</b> dot1 TLVs command defines lldp admin status per port on the switch.
Parameters	<i>&lt;portlist&gt;</i>   <i>all</i> – Specify a port or ports to be configured. <i>vlan &lt;vlan_name 32&gt;</i> –The name of the VLAN to be configured. <i>dot1_tlv_vlan_name</i> – Defines if the advertisement is enabled or disabled. <i>vlanid &lt;vidlist&gt;</i> –The vid of the VLAN to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure LLDP mac\_phy\_configuration status:

```
DGS-1210-28MP/ME:5# config lldp ports all dot1_tlv_vlan_name vlanid 1 disable
Command: config lldp ports all dot1_tlv_vlan_name vlanid 1 disable
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [all   <portlist>] dot1_tlv_protocol_vid [vlan {all   <vlan_name (32)>}   vlanid <vidlist>} [enable   disable]
Description	The <b>config lldp ports</b> dot1 TLVs command defines lldp admin status per port on the switch.
Parameters	<i>&lt;portlist&gt;</i>   <i>all</i> – Specify a port or ports to be configured. <i>vlan &lt;vlan_name 32&gt;</i> –The name of the VLAN to be configured. <i>dot1_tlv_protocol_vid</i> – This TLV optional data type determines whether the IEEE 802.1 organizationally defined port and protocol VLAN ID TLV transmission is allowed on a given LLDP transmission capable port. <i>vlan</i> –Specify a VLAN to be transmitted. <i>all</i> –Specify that all VLAN names will be transmitted <i>&lt;vlan_name 32&gt;</i> - Specify a VLAN name to be transmitted. <i>vlanid &lt;vidlist&gt;</i> –The vid of the VLAN to be configured. <i>enable</i> – Enable configuration of an individual port or group of ports <i>disable</i> - Disable configuration of an individual port or group of ports

Restrictions	Only Administrator or operator-level users can issue this command.
--------------	--

Example usage:

To configure dot1\_tlv\_protocol\_vid on all ports:

```
DGS-1210-28/ME:5# config lldp ports all dot1_tlv_protocol_vid vlan all enable
Command: config lldp ports all dot1_tlv_protocol_vid vlan all enable
```

**Success.**

## show lldp mgt\_addr

Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) configuration that is advertised from a specific port.
Syntax	<b>show lldp mgt_addr {ipv4 &lt;ipaddr&gt;   ipv6 &lt;ipv6addr&gt;}</b>
Description	The <b>show lldp mgt_addr</b> command displays the information regarding the IPv4 or IPv6 address.
Parameters	<i>ipv4 &lt;ipaddr&gt;   ipv6 &lt;ipv6addr&gt;</i> – Specifies the lldp IPv4 or IPv6 address to be displayed.
Restrictions	None.

Example usage:

To show the LLDP management address advertisement:

```
DGS-1210-28MP/ME:5# show lldp mgt_addr
Command: show lldp mgt_addr
```

Address : 1

```
-----
Subtype           : IPv4
Address           : 10.90.90.90
IF Type          : ifIndex
OID              : 1.3.6.1.2.1.2.2.1.1
Advertising Ports : (NONE)
```

Total Address : 1

```
DGS-1210-28MP/ME:5#
```

## show lldp statistics

Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) statistics for the specified ports.
Syntax	<b>show lldp statistics {ports &lt;portlist&gt;}</b>
Description	The <b>show lldp statistics</b> command displays the statistics of LLDP on the Switch.
Parameters	<i>ports &lt;portlist&gt;</i> – Specifies the ports to be displayed.
Restrictions	None.

Example usage:

To show the LLDP statistics for port 15:

```
DGS-1210-28MP/ME:5# show lldp statistics ports 15
Command: show lldp statistics ports 15
```

```
Port ID : 15
```

```
-----
lldpStatsTxPortFramesTotal      : 0
lldpStatsRxPortFramesDiscardedTotal : 0
lldpStatsRxPortFramesErrors     : 0
lldpStatsRxPortFramesTotal      : 0
lldpStatsRxPortTLVsDiscardedTotal : 0
lldpStatsRxPortTLVsUnrecognizedTotal : 0
lldpStatsRxPortAgeoutsTotal     : 0
```

```
DGS-1210-28MP/ME:5#
```

## show lldp power\_pse\_tlv

Purpose	To display the <i>Link Layer Discovery Protocol</i> (LLDP) powers.
Syntax	<b>show lldp power_pse_tlv</b>
Description	The <b>show lldp power_pse_tlv</b> command displays the power of LLDP on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To show the LLDP power PSE status:

```
DGS-1210-28MP/ME:5# show lldp power_pse_tlv
Command: show lldp power_pse_tlv
```

```
Port      State
```

```
-----
1         Disable
2         Disable
3         Disable
4         Disable
```

```
DGS-1210-28MP/ME:5#
```

## ACCESS CONTROL LIST COMMANDS

The Access Control List commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
create access_profile	[ ethernet {vlan   source_mac <macmask>   destination_mac <macmask>   802.1p   ethernet_type}   ip { source_ip_mask <netmask>   destination_ip_mask <netmask>   dscp   [ icmp { type   code }   igmp { type }   tcp { src_port_mask <hex 0x0-0xffff>   dst_port_mask <hex 0x0-0xffff>   flag_mask }   udp { src_port_mask <hex 0x0-0xffff>   dst_port_mask <hex 0x0-0xffff> }   protocol_id_mask <0x0-0xff> } ]   packet_content_mask {offset1 [ I2   I3   I4 ] <value 0-31> <hex 0x0-0xffff>   offset2 [ I2   I3   I4 ] <value 0-31> <hex 0x0-0xffff>   offset3 [ I2   I3   I4 ] <value 0-31> <hex 0x0-0xffff>   offset4 [ I2   I3   I4 ] <value 0-31> <hex 0x0-0xffff> }   ipv6 { class   source_ipv6_mask <ipv6mask>   destination_ipv6_mask <ipv6mask>   [tcp { src_port_mask <hex 0x0-0xffff>   dst_port_mask <hex 0x0-0xffff> }   udp { src_port_mask <hex 0x0-0xffff>   dst_port_mask <hex 0x0-0xffff> }   icmp { type   code } ] } ] profile_id <value 1-50> ]
config access_profile	profile_id [value <1-50>] [add access_id [auto_assign   <value 1-128>] [ ethernet {vlan <vlanid 1-4094>   source_mac <macaddr>   destination_mac <macaddr>   802.1p <value 0-7>   ethernet_type <hex 0x05dd-0xffff> }   ip {source_ip <ipaddr>   destination_ip <ipaddr>   dscp <value 0-63>   icmp {type <value 0-255> code <value 0-255>}   igmp {type <value 0-255>}   tcp {src_port <value 0-65535>   dst_port <value 0-65535>   urg   ack   psh   rst   syn   fin}   udp {src_port <value 0-65535>   dst_port <value 0-65535>   protocol_id <value 0-255>}]   packet_content [offset1 <hex 0x0-0xffffffff>   offset2 <hex 0x0-0xffffffff>   offset3 <hex 0x0-0xffffffff>   offset4 <hex 0x0-0xffffffff>]   ipv6 [class <value 0-255>   source_ipv6 <ipv6addr>   destination_ipv6 <ipv6addr>   tcp [src_port <value 0-65535>   dst_port <value 0-65535>]   udp [src_port <value 0-65535>   dst_port <value 0-65535>]   icmp [type<value 0-255>   code <value 0-255>] ] [port [<portlist>   all] [permit {replace_priority_with <value 0-7>   replace_dscp_with <value 0-63>   rx_rate {no_limit   <value 64-1024000>}}   mirror   deny]]   delete access_id <value 1-128>]
delete access_profile	[all   profile_id <value 1-50>]
show access_profile	{profile_id <value 1-50>}
create cpu_access_profile	[ ethernet {vlan   source_mac <macmask>   Destination_mac <macmask>   802.1p   ethernet_type}   ip {source_ip_mask <netmask>   Destination_ip_mask <netmask>   dscp   [ icmp {type   code}   igmp {type}   tcp {src_port_mask <hex (0x0-0xffff)>   dst_port_mask <hex (0x0-0xffff)>   flag_mask }   udp {src_port_mask <hex (0x0-0xffff)>   dst_port_mask <hex (0x0-0xffff)>}   protocol_id_mask <hex (0x0-0xff)>}]   ipv6 {class   source_ipv6_mask <ipv6mask>   destination_ipv6_mask <ipv6mask>} ] profile_id <value 1-3>
config cpu_access_profile	[profile_id <value 1-3>] [add access_id [ auto_assign   <value 1-5>]] [ ethernet {vlan <vlanid 1-4094>   source_mac <macaddr>   destination_mac <macaddr>   802.1p <value 0-7>   ethernet_type <hex 0x0-0xffff>}   ip {source_ip <ipaddr>   destination_ip <ipaddr>   dscp <value 0-63>   [icmp {type <value 0-255> code <value 0-255> }   igmp {type <value 0-255>}   tcp {src_port <value 0-65535>   dst_port <value 0-65535>   urg   ack   psh   rst   syn   fin}   udp {src_port <value 0-65535>   dst_port <value 0-65535>   protocol_id <value 0-255>}   ipv6 {class   source_ipv6 <ipv6addr>   destination_ipv6 <ipv6addr>} ] [port [<portlist>   all]

Command	Parameter
	[permit   deny]] delete access_id <value 1-5>]
delete cpu access_profile	profile_id <value 1-3>
show cpu access_profile	{profile_id <value 1-3>}
enable cpu_interface_filtering	
disable cpu_interface_filtering	
config flow_meter profile_id	<value 1-50> access_id <value 1-250> [delete   rate <value 64-1024000>] rate_exceed [drop_packet   remark_dscp <value 0-63>]
show flow_meter	{profile_id <value 1-50>   access_id <value 1-250>}

Each command is listed in detail, as follows:

<b>create access_profile</b>	
Purpose	To create an access profile on the Switch by examining the Ethernet part of the packet header. Masks entered are combined with the values the Switch finds in the specified frame header fields. Specific values for the rules are entered using the <b>config access_profile</b> command, below.
Syntax	<b>create access_profile [ ethernet {vlan   source_mac &lt;macmask&gt;   destination_mac &lt;macmask&gt;   802.1p   ethernet_type}   ip { source_ip_mask &lt;netmask&gt;   destination_ip_mask &lt;netmask&gt;   dscp [ icmp { type   code }   igmp { type }   tcp { src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex 0x0-0xffff&gt;   flag_mask }   udp { src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex 0x0-0xffff&gt; }   protocol_id_mask &lt;0x0-0xff } ]   packet_content_mask {offset1 [ I2   I3   I4 ] &lt;value 0-31&gt; &lt;hex (0x0-0xffff)&gt;   offset2 [ I2   I3   I4 ] &lt;value 0-31&gt; &lt;hex 0x0-0xffff&gt;   offset3 [ I2   I3   I4 ] &lt;value 0-31&gt; &lt;hex 0x0-0xffff&gt;   offset4 [ I2   I3   I4 ] &lt;value 0-31&gt; &lt;hex 0x0-0xffff&gt; }   ipv6 { class   source_ipv6_mask &lt;ipv6mask&gt;   destination_ipv6_mask &lt;ipv6mask&gt;   [tcp { src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex 0x0-0xffff&gt; }   udp { src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex 0x0-0xffff&gt; }   icmp { type   code } ]} profile_id &lt;value 1-50&gt; ]</b>
Description	The <b>create access_profile</b> command creates a profile for packets that may be accepted or denied by the Switch by examining the Ethernet part of the packet header. Specific values for rules pertaining to the Ethernet part of the packet header may be defined by configuring the <b>config access_profile</b> command for Ethernet, as stated below.
Parameters	<p><i>ethernet</i> - Specifies that the Switch examines the layer 2 part of each packet header with emphasis on one or more of the following:</p> <ul style="list-style-type: none"> <li><i>vlan</i> – Specifies that the Switch examine the VLAN part of each packet header.</li> <li><i>source_mac &lt;macmask&gt;</i> – Specifies a MAC address mask for the source MAC address. This mask is entered in the following hexadecimal format: 000000000000-FFFFFFFFFFFF.</li> </ul>

- *destination\_mac* <macmask> – Specifies a MAC address mask for the destination MAC address in the following format: 000000000000-FFFFFFFFFFFF.
- *802.1p* – Specifies that the Switch examine the 802.1p priority value in the frame's header.
- *ethernet\_type* – Specifies that the Switch examine the Ethernet type value in each frame's header.

*ip* - Specifies that the Switch examines the IP fields in each packet with special emphasis on one or more of the following:

*icmp* – Specifies that the Switch examines the Protocol field in each frame's IP header , and that the value must be 1 (Internet Control Message Protocol- ICMP) for the action to take place.

- *type* – Specifies that the Switch examines each frame's ICMP Type field.
- *code* – Specifies that the Switch examines each frame's ICMP Code field.

*igmp* – Specifies that the Switch examine each frame's protocol field and it must be 2 (Internet Group Management Protocol- IGMP) for the action to take place.

- *type* – Specifies that the Switch examine each frame's IGMP Type field.

*tcp* – Specifies that the Switch examines each frames protocol field and its value must be 6 (Transmission Control Protocol- TCP) for the action to take place.

- *src\_port\_mask* <hex 0x0-0xffff> – Specifies a TCP port mask for the source port.
- *dst\_port\_mask* <hex 0x0-0xffff> – Specifies a TCP port mask for the destination port.
- *flag\_mask* – Specifies the appropriate flag\_mask parameter.

*udp* – Specifies that the Switch examines each frame's protocol field and it's value must be 17 (User Datagram Protocol-UDP) in order for the action to take place..

- *src\_port\_mask* <hex 0x0-0xffff> – Specifies a UDP port mask for the source port.
- *dst\_port\_mask* <hex 0x0-0xffff> – Specifies a UDP port mask for the destination port.

*packet\_content\_mask* – Specifies the frame content mask.

[*offset1* | *offset2* | *offset3* | *offset4*] – Specifies the mask pattern offset of frame.

*ipv6* – Specifies that the Switch examines the IPv6 fields in each packet with special emphasis on one or more of the following:

*class* – Examine the class field of the IPv6 header.

*source\_ipv6\_mask* <ipv6mask> – Specifies the IPv6 address mask for the source IP.

*destination\_ipv6\_mask* <ipv6mask> – Specifies the IPv6 address mask for the destination IP.

*tcp* – Specifies that the Switch examines each frames protocol field and its value must be 6 (Transmission Control Protocol- TCP) for the action to take place.

- *src\_port\_mask* <hex 0x0-0xffff> – Specifies a TCP port mask for the source port.
- *dst\_port\_mask* <hex 0x0-0xffff> – Specifies a TCP port



mask for the destination port.

*udp* – Specifies that the Switch examines each frame’s protocol field and its value must be 17 (User Datagram Protocol-UDP) in order for the action to take place..

- *src\_port\_mask* <hex 0x0-0xffff> – Specifies a UDP port mask for the source port.
- *dst\_port\_mask* <hex 0x0-0xffff> – Specifies a UDP port mask for the destination port.

*icmp* – Specifies that the Switch examines the Protocol field in each frame’s IP header , and that the value must be 1 (Internet Control Message Protocol- ICMP) for the action to take place.

- *type* – Specifies that the Switch examines each frame’s ICMP Type field.
- *code* – Specifies that the Switch examines each frame’s ICMP Code field.

*profile\_id* <value 1-50> – Specifies an index number between 1 and 50 that identifies the access profile being created with this command. The maximum entries for profile ID is 6.

Restrictions

Only administrator or operate-level users can issue this command.

Example usage:

To create an Ethernet access profile:

```
DGS-1210-28MP/ME:5# create access_profile ethernet vlan 802.1p profile_id 1
Command: create access_profile ethernet vlan 802.1p profile_id 1

Success.
DGS-1210-28MP/ME:5#
```

To create an IPv6 access profile:

```
DGS-1210-28MP/ME:5# create access_profile ipv6 source_ipv6_mask ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff profile_id 1
Command: create access_profile ipv6 source_ipv6_mask ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff profile_id 1

Success.
DGS-1210-28MP/ME:5#
```

## config access\_profile

**Purpose** To create an access profile on the Switch by examining the Ethernet part of the packet header. Masks entered are combined with the values the Switch finds in the specified frame header fields. Specific values for the rules are entered using the **config access\_profile** command, below.

**Syntax** **config access\_profile profile\_id [value <1-50>] [add access\_id**

	<pre>[auto_assign   &lt;value 1-128&gt;] [ ethernet {vlan &lt;vlanid 1-4094&gt;   source_mac &lt;macaddr&gt;   destination_mac &lt;macaddr&gt;   802.1p &lt;value 0-7&gt;   ethernet_type &lt;hex 0x05dd-0xffff&gt; }   ip {source_ip &lt;ipaddr&gt;   destination_ip &lt;ipaddr&gt;   dscp &lt;value 0-63&gt;   icmp {type &lt;value 0-255&gt; code &lt;value 0-255&gt;}   igmp {type &lt;value 0- 255&gt;}   tcp {src_port &lt;value 0-65535&gt;   dst_port &lt;value 0-65535&gt;   urg   ack   psh   rst   syn   fin}   udp {src_port &lt;value 0-65535&gt;   dst_port &lt;value 0-65535&gt;}   protocol_id &lt;value 0-255&gt;}]   packet_content [offset1 &lt;hex 0x0-0xffffffff&gt;   offset2 &lt;hex 0x0- 0xffffffff&gt;   offset3 &lt;hex 0x0-0xffffffff&gt;   offset4 &lt;hex 0x0- 0xffffffff&gt;]   ipv6 [class &lt;value 0-255&gt;   source_ipv6 &lt;ipv6addr&gt;   destination_ipv6 &lt;ipv6addr&gt;   tcp [src_port &lt;value 0-65535&gt;   dst_port &lt;value 0-65535&gt;]   udp [src_port &lt;value 0-65535&gt;   dst_port &lt;value 0-65535&gt;]   icmp [type&lt;value 0-255&gt;   code &lt;value 0-255&gt;] ] [port [&lt;portlist&gt;   all] [permit {replace_priority_with &lt;value 0-7&gt;   replace_dscp_with &lt;value 0-63&gt;   rx_rate {no_limit   &lt;value 64-1024000&gt;}}]   mirror   deny]]   delete access_id &lt;value 1-128&gt;]</pre>
Description	<p>The <b>config access_profile ethernet</b> command defines the rules used by the Switch to either filter or forward packets based on the Ethernet part of each packet header.</p>
Parameters	<p><i>profile_id</i> &lt;value 1-50&gt; – Specifies the access profile id to be configured with this command. This value is assigned to the access profile when it is created with the <b>create access_profile</b> command. The lower the profile ID, the higher the priority the rule will be given.</p> <p><i>[add   delete] access_id</i> &lt;value 1-128&gt; – Adds or deletes an additional rule to the above specified access profile. The value specifies the relative priority of the additional rule. Up to 65535 rules may be configured for the Ethernet access profile.</p> <ul style="list-style-type: none"> <li><i>auto_assign</i> – Configures the Switch to automatically assign a numerical value (between 1 and 128) for the rule being configured.</li> </ul> <p><i>ethernet</i> – Specifies that the Switch examine only the layer 2 part of each packet to determine if it is to be filtered or forwarded based on one or more of the following:</p> <ul style="list-style-type: none"> <li><i>vlan</i> &lt;vlanid 1-4094&gt; – Specifies that the access profile applies only to this previously created VLAN.</li> <li><i>source_mac</i> &lt;macaddr&gt; – Specifies that the access profile applies only to packets with this source MAC address. MAC address entries may be made in the following format: 000000000000-FFFFFFFFFFFFFF.</li> <li><i>destination_mac</i> &lt;macaddr&gt; – Specifies that the access profile applies only to packets with this destination MAC address. MAC address entries may be made in the following format: 000000000000-FFFFFFFFFFFFFF</li> <li><i>802.1p</i> &lt;value 0-7&gt; – Specifies that the access profile applies only to packets with this 802.1p priority value.</li> <li><i>ethernet_type</i> &lt;hex 0x05dd-0xffff&gt; – Specifies that the access profile applies only to packets with this hexadecimal 802.1Q Ethernet type value in the packet header.</li> </ul> <p><i>ports</i> &lt;portlist&gt; - The access profile for Ethernet may be defined for each port on the Switch.</p> <ul style="list-style-type: none"> <li><i>mirror</i> – Specifies the action to mirror before being forwarded by the Switch.</li> <li><i>replace_dscp_with</i> &lt;value 0-63&gt; – Specifies a value to be</li> </ul>

written to the DSCP field of an incoming packet that meets the criteria specified in the first part of the command. This value will over-write the value in the DSCP field of the packet.

- *rx\_rate* <value 64-1024000> – Specifies the rate limit to limit Rx bandwidth for the profile being configured. This rate is implemented using the following equation – 1 value = 64kbit/sec. (ex. If the user selects a rx rate limit of 10 then the ingress rate is 640kbit/sec.) The user may select a value between 64- 1024000 or no limit. The default setting is no limit.

*deny* – Specifies that packets that do not match the access profile are not permitted to be forwarded by the Switch and will be filtered.

*ip* – Specifies that the Switch examine the IP fields in each packet to determine if it will be either forwarded or filtered based on one or more of the following:

- *source\_ip* <ipaddr> – Specifies that the access profile applies only to packets with this source IP address.
- *protocol\_id* <value 0-255> – Specifies that the Switch examine the Protocol field in each packet and if this field contains the value entered here, apply the appropriate rules.
- *destination\_ip* <ipaddr> – Specifies that the access profile applies only to packets with this destination IP address.
- *dscp* <value 0-63> – Specifies that the access profile applies only to packets that have this value in their Type-of-Service (DiffServ code point, DSCP) field in their IP packet header.
- *icmp* – Specifies that the Switch examine the protocol field in each frame's header and it should match Internet Control Message Protocol (ICMP).
- *type* – Specifies that the Switch examine each frame's ICMP Type field.
- *code* – Specifies that the Switch examine each frame's ICMP Code field.
- *igmp* – Specifies that the Switch examine each frame's protocol and it should match Internet Group Management Protocol (IGMP) field.
- *type* – Specifies that the Switch examine each frame's IGMP Type field.
- *tcp* – Specifies that the Switch examine each frame's protocol and it should match Transport Control Protocol (TCP) field.
- *src\_port* <value 0-65535> – Specifies that the access profile applies only to packets that have this TCP source port in their TCP header.
- *dst\_port* <value 0-65535> – Specifies that the access profile applies only to packets that have this TCP destination port in their TCP header.
- *flag* {+ | -} {urg | ack | psh | rst | syn | fin } – Specifies the appropriate flag parameter. All incoming packets have TCP flag bits associated with them which are parts of a packet that determine what to do with the packet. The user may deny packets by denying certain flag bits within the packets.

To specify flag bits that should be "1" type + and the flag bit name, to specify bits that should be "0" type – and the flag

*bit name.*

- *udp* – Specifies that the Switch examine the protocol field in each packet and it should match User Datagram Protocol (UDP).
- *src\_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this UDP source port in their header.
- *dst\_port <value 0-65535>* – Specifies that the access profile applies only to packets that have this UDP destination port in their header.

*Ipv6* – Specifies that the Switch examines the IPv6 fields in each packet with special emphasis on one or more of the following:

*class <value 0-255>* – Examine the class field of IPv6 header. The range is 0 to 255.

*source\_ipv6 <ipv6addr>* – Specifies that the access profile applies only to packets with this source IPv6 address.

*destination\_ipv6 <ipv6addr>* – Specifies that the access profile applies only to packets with this destination IPv6 address.

*tcp* – Specifies that the Switch examines each frames protocol field and its value must be 6 (Transmission Control Protocol-TCP) for the action to take place.

- *src\_port <value 0-65535>* – Specifies the TCP source port range. The range is between 0 and 65535.
- *dst\_port <value 0-65535>* – Specifies the TCP destination port range. The range is between 0 and 65535.

*udp* – Specifies that the Switch examines each frame's protocol field and it's value must be 17 (User Datagram Protocol-UDP) in order for the action to take place.

- *src\_port <value 0-65535>* – Specifies the UDP source port range. The range is between 0 and 65535.
- *dst\_port <value 0-65535>* – Specifies the UDP destination port range. The range is between 0 and 65535.

*icmp* – Specifies that the Switch examines the Protocol field in each frame's IP header , and that the value must be 1 (Internet Control Message Protocol- ICMP) for the action to take place.

- *type <value 0-255>* – Specifies that the Switch examines each frame's ICMP Type field. The range is between 0 and 255.
- *code <value 0-255>* – Specifies that the Switch examines each frame's ICMP Code field. The range is between 0 and 255.

*port [<portlist> | all]* - The access profile for IP may be defined for each port on the Switch.

*permit* – Specifies that packets that match the access profile are permitted to be forwarded by the Switch.

- *mirror* – Specifies the action to mirror before being forwarded by the Switch.
- *replace\_dscp\_with <value 0-63>* – Specifies a value to be written to the DSCP field of an incoming packet that meets the criteria specified in the first part of the command. This value will over-write the value in the DSCP field of the packet.

*rx\_rate* <value 64-1024000> – Specifies the rate limit to limit Rx bandwidth for for the profile being configured. This rate is implemented using the following equation – 1 value = 64kbit/sec. (ex. If the user selects a rx rate limit of 10 then the ingress rate is 640kbit/sec.) The user may select a value between 64- 1024000 or no limit. The default setting is no limit.

Restrictions Only administrator or operate-level users can issue this command.

Example usage:

To configure a rule for the Ethernet access profile:

```
DGS-1210-28MP/ME:5# config access_profile profile_id 2 add access_id 2 ip
protocol_id 2 ports 2 deny
```

```
Command: config access_profile profile_id 2 add access_id 2 ip protocol_id
2 ports 2 deny
```

Success.

```
DGS-1210-28MP/ME:5#
```

## delete access\_profile

Purpose	To delete a previously created access profile
Syntax	<b>delete access_profile [all   profile_id &lt;value 1-50&gt;]</b>
Description	The <b>delete access_profile</b> command deletes a previously created access profile on the Switch.
Parameters	<i>all</i> – Specifies all acc profiles to be deleted. <i>profile_id</i> <value 1-50> – Specifies the access profile to be deleted.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete the access profile with a profile ID of 1:

```
DGS-1210-28MP/ME:5# delete access_profile profile_id 1
```

```
Command: delete access_profile profile_id 1
```

Success.

```
DGS-1210-28MP/ME:5#
```

## show access\_profile

Purpose	To display the currently configured access profiles on the Switch.
Syntax	<b>show access_profile {profile_id &lt;value 1-50&gt;}</b>
Description	The <b>show access_profile</b> command displays the currently configured access profiles.
Parameters	<i>profile_id</i> <value 1-50> – Specifies the access profile to be displayed. This value is assigned to the access profile when it is created with the <b>create access_profile</b> command. If the <i>profile_id</i> parameter is omitted, all access profile entries are displayed.

Restrictions	None.
--------------	-------

Example usage:

To display the currently configured access profiles which profile id is 1 on the Switch:

```
DGS-1210-28MP/ME:5# show access_profile profile_id 1
```

```
Command: show access_profile profile_id 1
```

#### Access Profile Table

```
Access Profile ID: 1      Type: Ethernet
```

```
Mask Option:
```

```
VLAN 802.1p
```

```
DGS-1210-28MP/ME:5#
```

## create cpu\_access\_profile

Purpose	To create an access profile on the Switch by examining the Ethernet part of the packet header. Masks entered are combined with the values the Switch finds in the specified frame header fields. Specific values for the rules are entered using the <b>config access_profile</b> command, below.
Syntax	<b>create cpu_access_profile [ ethernet {vlan   source_mac &lt;macmask&gt;   destination_mac &lt;macmask&gt;   802.1p   ethernet_type}   ip {source_ip_mask &lt;netmask&gt;   destination_ip_mask &lt;netmask&gt;   dscp   [ icmp {type   code}   igmp {type}   tcp {src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex 0x0-0xffff&gt;   flag_mask}   udp {src_port_mask &lt;hex 0x0-0xffff&gt;   dst_port_mask &lt;hex (0x0-0xffff)&gt;}   protocol_id_mask &lt;hex 0x0-0xff&gt;}]   ipv6 {class   source_ipv6_mask &lt;ipv6mask&gt;   destination_ipv6_mask &lt;ipv6mask&gt;} ] profile_id &lt;value 1-3&gt;</b>
Description	The <b>create cpu_access_profile</b> command is used to create CPU access list rules on the Switch.
Parameters	<p><i>ethernet</i> - Specifies that the Switch examines the layer 2 part of each packet header with emphasis on one or more of the following:</p> <ul style="list-style-type: none"> <li>• <i>vlan</i> – Specifies a VLAN mask.</li> <li>• <i>source_mac &lt;macmask&gt;</i> – Specifies the source MAC mask.</li> <li>• <i>destination_mac &lt;macmask&gt;</i> – Specifies the destination MAC mask.</li> <li>• <i>802.1p</i> – Specifies 802.1p priority tag mask.</li> </ul> <p><i>ethernet_type</i> – Specifies the Ethernet type mask.</p> <p><i>ip</i> - Specifies that the Switch examines the IP fields in each packet with special emphasis on one or more of the following:</p> <ul style="list-style-type: none"> <li>• <i>type</i> – Specifies that the Switch examine each frame's ICMP</li> </ul>

<p>Type field.</p> <ul style="list-style-type: none"> <li>• <i>code</i> – Specifies that the Switch examine each frame’s ICMP code field.</li> <li>• <i>type</i> – Specifies that the Switch examine each frame’s IGMP Type field.</li> </ul> <p><i>tcp</i> – Specifies that the Switch examines each frames protocol field and its value must be 6 (Transmission Control Protocol-TCP) for the action to take place.</p> <ul style="list-style-type: none"> <li>• <i>src_port_mask</i> &lt;hex 0x0-0xffff&gt; – Specifies the TCP port mask for the source port.</li> <li>• <i>dst_port_mask</i> &lt;hex 0x0-0xffff&gt; – Specifies the TCP port mask for the destination port.</li> <li>• <i>flag_mask</i> - Specifies the appropriate flag.</li> </ul> <p><i>udp</i> – Specifies that the Switch examines each frame’s protocol field and it’s value must be 17 (User Datagram Protocol-UDP) in order for the action to take place.</p> <ul style="list-style-type: none"> <li>• <i>src_port_mask</i> &lt;0x0-0xffff&gt; – Specifies the UDP port mask for the source port.</li> <li>• <i>dst_port_mask</i> &lt;0x0-0xffff&gt; – Specifies the UDP port mask for the destination port mask.</li> <li>• <i>protocol_id_mask</i> &lt;0x0-0xffff&gt; – Specifies the protocol id mask.</li> <li>• <i>source_ip_mask</i> &lt;netmask&gt; – Specifies the source IPv4 mask.</li> <li>• <i>destination_ip_mask</i> &lt;netmask&gt; – Specifies the destination IPv4 mask.</li> </ul> <p><i>dscp</i> – Specifies that the Switch examines the DiffServ Code Point (DSCP) field in each frame’s header.</p> <p><i>ipv6</i> - Specifies that the Switch examines the IPv6 fields in each packet with special emphasis on one or more of the following:</p> <ul style="list-style-type: none"> <li>• <i>class</i> – Examine the class field of the IPv6 header.</li> <li>• <i>source_ipv6_mask</i> &lt;ipv6mask&gt; – Specifies the source IPv6 mask.</li> <li>• <i>destination_ipv6_mask</i> &lt; ipv6mask &gt; – Specifies the destination IPv6 mask.</li> </ul> <p><i>profile_id</i> &lt;value 1-3&gt; – Specifies the cpu access profile to be displayed.</p> <p>Restrictions                      Only administrator or operate-level users can issue this command.</p>
---

Example usage:

To create a CPU IP access profile:

```
DGS-1210-28MP/ME:5# create cpu access_profile ip source_ip_mask 20.0.0.0
destination_ip_mask 10.0.0.0 dscp icmp type profile_id 2
Command: create cpu access_profile ip source_ip_mask 20.0.0.0
destination_ip_mask 10.0.0.0 dscp icmp type profile_id 2
```

**Success.**

```
DGS-1210-28MP/ME:5#
```

**config cpu\_access\_profile**

Purpose	To configures the settings of cpu access profiles.
Syntax	<b>config cpu_access_profile</b> [ <b>profile_id</b> <value 1-3>] [ <b>add access_id</b> [ <b>auto_assign</b>   <value 1-5>]] [ <b>ethernet</b> { <b>vlan</b> <vlanid 1-4094>   <b>source_mac</b> <macaddr>   <b>destination_mac</b> <macaddr>   <b>802.1p</b> <value 0-7>   <b>ethernet_type</b> <hex 0x0-0xffff>}   <b>ip</b> { <b>source_ip</b> <ipaddr>   <b>destination_ip</b> <ipaddr>   <b>dscp</b> <value 0-63>   [ <b>icmp</b> { <b>type</b> <value 0-255> <b>code</b> <value 0-255> }   <b>igmp</b> { <b>type</b> <value 0-255>}   <b>tcp</b> { <b>src_port</b> <value 0-65535>   <b>dst_port</b> <value 0-65535>   <b>urg</b>   <b>ack</b>   <b>psh</b>   <b>rst</b>   <b>syn</b>   <b>fin</b> }   <b>udp</b> { <b>src_port</b> <value 0-65535>   <b>dst_port</b> <value 0-65535>   <b>protocol_id</b> <value 0-255>}   <b>ipv6</b> { <b>class</b>   <b>source_ipv6</b> <ipv6addr>   <b>destination_ipv6</b> <ipv6addr>} [ <b>port</b> [<portlist>   <b>all</b> ] [ <b>permit</b>   <b>deny</b> ]} <b>delete access_id</b> <value 1-5>]
Description	The <b>config cpu_access_profile</b> command configures the settings of cpu access profiles.
Parameters	<p><i>profile_id</i> &lt;value 1-3&gt; – Specifies the cpu access profile to be configured.</p> <p>[<i>add</i>   <i>delete</i>] – Add or delete the profile id.</p> <p><i>access_id</i> [&lt;value 1-5&gt;   <i>auto_assign</i>] – Specifies the access id value or use auto assign.</p> <p><i>ethernet</i> – Specifies that the Switch examine only the layer 2 part of each packet to determine if it is to be filtered or forwarded based on one or more of the following:</p> <ul style="list-style-type: none"> <li>• <i>802.1p</i> &lt;value 0-7&gt; – Specifies the 802.1p value. The range is between 0 and 7.</li> <li>• <i>destination_mac</i> &lt;macaddr&gt; – Specifies the destination MAC address.</li> <li>• <i>ethernet_type</i> – Specifies the Ethernet type mask.</li> <li>• &lt;portlist&gt; – Specifies the port or ports to be configured.</li> <li>• <i>source_mac</i> &lt;macaddr&gt; – Specifies the source MAC address.</li> </ul> <p><i>vlan</i> &lt;vlanid 1-4094&gt; – Specifies the VLAN id.</p> <p><i>ip</i> – Specifies that the Switch examine the IP fields in each packet to determine if it will be either forwarded or filtered based on one or more of the following:</p> <ul style="list-style-type: none"> <li>• <i>destination_ip</i> &lt;ip_addr&gt; – Specifies the destination IP address.</li> <li>• <i>dscp</i> &lt;value 0-63&gt; – Specifies the DSCP value.</li> </ul> <p><i>icmp</i> – Specifies that the Switch examines the Protocol field in each frame's IP header , and that the value must be 1 (Internet Control Message Protocol- ICMP) for the action to take place.</p> <ul style="list-style-type: none"> <li>• <i>code</i> &lt;value 0-255&gt; – Specifies that the Switch examine each frame's ICMP code field.</li> <li>• <i>type</i> &lt;value 0-255&gt; – Specifies that the Switch examine each frame's ICMP Type field.</li> </ul> <p><i>igmp</i> – Specifies that the Switch examine each frame's protocol field and it must be 2 (Internet Group Management Protocol- IGMP) for the action to take place.</p> <ul style="list-style-type: none"> <li>• <i>igmp_type</i> &lt;value 0-255&gt; – Specifies the IGMP type.</li> </ul> <p>&lt;portlist&gt; – Specifies the port or ports to be configured.</p> <p><i>protocol_id</i> &lt;value 0-255&gt; – Specifies the protocol id.</p>



*source\_ip* <ip\_addr> –Specifies that the cpu access profile applies only to packets with this source IP address.

*Tcp* – Specifies that the Switch examines each frames protocol field and its value must be 6 (Transmission Control Protocol-TCP) for the action to take place

- *dst\_port* <value 0-65535> –Specifies that the cpu access profile applies only to packets that have this TCP destination port in their header.
- *flag* <string> – Specifies the appropriate flag parameter.
- *src\_port* <value 0-65535> –Specifies that the cpu access profile applies only to packets that have this TCP source port in their header.

*udp* – Specifies that the Switch examines each frame’s protocol field and it’s value must be 17 (User Datagram Protocol-UDP) in order for the action to take place.

- *dst\_port* <value 0-65535> – Specifies that the CPU access profile applies only to packets that have this UDP destination port in their header.

*src\_port* <value 0-65535> – Specifies that the CPU access profile applies only to packets that have this UDP source port in their header.

*ipv6* - Specifies that the Switch examines the IPv6 fields in each packet with special emphasis on one or more of the following:

- *class* – Examine the class field of the IPv6 header.
- *source\_ipv6* <ipv6addr> – Specifies the source IPv6 address.
- *destination\_ipv6* < ipv6addr > – Specifies the destination IPv6 address.

Restrictions

Only administrator or operate-level users can issue this command.

Example usage:

To configure a rule for the CPU IP access profile:

```
DGS-1210-28MP/ME:5# config cpu access_profile profile_id 2 add access_id
auto_assignip destination_ip 10.48.100.2 ports 1-3 permit
Command: config cpu access_profile profile_id 2 add access_id auto_assign
ip destination_ip 10.48.100.2 ports 1-3 permit
```

Success.

**DGS-1210-28MP/ME:5#**

## delete cpu\_access\_profile

Purpose	To delete a previously created cpu access profile.
Syntax	<b>delete cpu_access_profile profile_id &lt;value 1-3&gt;</b>
Description	The <b>delete cpu_access_profile</b> command deletes a previously created access profile on the Switch.
Parameters	<i>profile_id</i> <value 1-3> – Specifies the cpu access profile to be deleted.
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To delete the CPU access profile with a profile ID of 1:

```
DGS-1210-28MP/ME:5# delete cpu access_profile profile_id 1
Command: delete cpu access_profile profile_id 1

Success.

DGS-1210-28MP/ME:5#
```

## show cpu\_access\_profile

Purpose	To view the CPU access profile entry currently set in the Switch.
Syntax	<b>show cpu_access_profile {profile_id &lt;value 1-3&gt;}</b>
Description	The <b>show cpu_access_profile</b> command is used view the current CPU interface filtering entries set on the Switch.
Parameters	<i>profile_id &lt;value 1-3&gt;</i> – Enter an integer between 1 and 3 that is used to identify the CPU access profile to be deleted with this command. This value is assigned to the access profile when it is created with the create cpu_access_profile command.
Restrictions	None.

Example usage:

To show the CPU filtering state on the Switch:

```
DGS-1210-28MP/ME:5# show cpu_access_profile
Command: show cpu_access_profile

Access Profile Table

Access Profile ID: 1      Type: Ethernet
-----
Mask Option:
VLAN
-----

DGS-1210-28MP/ME:5#
```

## enable cpu\_interface\_filtering

Purpose	To enable CPU interface filtering on the Switch.
Syntax	<b>enable cpu_interface_filtering</b>
Description	The <b>enable cpu_interface_filtering</b> command is used to enable CPU interface filtering on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To enable the CPU filtering on the Switch:

```
DGS-1210-28MP/ME:5# enable cpu_interface_filtering
Command: enable cpu_interface_filtering
```

Success.

```
DGS-1210-28MP/ME:5#
```

## disable cpu\_interface\_filtering

Purpose	To disable CPU interface filtering on the Switch.
Syntax	<b>disable cpu_interface_filtering</b>
Description	The <b>disable cpu_interface_filtering</b> command is used to disable CPU interface filtering on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To disable the CPU filtering on the Switch:

```
DGS-1210-28MP/ME:5# disable cpu_interface_filtering
Command: disable cpu_interface_filtering
```

Success.

```
DGS-1210-28MP/ME:5#
```

## config flow\_meter profile\_id

Purpose	To configure the flow-based metering function on the Switch.
Syntax	<b>config flow_meter profile_id &lt;value 1-50&gt; access_id &lt;value 1-250&gt; [delete   rate &lt;value 64-1024000&gt;] rate_exceed [drop_packet   remark_dscp &lt;value 0-63&gt;]</b>
Description	The <b>config flow_meter profile_id</b> command configures the flow-based metering function on the Switch.
Parameters	<p><i>profile_id &lt;value 1-50&gt;</i> - Specify the profile id to be configured.</p> <p><i>access_id &lt;value 1-250&gt;</i> - Specify the access id to be configured.</p> <p><i>rate &lt;value 64-1024000&gt;</i> - Specifies the committed bandwidth in Kbps for the flow.</p> <p><i>rate_exceed</i>: pecifies the action for packets that exceeds the committed rate in single rate</p> <ul style="list-style-type: none"> <li>· <i>drop_packet</i> - Drop the packet immediately.</li> <li>· <i>remark_dscp &lt;value 0-63&gt;</i> - Specify the remark DSCP value.</li> </ul>
Restrictions	Only administrator or operate-level users can issue this command.

Example usage:

To config flow meter information:

```
DGS-1210-28MP/ME:5# config flow_meter profile_id 1 access_id 1 rate 64 burst_size 10
```

```
rate_exceed remark_dscp 2
Command: config flow_meter profile_id 1 access_id 1 rate 64 rate_exceed remark_dscp 2

Success.
DGS-1210-28MP/ME:5#
```

## show flow\_meter

Purpose	To display the flow meter information on the Switch.
Syntax	<b>show flow_meter {profile_id &lt;value 1-50&gt;   access_id &lt;value 1-250&gt;}</b>
Description	The <b>show flow_meter</b> command displays the flow meter information on the Switch.
Parameters	<i>profile_id &lt;value 1-50&gt;</i> - Specify the profile id to be displayed. <i>access_id &lt;value 1-250&gt;</i> - Specify the access id to be displayed.
Restrictions	None.

Example usage:

To display flow meter information:

```
DGS-1210-28MP/ME:5# show flow_meter
Command: show flow_meter

Flow Meter information:
-----
Total Flow Meter Entries: 0

DGS-1210-28MP/ME:5#
```

## TRAFFIC SEGMENTATION COMMANDS

The Traffic Segmentation commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config traffic_segmentation	<portlist> forward_list [null   <portlist>]
show traffic_segmentation	{<portlist>}

Each command is listed in detail, as follows:

### config traffic\_segmentation

Purpose	To configure traffic segmentation on the Switch.
Syntax	<b>config traffic_segmentation &lt;portlist&gt; forward_list [null   &lt;portlist&gt;]</b>
Description	The <b>config traffic_segmentation</b> command configures traffic segmentation on the Switch.
Parameters	<i>&lt;portlist&gt;</i> – A port or a port channel for which the current traffic segmentation configuration on the Switch is to be displayed. <i>forward_list</i> – Specifies a port or a port channel to receive forwarded frames from the source ports specified in the portlist, above.
Restrictions	Only administrator or operator-level users can issue this command.

Example usage:

To configure ports 3~4 to be able to forward frames to port 4~5:

```
DGS-1210-28MP/ME:5# config traffic_segmentation 3-4 forward_list 4-5
Command: config traffic_segmentation 3-4 forward_list 4-5
```

```
Success.
```

```
DGS-1210-28MP/ME:5#
```

### show traffic\_segmentation

Purpose	To display the current traffic segmentation configuration on the Switch.
Syntax	show traffic_segmentation {<portlist>}
Description	The <b>show traffic_segmentation</b> command displays the current traffic segmentation configuration on the Switch.

Parameters	<portlist> – A port or a port channel for which the current traffic segmentation configuration on the Switch is to be displayed.
Restrictions	None.

Example usage:

To display the current traffic segmentation configuration of ports 1 to 5 on the Switch:

```
DGS-1210-28MP/ME:5# show traffic_segmentation 1-5
Command: show traffic_segmentation 1-5

Port Forward Portlist
-----
1 1-28
2 1-28
3 4-5
4 4-5
5 1-28

DGS-1210-28MP/ME:5#
```

## SAFEGUARD COMMANDS

The Safeguard commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config safeguard_engine	state [enable   disable]
show safeguard_engine	

Each command is listed in detail, as follows:

<b>config safeguard_engine</b>	
Purpose	To define the safeguard engine on the switch.
Syntax	<b>config safeguard_engine state [enable   disable]</b>
Description	To define the safeguard_engine on the switch.
Parameters	<i>state [enable   disable]</i> – enable and disable Safeguard engine on the Switch.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable the safeguard engine on the switch:

```
DGS-1210-28MP/ME:5# config safeguard_engine state enable
Command: config safeguard_engine state enable

Success.
DGS-1210-28MP/ME:5#
```

<b>show safeguard_engine</b>	
Purpose	To show the safeguard engine status on the switch.
Syntax	<b>show safeguard_engine</b>
Description	To show the safeguard engine on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To show the safeguard engine status on the switch:

```
DGS-1210-28MP/ME:5# show safeguard_engine  
Command: show safeguard_engine
```

```
Safe Guard : Enabled  
DGS-1210-28MP/ME:5#
```



## MAC FLAPPING COMMANDS

The MAC flapping commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
config mac_flapping interval	<int 1-3600>
enable mac_flapping	
disable mac_flapping	
show mac_flapping	[flaptable]

Each command is listed in detail, as follows:

### config mac\_flapping interval

Purpose	To define the detection interval for MAC flapping event.
Syntax	<b>config mac_flapping interval &lt;int 1-3600&gt;</b>
Description	MAC flapping refers to same MAC address learned by multiple interfaces. MAC flapping function helps to identify the specific MAC address.
Parameters	<i>Interval &lt;1-3600&gt;</i> – Specify the detection interval of MAC flapping event. Range from 1 seconds to 3600 seconds.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To configure MAC flapping interval for 5 second on the switch:

```
DGS-1210-52MP/ME:5# config mac_flapping interval 5
Command: config mac_flapping interval 5
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

### enable mac\_flapping

Purpose	To enable the MAC flapping on the switch.
Syntax	<b>enable mac_flapping</b>
Description	To enable the MAC flapping on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable MAC flapping on the switch:

```
DGS-1210-52MP/ME:5# enable mac_flapping
Command: enable mac_flapping

Success.

DGS-1210-52MP/ME:5#
```

## disable mac\_flapping

Purpose	To disable the MAC flapping on the switch.
Syntax	<b>disable mac_flapping</b>
Description	To disable the MAC flapping on the switch.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To enable MAC flapping on the switch:

```
DGS-1210-52MP/ME:5# disable mac_flapping
Command: disable mac_flapping

Success.

DGS-1210-52MP/ME:5#
```

## show mac\_flapping

Purpose	To show the MAC flapping configuration or flappable on the switch.
Syntax	<b>show mac_flapping [flappable]</b>
Description	To show the MAC flapping on the switch.
Parameters	<i>[flappable]</i> – Optional. Display the MAC address(es) that was detected flapping.
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To display MAC address that was flapping on the switch:

```
DGS-1210-52MP/ME:5# show mac_flapping flactable
Command: show mac_flapping flactable

count of entries in list: 1

Mac Address          Vlan ID Total Time   Flapped Times Port List
-----
00:11:6b:68:9e:ec   1    7267    14082    1,7,
DGS-1210-52MP/ME:5#
```

## FLEX LINK COMMANDS

The Flex Link commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable flex_link	
disable flex_link	
create flex_link group_id	<value (1-8)> primary_port {port <port (1-28)>   link_aggregation group_id <value (1-8)>} backup_port {port <port (1-28)>   link_aggregation group_id <value (1-8)>}
delete flex_link group_id	<value (1-8)>
show flex_link	[group_id <value (1-8)>]
config flex_link group_id	<value (1-8)> {preemption mode [forced   bandwidth   off]   preemption delay <sec (30-300)>}

Each command is listed in detail, as follows:

enable flex_link	
Purpose	To enable flex link feature on switch.
Syntax	<b>enable flex_link</b>
Description	Flex Links are a pair of layer 2 interfaces, either switchports or port channels, configured to act as a backup of each other, when one fails other link immediately comes up.
Parameters	<i>None.</i>
Restrictions	Only Administrator can issue this command.

Example usage:

To enable flex link:

```
DGS-1210-52MP/ME:5# enable flex_link
```

```
Command: enable flex_link
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

**disable flex\_link**

Purpose	To disable flex link feature on switch.
Syntax	<b>disable flex_link</b>
Description	To disable flex link on the switch.
Parameters	None.
Restrictions	Only Administrator can issue this command.

Example usage:

To disable flex link on the switch:

```
DGS-1210-52MP/ME:5# disable flex_link
Command: disable flex_link
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

**create flex\_link group\_id**

Purpose	To create flex link group on switch.
Syntax	<b>create flex_link group_id &lt;value (1-8)&gt; primary_port {port &lt;portlist&gt;   link_aggregation group_id &lt;value (1-8)&gt;} backup_port {port &lt;portlist&gt;   link_aggregation group_id &lt;value (1-8)&gt;}</b>
Description	To create flex link group on switch.
Parameters	<p><i>&lt;value (1-8)&gt;</i> – Specified the group ID. Range for 1 to 8.</p> <p><i>primary_port</i> – Specify the primary port interface or channel group.</p> <p><i>port &lt;portlist&gt;</i> - Specify the interface ID.</p> <p><i>link_aggregation group_id &lt;value (1-8)&gt;</i> - Specify the LAG group ID.</p> <p><i>backup_port</i> – Specify the backup port interface or channel group.</p> <p><i>port &lt;portlist&gt;</i> - Specify the interface ID.</p> <p><i>link_aggregation group_id &lt;value (1-8)&gt;</i> - Specify the LAG group ID.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

Example usage:

To create flex link group ID 1. Choose port 1 as primary port and port 2 as backup port:

```
DGS-1210-52MP/ME:5# create flex_link group_id 1 primary_port port 1
backup_port port 2
Command: create flex_link group_id 1 primary_port port 1 backup_port port
2

Success.
DGS-1210-52MP/ME:5#
```

## delete flex\_link group\_id

Purpose	To remove flex link group on the switch.
Syntax	<b>delete flex_link group_id &lt;value (1-8)&gt;</b>
Description	To remove flex link group.
Parameters	<value (1-8)> – Specified the group ID. Range for 1 to 8.
Restrictions	Only Administrator can issue this command.

Example usage:

To remove Flex link group 1 on switch:

```
DGS-1210-52MP/ME:5# delete flex_link group_id 1
Command: delete flex_link group_id 1

Delete FlexLink group success

Success.
DGS-1210-52MP/ME:5#
```

## show flex\_link

Purpose	To show the current Flex link group information on the switch.
Syntax	<b>show flex_link [group_id &lt;value (1-8)&gt;]</b>
Description	To show the Flex link group information on the switch.
Parameters	[group_id <value (1-8)>] – Optional. Specify the group ID. Range from 1 to 8.
Restrictions	Only Administrator can issue this command.

Example usage:

To display Flex link group on the switch:

```
DGS-1210-52MP/ME:5# show flex_link
Command: show flex_link

FlexLink Global Status : Enabled

Group  Primary Port    Backup Port    Status(Primary/Backup)    Mode
Delay(s)
-----
1      1          2             Active /Inactive         Off      35

Total Entries : 1

DGS-1210-52MP/ME:5#
```

### config flex\_link group\_id

Purpose	To configure Flex link preemption scheme mode on the switch.
Syntax	<b>show flex_link group_id &lt;value (1-8)&gt; {preemption mode [forced   bandwidth   off]   preemption delay &lt;sec (30-300)&gt;}</b>
Description	To configure Flex link preemption scheme mode.
Parameters	<p><i>[group_id &lt;value (1-8)&gt;]</i> – Optional. Specify the group ID. Range from 1 to 8.</p> <p><i>preemption mode</i> – Select one of modes</p> <ul style="list-style-type: none"> <li><i>force</i> - Active interface always preempts the backup</li> <li><i>bandwidth</i> - Interface with higher bandwidth always acts as the active interface</li> <li><i>off</i> - No preemption happens from active to backup</li> </ul> <p><i>preemption delay</i> - Configure the delay time until a port preempts another port.</p> <p><i>&lt;sec 30-300&gt;</i> - Range from 30 seconds to 300 seconds.</p>
Restrictions	Only Administrator can issue this command.

Example usage:

To configure Flex link group 1 preemption mode as bandwidth on the switch:

```
DGS-1210-52MP/ME:5# config flex_link group_id 1 preemption mode forced
Command: config flex_link group_id 1 preemption mode forced

Success.
DGS-1210-52MP/ME:5#
```

## WAC COMMANDS

The WAC (Web-Based Access Control) commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable wac	
disable wac	
config wac ports	{all   <portlist>} ( [state{enable disable}][aging_time {infinite <min (1-1440)>}] [block_time <sec (0-300)>])
config wac method	[[radius local]]
config wac switch_http_port	<tcp_port_number (1-65535)> [[https]]
config wac virtual_ip	([ ipv4 <ipif_name (12)>] [<ipv6addr>])
config wac default_redirpath	<string>
create wac user	<username (15)> vlanid <vlanid (1-4094)> password <passwd (16)>
delete wac user	<username (15)>
show wac	
show wac user	
show wac ports	{all   <portlist> }
show wac auth_state ports	{all   <portlist> }

Each command is listed in detail, as follows:

enable wac	
Purpose	Used to enable Web-based access control on the Switch.
Syntax	<b>enable wac</b>
Description	This command is used to enable the WAC function on the Switch..
Parameters	<i>None.</i>
Restrictions	Only Administrator can issue this command.

Example usage:



To enable WAC:

```
DGS-1210-52MP/ME:5# enable wac
Command: enable wac
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

## disable wac

Purpose	Used to disable Web-based access control on the Switch.
Syntax	<b>disable wac</b>
Description	This command is used to disable the WAC function on the Switch.
Parameters	None.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To disable wac:

```
DGS-1210-52MP/ME:5# disable wac
Command: disable wac
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

## config wac ports

Purpose	Used to configure WAC port level settings on the Switch.
Syntax	<b>config wac ports {all   &lt;portlist&gt;} ( [state{enable disable}][aging_time {infinite &lt;min (1-1440)&gt;}] [block_time &lt;sec (0-300)&gt;])</b>
Description	This command is used to configure WAC port level settings on the Switch.
Parameters	<p><i>state</i> – Specifies to enable/disable WAC state.</p> <p><i>aging_time</i> – A time period during which an authenticated host will be kept in authenticated state. “infinite” indicates the authenticated host on the port will not age out.</p> <p>The default value is 24 hours.</p> <p><i>block_time</i> – If a host fails to pass the authentication, it will be blocked for this period of time before it can be re-authenticated.</p> <p>The default value is 60 seconds.</p>
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To configure port WAC state:

```
DGS-1210-52MP/ME:5# config wac ports 1 state enable
Command: config wac ports 1 state enable

Success.

DGS-1210-52MP/ME:5#
```

## config wac method

Purpose	Used to configure the global parameter of the web authentication.
Syntax	<b>config wac method [local   radius]</b>
Description	This command is used to configure the global parameter for Web authentication.
Parameters	<i>method</i> – Specifies the authenticated method. <i>local</i> – The authentication will be done via the local database. <i>radius</i> – The authentication will be done via the RADIUS server.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To configure the authentication method:

```
DGS-1210-52MP/ME:5# config wac method local
Command: config wac method local

Success.

DGS-1210-52MP/ME:5#
```

## config wac switch\_http\_port

Purpose	Used to configure the TCP port that the WAC Switch listens to.
Syntax	<b>config wac switch_http_port &lt; tcp_port_number 1-65535&gt; [https]</b>
Description	The TCP port for HTTP or HTTPS is used to identify the HTTP or HTTPS packets that will be trapped to the CPU for authentication processing, or to access the login page. If not specified, the default port number for HTTP is 80, and the default port number for HTTPS is 443. If no protocol is specified, the protocol is HTTP. The HTTP cannot run at TCP port 443, and the HTTPS cannot run at TCP port 80.
Parameters	< <i>tcp_port_number 1-65535</i> > – A TCP port which the WAC Switch listens to and uses to finish the authenticating process. <i>https</i> – To specify that WAC runs HTTPS protocol on this TCP port

Restrictions	Only Administrator and Operator-level users can issue this command.
--------------	---

Example usage:

To configure the WAC switch HTTPS port:

```
DGS-1210-52MP/ME:5# config wac switch_http_port 9000 https
Command: config wac switch_http_port 9000 https

Success.

DGS-1210-52MP/ME:5#
```

## config wac virtual\_ip

Purpose	Used to configure the WAC virtual IP address used to accept authentication requests from an unauthenticated host..
Syntax	<b>config wac virtual_ip ([ ipv4 &lt;ipif_name (12)&gt;] [&lt;ipv6addr&gt;])</b>
Description	When the virtual IP is specified, the TCP packet sent to the virtual IP will get a reply. If the virtual IP is enabled, TCP packets sent to the physical IPIF's IP address. To make the function work properly, the virtual IP should not be an existing IP address. It also cannot be located on the existing subnet.
Parameters	<i>Ipv4 &lt;ipif_name (12)&gt;</i> – Specifies the existed ipif name <i>&lt;ipv6addr&gt;</i> – Specifies the IPv6 address of the virtual IP.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To configure the WAC virtual IP:

```
DGS-1210-52MP/ME:5# config wac virtual_ip ipv4 System
Command: config wac virtual_ip ipv4 System

Success.
```

## config wac default\_redirpath

Purpose	Used to configure WAC default redirect path.
Syntax	<b>config wac default_redirpath &lt;string&gt;</b>
Description	This command is used to configure WAC default redirect path. If the default redirect path is configured, the user will be redirected to the default redirect path after successful authentication. When the string is cleared, the client will not be redirected to another URL after successful authentication.
Parameters	<i>&lt;string&gt;</i> – SThe URL that the client will be redirected to after successful authentication. The redirected path is cleared by default.

Restrictions	Only Administrator and Operator-level users can issue this command.
--------------	---

Example usage:

To configure the WAC default redirect path:

```
DGS-1210-52MP/ME:5# config wac default_redirpath www.google.com
Command: config wac default_redirpath www.google.com

Success.

DGS-1210-52MP/ME:5#
```

### create wac user

Purpose	Used to create a user account for Web-based Access control.
Syntax	<b>create wac user &lt;username (15)&gt; vlanid &lt;vlanid (1-4094)&gt; password &lt;passwd (16)&gt;</b>
Description	This command is used to create accounts for Web-based access control. This user account is independent from the login user account.
Parameters	<i>username (15)</i> – User account for Web-based access control. <i>vlanid (1-4094)</i> – Specifies the authentication VLAN ID. <i>password &lt;passwd (16)&gt;</i> – Specified the password string.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To configure the WAC default redirect path:

```
DGS-1210-52MP/ME:5# create wac user wac vlanid 1 password wac
Command: create wac user wac vlanid 1 password wac

Success.

DGS-1210-52MP/ME:5
```

### delete wac user

Purpose	Used to delete the Web-based access control.
Syntax	<b>delete wac user &lt;username (15)&gt;</b>
Description	This command is used to delete an account.
Parameters	<i>username (15)</i> – User account for Web-based access control.
Restrictions	Only Administrator and Operator-level users can issue this command.

Example usage:

To delete wac account:

```
DGS-1210-52MP/ME:5# delete wac user wac
Command: delete wac user wac

Success.

DGS-1210-52MP/ME:5#
```

## show wac

Purpose	Used to display the Web authentication global settings.
Syntax	<b>show wac</b>
Description	This command is used to display the WAC global settings.
Parameters	<i>None.</i>
Restrictions	<i>None.</i>

Example usage:

To show wac global information:

```
DGS-1210-52MP/ME:5# show wac
Command: show wac

Status          : Disable
VirtualIPv4InterfaceName : System
VirtualIPv6     : 2001::1234
RedirPath       :
Auth Mode       : Local
WACHttpPort     : 9000
Auth HTTP Method : Https

Success.

DGS-1210-52MP/ME:5#
```

## show wac user

Purpose	Used to display the Web Authentication user.
Syntax	<b>show wac user</b>
Description	This command is used to display the Web Authentication account.
Parameters	<i>None.</i>
Restrictions	<i>None.</i>

Example usage:

To show wac user account:

```
DGS-1210-52MP/ME:5# show wac user
Command: show wac user

WAC Usr Name      :wac
VID               :1
WAC Usr Password  :wac

Success.

DGS-1210-52MP/ME:5#
```

### show wac ports

Purpose	Used to display the Web Authentication port level settings.
Syntax	<b>show wac ports &lt;portlist&gt;</b>
Description	This command is used to display the port level setting.
Parameters	<i>ports</i> – A range of member ports to show the status.
Restrictions	None.

Example usage:

To show wac port configuration:

```
DGS-1210-52MP/ME:5# show wac ports 1
Command: show wac ports 1

Port      :1
State     :Enable
Aging Time :1440
Block Time :60

Success.

DGS-1210-52MP/ME:5#
```

### show wac auth\_state ports

Purpose	Used to display the authentication state of a port..
Syntax	<b>show wac auth_state ports &lt;portlist&gt;</b>
Description	This command is used to display the authentication state for ports.
Parameters	<i>port &lt;portlist&gt;</i> – Specifies a port or range of ports.
Restrictions	None.

Example usage:

To show wac authentication state on port 7:

```
DGS-1210-52MP/ME:5# show wac auth_state ports 7
```

```
Command: show wac auth_state ports 7
```

```
Port          :7  
MAC Address   :00-11-6B-68-9E-EC  
Original RX VID :1  
Auth State    :AUTHENTICATING  
VID           :-  
Priority       :-  
Aging Time    :34  
Block Time    :0
```

```
Success.
```

```
DGS-1210-52MP/ME:5#
```

## CFM COMMANDS

The CFM commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
enable cfm	
disable cfm	
config cfm ports	<portlist> state [ enable   disable ]
create cfm md	<string 22> [md_index <integer 1-4294967295>] level <integer 0-7>
config cfm md	[ <string 22>   md_index <integer 1-4294967295>] [ { mip {none   auto   explicit } { sender_id { none   chassis   manage   chassis_manage } } ]
create cfm ma	<string 22> [ma_index <integer 1-4294967295>] md { <string 22>   md_index <integer 1-4294967295 } }
config cfm ma	{<string 22>   ma_index <integer 1-4294967295>} md {<string 22>   md_index <integer 1-4294967295>} ([ vlanid <integer 1-4094> ] [ mip {none   auto   explicit   defer}] [sender_id {none   chassis   manage   chassis_manage   defer}] [ccm_interval { 100ms   1sec   10sec   1min   10min}] [mepid_list {add   delete} <mepid_list> ] )
create cfm mep	<string (32)> mepid <integer 1-8191> md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} direction {inward   outward} port <portlist>
config cfm mep	{mepname <string (32)>   mepid <integer (1-8191)> md {<string (22)>   md_index <integer (1-4294967295)>} ma {<string (22)>   ma_index <integer (1-4294967295)>}{state [enable disable]   ccm [enable disable] pdu_priority  fault_alarm [all mac_status remote_ccm error_ccm xcon_ccm none] alarm_time <integer 250-1000> alarm_reset_time<integer 250-1000>}
delete cfm mep	{mepname <string 32>   mepid <integer 1-8191> md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>}}
delete cfm ma	{<string 22>   ma_index <integer 1-4294967295>} md {<string 22>   md_index <integer 1-4294967295>}
delete cfm md	{<string 22>   md_index <integer 1-4294967295>}
show cfm	[ {md {<string 22>   md_index <integer 1-4294967295>} [ma {<string 22>   ma_index <integer 1-4294967295>} [ mepid <integer 1-8191>]] ] } [mepname {<string 22>}]
show cfm fault	[md {<string 32>   md_index <integer 1-4294967295>} [ma {<string 32>   ma_index <integer 1-4294967295>}]]
show cfm port	<port> [([level <integer (0-7)>] [vlanid <integer (1-4094)>] [direction {inward   outward}])] ]
cfm loopback	[<ucast_mac>   remote_mepid <integer 1-8191>] [mepname <string 32>   mepid <integer 1-8191> md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>}]



Command	Parameter
cfm linktrace	{<ucast_mac>   remote_mepid <integer 1-8191>} {mepname <string 32>   mepid <integer 1-8191> md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>}} [[ttl <integer 2-255>] [pdu_priority <integer 0-7>]]
show cfm linktrace	{mepname <string 32>   mepid <integer 1-8191> md {<string 32>   md_index <integer 1-4294967295>} ma {<string 32>   ma_index <integer 1-4294967295>}} trans_id <integer>
delete cfm linktrace	{{md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} mepid <integer 1-8191>}   mepname <string 32>}
show cfm mipccm	
config cfm	mp_ltr_all [ enable   disable ]
show cfm mp_ltr_all	
show cfm remote_mep	[md {<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} mepid <integer 1-8191>   mepname <string 32>} remote_mepid <integer 1-8191>
show cfm pkt_cnt	[ports <portlist> {rx   tx}   rx   tx   ccm]
clean cfm pkt_cnt	[ports <portlist> {rx   tx}   rx   tx   ccm]
config cfm ais md	{<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} mepid <integer 1-8191> ([period {1sec   1min}] [level <integer (0-7)>] [state {enable   disable}])
config cfm lock md	{<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} mepid <integer 1-8191> ([period {1sec   1min}] [level <integer 0-7>] [state {enable   disable}])
cfm lock md	{<string 22>   md_index <integer 1-4294967295>} ma {<string 22>   ma_index <integer 1-4294967295>} mepid <integer 1-8191> remote_mepid <integer 1-8191> action [start   stop]
config cfm trap	[ ais   lock ] state [ enable   disable ]

Each command is listed in detail, as follows:

<b>enable cfm</b>	
Purpose	The toggle to globally enable CFM function..
Syntax	<b>enable cfm</b>
Description	<b>CFM (Connectivity Fault Management)</b> is a standard defined by IEEE. It defines protocols by using OAM (Operations, Administration, and Maintenance) mechanism through the bridges.
Parameters	None
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To enable CFM function globally:

```
DGS-1210-28/ME:5# enable cfm
```

```
Command: enable cfm
```

```
Success.
```

```
DGS-1210-28/ME:5# show cfm
```

```
Command: show cfm
```

```
CFM State : Enabled
```

```
AIS Trap State: Disabled
```

```
LCK Trap State: Disabled
```

```
DGS-1210-28/ME:5#
```

## disable cfm

Purpose	The toggle to globally disable CFM function.
Syntax	<b>disable cfm</b>
Description	CFM ( <b>Connectivity Fault Management</b> ) is a standard defined by IEEE. It defines protocols by using OAM (Operations, Administration, and Maintenance) mechanism through the bridges.
Parameters	None
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To disable CFM function globally:

```
DGS-1210-28/ME:5# disable cfm
```

```
Command: disable cfm
```

```
Success.
```

```
DGS-1210-28/ME:5# show cfm
```

```
Command: show cfm
```

```
CFM State : Disabled
```

```
AIS Trap State: Disabled
```

```
LCK Trap State: Disabled
```

```
DGS-1210-28/ME:5#
```

## enable cfm ports

Purpose	The toggle to globally enable CFM function..
Syntax	<b>config cfm ports &lt;portlist&gt; state [ enable   disable ]</b>
Description	This command is used to enable or disable the CFM function on a per-port basis. By default, the CFM function is disabled on all ports. If the CFM is disabled on a port: <ol style="list-style-type: none"> <li>1. MIPs (<b>Maintenance domain Intermediate Point</b>) are never created on that port.</li> <li>2. MEPs (<b>Maintenance association End Point</b>) can still be created on that port, and the configuration can be saved.</li> <li>3. MEPs created on that port can never generate or process CFM PDUs. If the user issues a Loopback or Link trace test on those MEPs, it will prompt the user to inform them that the CFM function is disabled on that port</li> </ol>
Parameters	<portlist> - A port, a range of ports to be specified
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To disable CFM function globally:

```
DGS-1210-28/ME:5# config cfm ports 1-2 state enable
```

```
Command: config cfm ports 1-2 state enable
```

```
Success.
```

```
DGS-1210-28/ME:5#
```

## create cfm md

Purpose	The command to create CFM maintenance domain.
Syntax	<b>create cfm md &lt;string 22&gt; [ md_index &lt;integer 1-4294967295&gt; ] level &lt;integer 0-7&gt;</b>
Description	MD ( <b>Maintance Domain</b> ) is defined by network administrator to split the Ethernet network into sections. MDs cannot operating intersect.
Parameters	<string 22> - Enter the maintenance domain name used here. This name can be up to 22 characters long <i>md_index &lt;integer 1-4294967295&gt;</i> - Specifies the maintenance domain index used and the maintenance domain index value between 1-4294967295 <i>level &lt;integer 0-8&gt;</i> - Specify the maintenance domain level and the maintance domain level from 0-7
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To create CFM maintenance domain:

```
DGS-1210-28/ME:5# create cfm md new_domain md_index 2 level 7
Command: create cfm md new_domain md_index 2 level 7
```

Success.

```
DGS-1210-28/ME:5# show cfm md md_index 2
Command: show cfm md md_index 2
```

```
MD Index   : 2
MD Name    : new_domain
MD Level   : 7
MIP Creation : none
SenderID TLV : none
```

```
MA Index  MA Name          VID  Mode
-----  -
```

```
DGS-1210-28/ME:5#
```

## config cfm md

Purpose	This command is used to configure the parameters of a maintenance domain.
Syntax	<b>config cfm md [ &lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;] [ { mip { none   auto   explicit } { sender_id { none   chassis   manage   chassis_manage } } ]</b>
Description	The creation of MIPs on an MA is useful to trace the link, MIP by MIP. It also allows the user to perform a loopback from an MEP to an MIP. This command is used to configure the parameters of a maintenance domain.
Parameters	<p>&lt;string 22&gt; - Enter the maintenance domain name to be configured.</p> <p>md_index &lt;integer 1-4294967295&gt; - Specifies the maintenance domain index used and the maintenance domain index value between 1-4294967295</p> <p>mip - This is the control creations of MIP (Maintenance Intermediate Point)</p> <p>none - - Do not create MIPs. This is the default value.</p> <p>auto - MIPs can always be created on any port in this MD if the port is not configured with an MEP of this MD.</p> <p>explicit - - MIPs can only be created on any port in this MD if the next existing lower level has an MEP configured on that port, and that port is not configured with an MEP of this MD.</p> <p>sender_id - This is the control transmission of the sender ID TLV</p> <p>none - Do not transmit the sender ID TLV. This is the default value.</p> <p>chassis - Transmit the sender ID TLV with the chassis ID information.</p>

	<i>manage</i> - Transmit the sender ID TLV with the managed address information.
	<i>chassis_manage</i> - Transmit the sender ID TLV with chassis ID information and manage address information
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To configure the parameters of a maintenance domain:

```
DGS-1210-28/ME:5# config cfm md new_domain mip auto sender_id manage
Command: config cfm md new_domain mip auto sender_id manage

Success.
DGS-1210-28/ME:5# show cfm md new_domain
Command: show cfm md new_domain

MD Index   : 2
MD Name    : new_domain
MD Level   : 7
MIP Creation : auto
SenderID TLV : Mgt-Address

MA Index  MA Name          VID  Mode
-----  -
DGS-1210-28/ME:5#
```

## create cfm ma

Purpose	This command is used to create a maintenance association.
Syntax	<b>create cfm ma &lt;string 22&gt; [ma_index &lt;integer 1-4294967295&gt;] md { &lt;string 22&gt;   md_index &lt;integer 1-4294967295 }</b>
Description	This command is used to create a maintenance association. Different MAs (Maintenance Association) in an MD must have different MA Names. Different MAs in different MDs may have the same MA Name.
Parameters	<p><i>&lt;string 22&gt;</i> - Specify the maintenance association name. This name can be up to 22 characters long</p> <p><i>ma_index &lt;integer 1-4294967295&gt;</i> - Specifies the maintenance association index and the maintenance association index value between 1-4294967295</p> <p><i>md</i> - Specifies the maintenance domain which maintenance association would like to be related.</p> <p><i>&lt;string 22&gt;</i> - - Specify the maintenance domain by name.</p> <p><i>md_index &lt;integer 1-4294967295&gt;</i> - Specify the maintenance domain by md_index ID.</p>

Restrictions	Only Administrator, Operator and Power-User level users can issue this command
--------------	--

Example usage:

To configure the parameters of a maintenance domain:

```
DGS-1210-28/ME:5# create cfm ma new_ma ma_index 10 md new_domain
Command: create cfm ma new_ma ma_index 10 md new_domain
```

Success.

```
DGS-1210-28/ME:5# show cfm md new_domain
Command: show cfm md new_domain
```

```
MD Index   : 2
MD Name    : new_domain
MD Level   : 7
MIP Creation : auto
SenderID TLV : Mgt-Address
```

MA Index	MA Name	VID	Mode
10	new_ma	0	Software

```
DGS-1210-28/ME:5#
```

## config cfm ma

Purpose	This command is used to configure the parameters of a maintenance association.
Syntax	<b>config cfm ma</b> [ <b>&lt;string 22&gt;</b>   <b>ma_index</b> <b>&lt;integer 1-4294967295&gt;</b> ] <b>md</b> [ <b>&lt;string 22&gt;</b>   <b>md_index</b> <b>&lt;integer 1-4294967295&gt;</b> ] ( <b>[ vlanid</b> <b>&lt;integer 1-4094&gt;</b> ] <b>[ mip</b> { <b>none</b>   <b>auto</b>   <b>explicit</b>   <b>defer</b> }] <b>[sender_id</b> { <b>none</b>   <b>chassis</b>   <b>manage</b>   <b>chassis_manage</b>   <b>defer</b> }] <b>[ccm_interval</b> { <b>100ms</b>   <b>1sec</b>   <b>10sec</b>   <b>1min</b>   <b>10min</b> }] <b>[mepid_list</b> { <b>add</b>   <b>delete</b> } <b>&lt;mepid_list&gt;</b> ] )
Description	This command is used to configure the parameters of a maintenance association. The MEP list specified for an MA can be located in different devices. MEPs must be created on the ports of these devices explicitly. An MEP will transmit a CCM packet periodically across the MA. The receiving MEP will verify these received CCM packets from the other MEPs against this MEP list for the configuration integrity check.
Parameters	<i>ma</i> <b>&lt;string 22&gt;</b> - Specify the maintenance association by name string. <i>ma_index</i> <b>&lt;integer 1-4294967295&gt;</b> - Specifies the maintenance association by using index ID and the maintenance association index value between 1-4294967295 <i>md</i> <b>&lt;string 22&gt;</b> - Specify the maintenance domain by name string <i>md_index</i> <b>&lt;integer 1-4294967295&gt;</b> - Specifies the maintenance domain by using index ID and the maintenance accosiaction index

value between 1-4294967295.

*vlanid* <integer 1-4094> - Specify the VLAN Identifier. Different MAs must be associated with different VLANs.

*Mip* - This is the control creation of MIPs

*None* - Do not create MIPs

*auto* - MIPs can always be created on any port in this MA if that port is not configured with an MEP of that MA.

*explicit* - MIPs can be created on any ports in this MA only if the next existing lower level has an MEP configured on that port, and that port is not configured with an MEP of this MA.

*Defer* - Inherit the setting configured for the maintenance domain that this MA is associated with. This is the default value

*sender\_id* - This is the control transmission of the sender ID TLV

*none* - Do not transmit the sender ID TLV. This is the default value.

*chassis* - Transmit the sender ID TLV with the chassis ID information.

*manage* - Transmit the sender ID TLV with the managed address information.

*chassis\_manage* - Transmit the sender ID TLV with chassis ID information and manage address information

*defer* - Inherit the setting configured for the maintenance domain that this MA is associated with. This is the default value.

*ccm\_interval* - Specify the CCM interval.

*100ms* - 100 milliseconds. Not recommended in CFM software mode.

*1sec* - One second.

*10sec* - Ten seconds. This is the default value.

*1min* - One minute.

*10min* - Ten minutes

*mepid\_list* - Specify the MEPIDs contained in the maintenance association.

*add* - Add MEPID(s).

*delete* - Delete MEPID(s).

Restrictions                      Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To configure the parameters of a maintenance association:

```
DGS-1210-28/ME:5# config cfm ma new_ma md new_domain vlanid 1 ccm_interval 1sec
```

```
Command: config cfm ma new_ma md new_domain vlanid 1 ccm_interval 1sec
```

```
Success.
```

```
DGS-1210-28/ME:5#
```

**create cfm mep**

Purpose	This command is used to create an MEP entry.
Syntax	<b>create cfm mep &lt;string 32&gt; mepid &lt;integer 1-8191&gt; md {&lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;} ma {&lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;} direction {inward   outward} port &lt;port&gt;</b>
Description	This command is used to create an MEP entry. Different MEPs in the same MA must have a different MEPID. To put MD name, MA name, and MEPID together identifies an MEP. Different MEPs on the same device must have a different MEP name. Before creating an MEP, its MEPID should be configured in the MA's MEPID list.
Parameters	<p><i>mep</i> - Specifies MEP by name string.</p> <p><i>&lt;string 32&gt;</i> - It is unique among all MEPs configured on the device. The name can be up to 32 characters long.</p> <p><i>mepid</i> - Specify the MEP by MEPID.</p> <p><i>&lt;integer 1-8191&gt;</i> - It should be configured in the MA's MEPID list. MEPID between 1 and 8191.</p> <p><i>md</i> - Specify the maintenance domain.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance domain by name string. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p><i>ma</i> - Specify the maintenance association.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance association by name string. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p><i>direction</i> - Specify the MEP direction.</p> <p><i>inward</i> - Inward facing (up) MEP.</p> <p><i>outward</i> - Outward facing (down) MEP.</p> <p><i>port</i> - Specify the port number.</p> <p><i>&lt;port&gt;</i> - This port should be a member of the MA's associated</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:



To configure the parameters of a maintenance association:

```
DGS-1210-28/ME:5# config cfm ma new_ma md new_domain vlanid 1 mepid_list
add 2
```

```
Command: config cfm ma new_ma md new_domain vlanid 1 mepid_list add 2
```

Success.

```
DGS-1210-28/ME:5# create cfm mep mep1 mepid 2 md new_domain ma new_ma
direction inward port 3
```

```
Command: create cfm mep mep1 mepid 2 md new_domain ma new_ma direction
inward port 3
```

Success.

## config cfm mep

Purpose	This command is used to configure the parameters of an MEP.
Syntax	<b>config cfm mep [mepname &lt;string32&gt;   mepid &lt;integer (1-8191)&gt; md [&lt;string 22&gt;   md_index ] ma [ &lt;string 22&gt;   ma_index ]] {state [enable   disable]   ccm [enable   disable]   pdu_priority   fault_alarm [all   mac_status   remote_ccm   error_ccm   xcon_ccm   none]   alarm_time &lt;integer 250-1000&gt;   alarm_reset_time &lt;integer 250-1000&gt; }</b>
Description	<p>An MEP may generate five types of Fault Alarms, as shown below by their priorities from high to low:</p> <ol style="list-style-type: none"> <li>1. Cross-connect CCM Received: priority 5</li> <li>2. Error CCM Received: priority 4</li> <li>3. Some Remote MEPs Down: priority 3</li> <li>4. Some Remote MEP MAC Status Errors: priority 2</li> <li>5. Some Remote MEP Defect Indications: priority 1</li> </ol> <p>If multiple types of the fault occur on an MEP, only the fault with the highest priority will be alarmed.</p>
Parameters	<p><i>mep</i> - Specify the maintenance association End Point: by name string.</p> <p><i>&lt;string 32&gt;</i> - Specifies the maintenance association End Point by name string. The name string can be up to 22 characters.</p> <p><i>mepid &lt;integer 1-8191&gt;</i> - Specifies the maintenance association End Point by mepid index. The index range is 1-8191</p> <p><i>md</i> - Specify the maintenance domain</p> <p><i>&lt;string 22&gt;</i>- Specify the maintenance domain by name string. The name string can be up to 22 characters.</p> <p><i>md_index &lt;integer (1-4294967295)&gt;</i> - Specifies the maintenance domain by using index ID and the maintenance domain index value between 1-4294967295.</p> <p><i>ma</i> - Specify the maintenance association</p> <p><i>&lt;string 22&gt;</i>- Specify the maintenance association by name string. The name string can be up to 22 characters.</p> <p><i>ma_index &lt;integer 1-4294967295&gt;</i> - Specifies the maintenance association by using index ID and the maintenance association</p>

	<p>index value between 1-4294967295.</p> <p><i>state</i> - Specify the MEP administrative state. The default is disable.</p> <p><i>enable</i> - Enable MEP.</p> <p><i>disable</i> - Disable MEP.</p> <p><i>ccm</i> - Specify the CCM (Continuity Check Message) transmission state. The default is disable.</p> <p><i>enable</i> - Enable the CCM transmission.</p> <p><i>disable</i> - Disable the CCM transmission.</p> <p><i>pdu_priority</i> - The 802.1p priority is set in the CCM and the LTM messages transmitted by the MEP. The default value is 7.</p> <p><i>&lt;int 0-7&gt;</i> - Specify the value between 0 and 7.</p> <p><i>fault_alarm</i> - This is the control types of the fault alarms sent by the MEP. The default value is none.</p> <p><i>all</i> - All types of fault alarms will be sent.</p> <p><i>mac_status</i> - Only the fault alarms whose priority is equal to or higher than "Some Remote MEP MAC Status Errors" are sent.</p> <p><i>remote_ccm</i> - Only the fault alarms whose priority is equal to or higher than "Some Remote MEPs Down" are sent.</p> <p><i>error_ccm</i> - Only the fault alarms whose priority is equal to or higher than "Error CCM Received" are sent.</p> <p><i>xcon_ccm</i> - Only the fault alarms whose priority is equal to or higher than "Cross-connect CCM Received" are sent.</p> <p><i>none</i> - No fault alarm is sent.</p> <p><i>alarm_time</i> - Specify the time that a defect must exceed before the fault alarm can be sent. The unit is centiseconds. The default value is 250.</p> <p><i>&lt;integer 250-1000&gt;</i> - Specify the time that a defect must exceed before the fault alarm can be sent. The unit is centiseconds. The range is 250 to 1000.</p> <p><i>alarm_reset_time</i> - Specify the dormant duration time before a defect is triggered before the fault can be re-alarmed. The unit is centiseconds. The default value is 1000.</p> <p><i>&lt;integer 250-1000&gt;</i> - Specify the dormant duration time before a defect is triggered before the fault can be re-alarmed. The unit is centiseconds. The range is 250 to 1000.</p> <p>Restrictions      Only Administrator, Operator and Power-User level users can issue this command</p>
--	---

Example usage:

To configure the parameters of an MEP:

```

DGS-1210-28/ME:5# config cfm mep mepname mep1 state enable fault_alarm all
ccm enable
Command: config cfm mep mepname mep1 state enable fault_alarm all ccm enable

Success.
DGS-1210-28/ME:5# show cfm mepname mep1
Command: show cfm mepname mep1

Name           : mep1
MEPID          : 1
Mode           : Software
Port           : 3
Direction      : Inward
CFM Port State : Disabled
MAC Address    : F4-8C-EB-31-D9-6B
MEP State      : Enabled
CCM State      : Enabled
PDU Priority    : 7
Fault Alarm    : all
Alarm Time     : 250 second(s)
Alarm Reset Time : 1000 second(s)
AIS State      : Disabled
AIS Period     : 1 Second
AIS Client Level : -1
AIS Status     : Not Detected
LCK State      : Disabled
LCK Period     : 1 Second
LCK Client Level : -1
LCK Status     : Not Detected
Out-of-Sequence CCMs : 0
Cross-connect CCMs : 0
Error CCMs     : 0
CCMs transmitted : 1
In-order LBRs  : 0
Out-of-order LBRs : 0
Next LTM Trans ID : 0
Unexpected LTRs : 0
LBMs Transmitted : 0
AIS PDUs       : 0
AIS PDUs Transmitted : 0
LCK PDUs       : 0
LCK PDUs Transmitted : 0
Highest Fault   : NO DEFECT

Remote

```

MEPID	MAC Address	Status	RDI	PortSt	IfSt	LCK	Detect	Time
-----								
DGS-1210-28/ME:5#								

## delete cfm mep

Purpose	This command is used to delete the maintenance end points specified.
Syntax	<b>delete cfm mep {mepname &lt;string 32&gt;   mepid &lt;integer 1-8191&gt; md {&lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;} ma {&lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;}}</b>
Description	This command is used to delete a created maintenance end point.
Parameters	<p><i>mepname</i> - Specify the MEP name.</p> <p>&lt;string 32&gt; - Specify the MEP name. The maximum length is 32 characters.</p> <p><i>mepid</i> - Specify the MEP MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To delete the specified MEP:

```
DGS-1210-28/ME:5# delete cfm mep mepname new_mep
Command: delete cfm mep mepname new_mep
```

Success.

```
DGS-1210-28/ME:5#
```

**delete cfm ma**

Purpose	This command is used to delete the maintenance associations specified.
Syntax	<b>delete cfm ma { &lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;} md {&lt;string (22)&gt;   md_index &lt;integer 1-4294967295&gt; }</b>
Description	This command is used to delete a created maintenance associations.
Parameters	<p><i>ma</i> - Specify the maintenance association name.</p> <p><i>&lt;string 22&gt;</i> - The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>md</i> - Specify the maintenance domain name.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To delete the specified MA:

```
DGS-1210-28/ME:5# delete cfm ma new_ma md new_md
Command: delete cfm ma new_ma md new_md
```

Success.

```
DGS-1210-28/ME:5#
```

**delete cfm md**

Purpose	This command is used to delete the maintenance domain specified.
Syntax	<b>delete cfm md {&lt;string (22)&gt;   md_index &lt;integer (1-4294967295)&gt;}</b>
Description	This command is used to delete a created maintenance domain. When the command is executed, all the MEPs and maintenance associations created in the maintenance domain will be deleted automatically.
Parameters	<p><i>md</i> - Specify the maintenance domain by name string.</p> <p><i>&lt;string 22&gt;</i> - The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To delete the specified MD:

```
DGS-1210-28/ME:5# delete cfm md new_md
Command: delete cfm md new_md
```

**Success.**

```
DGS-1210-28/ME:5#
```

## show cfm

Purpose	This command is used to display the CFM configuration.
Syntax	<b>show cfm</b> [ { <i>md</i> {<string 22>   <i>md_index</i> <integer 1-4294967295>} [ <i>ma</i> {<string 22>   <i>ma_index</i> <integer 1-4294967295>} [ <i>mepid</i> <integer 1-8191>]}] [ <i>mepname</i> {<string 22>}]
Description	This command is used to display the CFM configurations.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>mepname</i> - Specify the MEP name.</p> <p>&lt;string 22&gt; - Specify the MEP name. The maximum length is 32 characters.</p>
Restrictions	None

Example usage:

To display CFM configurations:

```
DGS-1210-28/ME:5# show cfm md new_domain
```

```
Command: show cfm md new_domain
```

```
MD Index   : 2
MD Name    : new_domain
MD Level   : 7
MIP Creation : auto
SenderID TLV : Mgt-Address
```

MA Index	MA Name	VID	Mode
10	new_ma	1	Software

```
DGS-1210-28/ME:5#
```

## show cfm fault

Purpose	This command is used to display all the fault conditions detected by the MEPs contained in the specified MA or MD.
Syntax	<b>show cfm fault [md {&lt;string 32&gt;   md_index &lt;integer 1-4294967295&gt;} [ma {&lt;string 32&gt;   ma_index &lt;integer 1-4294967295&gt;}]]</b>
Description	This command is used to display all the fault conditions detected by the MEPs contained in the specified MA or MD. The display provides the overview of the fault status by MEPs.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p>
Restrictions	None

Example usage:

To display CFM fault conditions detected by MEPs:

```
DGS-1210-28/ME:5# show cfm fault
Command: show cfm fault

MD Name      MA Name      MEPID Status      AIS Status LCK Status
-----
new_domain   new_ma       1 Remote CCM Defect Normal Normal
new_domain   new_ma       2 Remote CCM Defect Normal Normal

DGS-1210-28/ME:5#
```

## show cfm port

Purpose	This command is used to display MEPs and MIPs created on a port.
Syntax	<b>show cfm port &lt;portlist&gt; [[level &lt;integer 0-7&gt;] [vlanid &lt;integer 1-4094&gt;] [direction {inward   outward}]]</b>
Description	This command is used to display MEPs and MIPs created on a port..
Parameters	<p><i>port</i> - Specify the port number.</p> <p><i>&lt;port&gt;</i> - Specify the port number</p> <p><i>level</i> - Specify the maintenance domain level. If not specified, all levels are shown.</p> <p><i>&lt;integer 0-7&gt;</i> - Specify the value between 0 and 7.</p> <p><i>direction</i> - Specify the MEP direction.</p> <p><i>inward</i> - Specify inward facing MEP.</p> <p><i>outward</i> - Specify outward facing MEP.</p> <p><i>vlanid</i> - Specify the VLAN identifier. If not specified, all VLANs are displayed.</p> <p><i>&lt;integer 1-4094&gt;</i> - Specify the VLAN ID between 1 and 4094..</p>
Restrictions	None

Example usage:

To display MEPs and MIPs created on a port:

```
DGS-1210-28/ME:5# show cfm port 1
Command: show cfm port 1

MAC Address: F4-8C-EB-31-D9-69

MD Name      MA Name      MEPID Level Direction VID
-----
new_domain   new_ma       1 7 Inward 1

DGS-1210-28/ME:5#
```



**cfm loopback**

Purpose	This command is used to start a CFM loopback test.
Syntax	<b>cfm loopback</b> <ucast_mac> [mepname <string 32>   mepid <integer 1-8191> md<string 22> [   md_index <integer 1-4294967295> ] ma<string 22> [   ma_index <integer 1-4294967295> ]] {num <integer 1-65535>   [length <integer 1-1500>   pattern<string 1-1500> ]   pdu_priority <integer 0-7> }
Description	This command is used to start a CFM loopback test. The MAC address represents the destination MEP or MIP that can be reached by this MAC address. The MEP represents the source MEP to initiate the loopback message.
Parameters	<p>&lt;ucast_mac&gt; - Specify the destination MAC address.</p> <p>remote_mepid – Specify the mepid as destination</p> <p>mepname - Specify the MEP name.</p> <p>&lt;string 32&gt; - Specify the MEP name. The maximum length is 32 characters.</p> <p>mepid - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p>md - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p>md_index – Specifies the MD index value used.</p> <p>&lt;integer 1-4294967295&gt; - Enter the MD index value used here. This value must be between 1 and 4294967295.</p> <p>ma - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p>ma_index – Specifies the MA index value used.</p> <p>&lt;integer 1-4294967295&gt; - Enter the MA index value used here. This value must be between 1 and 4294967295.</p> <p>num - Specify the number of LBMs to be sent. The default value is 4.</p> <p>&lt;integer 1-65535&gt; - Specify the value between 1 and 65535.</p> <p>length - Specify the payload length of the LBM to be sent. The default is 0.</p> <p>&lt;integer 1-1500&gt; - Specify the value between 0 and 1500.</p> <p>pattern - Specify an amount of data to be included in a Data TLV, along with an indication whether the Data TLV is to be included.</p> <p>&lt;string 1-1500&gt; - Enter the pattern value used here. This value can be up to 1500 characters long.</p> <p>pdu_priority – Specify the 802.1p priority to be sent.</p> <p>&lt;integer 0-7&gt; - Specify the value between 0 and 7.</p>
Restrictions	None

Example usage:

To start a CFM loopback test:

```
DGS-1210-28/ME:5# cfm loopback 00-01-01-02-03-04 mepname mep1
```

```
Command: cfm loopback 00-01-01-02-03-04 mepname mep1
```

```
Request timed out.
```

```
Request timed out.
```

```
Request timed out.
```

```
Reply from MPID 52: bytes=xxx time=xxxms
```

```
CFM loopback statistics for 00-01-01-02-03-04:
```

```
Packets: Sent=4, Received=1, Lost=3(75% loss)
```

```
DGS-1210-28/ME:5#
```

## cfm linktrace

Purpose	This command is used to issue a CFM link track message.
Syntax	<b>cfm linktrace [<i>&lt;ucast_mac&gt;</i>   remote_mepid <i>&lt;integer 1-8191&gt;</i>] [mepname <i>&lt;string 32&gt;</i>   mepid <i>&lt;integer 1-8191&gt;</i> md {<i>&lt;string 22&gt;</i>   md_index <i>&lt;integer 1-4294967295&gt;</i> }] ma [<i>&lt;string 22&gt;</i>   ma_index <i>&lt;integer 1-4294967295&gt;</i>] {ttl <i>&lt;integer 2-255&gt;</i>} [<i>pdu_priority &lt;integer 0-7&gt;</i>] )}</b>
Description	This command is used to start a CFM loopback test. The MAC address represents the destination MEP or MIP that can be reached by this MAC address. The MEP represents the source MEP to initiate the loopback message.
Parameters	<p><i>&lt;ucast_mac&gt;</i> - Specify the destination MAC address.</p> <p><i>remote_mepid</i> – Specify the mepid as destination</p> <p><i>mepname</i> - Specify the MEP name.</p> <p><i>&lt;string 32&gt;</i> - Specify the MEP name. The maximum length is 32 characters.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p><i>&lt;integer 1-8191&gt;</i> - Specify the MEP MEPID between 1 and 8191.</p> <p><i>md</i> - Specify the maintenance domain name.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> – Specifies the MD index value used.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the MD index value used here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> – Specifies the MA index value used.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the MA index value used here. This value must be between 1 and 4294967295.</p> <p><i>ttl</i> - Specify the link trace message TTL value. The default value is 64.</p> <p><i>&lt;integer 2-255&gt;</i> - Specify the link trace message TTL value. Enter</p>

a value between 2 and 255.  
*pdu\_priority* – Specify the 802.1p priority to be sent.  
 <integer 0-7> - Specify the value between 0 and 7.

Restrictions          None

Example usage:

To start a CFM link trace:

```
DGS-1210-28/ME:5# cfm linktrace 00:01:01:02:03:04 mepname mep1
Command: cfm linktrace 00:01:01:02:03:04 mepname mep1
```

Transaction ID: 27

Success.

```
DGS-1210-28/ME:5#
```

## show cfm linktrace

Purpose	This command is used to display the link trace responses. The maximum linktrace responses a device can hold is 128.
Syntax	<b>show cfm linktrace [mepname &lt;string 32&gt;   mepid &lt;integer 1-8191&gt; md {&lt;string 32&gt;   md_index &lt;integer 1-4294967295&gt;} ma {&lt;string 32&gt;   ma_index &lt;integer 1-4294967295&gt;}] [trans_id &lt;integer&gt;]</b>
Description	This command is used to display link trace response.
Parameters	<p><i>mepname</i> - Specify the MEP name.          &lt;string (32)&gt; - Specify the MEP name. The maximum length is 32 characters.</p> <p><i>mepid</i> - Specify the MEPID.          &lt;integer (1-8191)&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>md</i> - Specify the maintenance domain name.          &lt;string (32)&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.          &lt;integer (1-4294967295)&gt;- Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.          &lt;string (32)&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.          &lt;integer (1-4294967295)&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>trans_id</i> - The identifier of the transaction to be displayed.          &lt;integer&gt; - The identifier of the transaction to be displayed.</p>
Restrictions	None

Example usage:

To display a CFM link trace status:

```
DGS-1210-28/ME:5# show cfm linktrace mepname mep1
```

```
Command: show cfm linktrace mepname mep1
```

Trans ID	Source MEP	Destination
26	mep1	xx:xx:xx:xx:xx:xx

```
DGS-1210-28/ME:5#
```

## delete cfm linktrace

Purpose	This command is used to delete the stored link trace response data that have been initiated by the specified MEP.
Syntax	<b>delete cfm linktrace</b> [{ <i>md</i> {<string 22>   <i>md_index</i> <integer 1-4294967295>} <i>ma</i> {<string 22>   <i>ma_index</i> <integer 1-4294967295>} <i>mepid</i> <integer 1-8191>}   <i>mepname</i> <string 32>]
Description	This command is used to delete link trace response data.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 32&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>mepname</i> - Specify the MEP name.</p> <p>&lt;string 32&gt; - Specify the MEP name. The maximum length is 32 characters.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To delete a CFM link trace response data:

```
DGS-1210-28/ME:5# delete cfm linktrace mepname mep1
```

```
Command: delete cfm linktrace mepname mep1
```

```
Success.
```

```
DGS-1210-28/ME:5#
```

**show cfm mipccm**

Purpose	This command is used to display the MIP CCM database entries.
Syntax	<b>show cfm mipccm</b>
Description	All entries in the MIP CCM database will be displayed. An MIP CCM entry is similar to an FDB which keeps the forwarding port information of a MAC entry.
Parameters	None
Restrictions	None

Example usage:

To display MIP CFM database entries:

```
DGS-1210-28/ME:5# show cfm mipccm
Command: show cfm mipccm

MA          Vlan  Mac Address      Port
-----
new_ma      1     xx:xx:xx:xx:xx:xx  5

DGS-1210-28/ME:5#
```

**config cfm mp\_ltr\_all**

Purpose	This command is to enable or disable the "all MPs reply LTRs" function.
Syntax	<b>config cfm mp_ltr_all [ enable   disable ]</b>
Description	This function is for test purposes. According to IEEE 802.1ag, a Bridge replies with one LTR (Link Trace Reply) to an LTM (Link Trace Message). This command can make all MPs on the LTM's forwarding path reply with LTRs, no matter whether they are on a Bridge or not.
Parameters	<i>enable</i> - Enable this feature. <i>disable</i> - Disable this feature
Restrictions	Only Administrator, Operator and Power-User level users can issue this command

Example usage:

To enable all MPs reply LTRs function:

```
DGS-1210-28/ME:5# config cfm mp_ltr_all enable
Command: config cfm mp_ltr_all enable

Success.
DGS-1210-28/ME:5#
```

**show cfm mp\_ltr\_all**

Purpose	This command is to display current state of the "all MPs reply LTRs" function.
Syntax	<b>show cfm mp_ltr_all</b>
Description	This command is to display current state of the "all MPs reply LTRs" function.
Parameters	None
Restrictions	None

Example usage:

To display current state of all MPs reply LTRs function:

```
DGS-1210-28/ME:5# show cfm mp_ltr_all
```

```
Command: show cfm mp_ltr_all
```

```
All MPs reply LTRs: Enabled
```

```
DGS-1210-28/ME:5#
```

**show cfm remote\_mep**

Purpose	This command is used to display CFM remote MEP information.
Syntax	show cfm remote_mep [mepname <string32>   md [ <string22>   md_index <integer 1-4294967295>] ma [ <string 22>   ma_index <integer 1-4294967295> ] mepid <integer 1-8191> ] remote_mepid <integer 1-8191>
Description	This command is used to display CFM remote MEP information.
Parameters	<p><i>mepname</i> - Specify the MEP name.</p> <p>&lt;string 32&gt; - Specify the MEP name. The maximum length is 32 characters.</p> <p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>remote_mepid</i> - Specify the remote MEPID. - Specify the remote MEPID between 1 and 8191.</p>

Restrictions	None
--------------	------

Example usage:

To display CFM remote MEP information:

```
DGS-1210-28/ME:5# show cfm remote_mep mepname mep1 remote_mepid 1
Command: show cfm remote_mep mepname mep1 remote_mepid 1
```

```
Remote MEPID : 1
MAC Address : xx-xx-xx-xx-xx-xx
Status : OK
RDI : Yes
Port State : Blocked
Interface Name : Down
Last CCM Serial Number : 1000
Send Chassis ID : 00-11-22-33-44-00
Sender Management Address: SNMP-UDP-IPv4 10.90.90.90:161
Detect Time : 2018-12-03
```

Success.

DGS-1210-28/ME:5#

## show cfm pkt\_cnt

Purpose	This command is used to display the CFM packet's RX/TX counters.
Syntax	<b>show cfm pkt_cnt [ports &lt;portlist&gt; {rx   tx}   rx   tx   ccm]</b>
Description	This command is used to display the CFM packet's RX/TX counters.
Parameters	<p>ports - Specify the port counters to display. If not specified, all ports will be displayed.</p> <p>&lt;portlist&gt; - Specify a list of ports.</p> <p>rx - Display the RX counter. If not specified, both the RX and TX counters will be displayed.</p> <p>tx - Display the TX counter. If not specified, both the RX and TX counters will be displayed.</p> <p>rx - Display the RX counter. If not specified, both the RX and TX counters will be displayed.</p> <p>tx - Display the TX counter. If not specified, both the RX and TX counters will be displayed.</p> <p>ccm - Display the CCM RX counters..</p>
Restrictions	None

Example usage:

To display the CFM packet's RX/TX counters:

```
DGS-1210-28/ME:5# show cfm pkt_cnt ports 1 rx
Command: show cfm pkt_cnt ports 1 rx

CFM RX Statistics

Port  AllPkt  CCM  LBR  LBM  LTR  LTM  VidDrop  OpcoDrop
-----  -----  -----  -----  -----  -----  -----  -----  -----
1      0      0    0    0    0    0    0      0      0

DGS-1210-28/ME:5#
```

### clean cfm pkt\_cnt

Purpose	This command is used to clear the CFM packet's RX/TX counters.
Syntax	<b>clean cfm pkt_cnt [ports &lt;portlist&gt; {rx   tx}   rx   tx   ccm]</b>
Description	This command is used to clear the CFM packet's RX/TX counters.
Parameters	<p>ports - Specify the port counters to display. If not specified, all ports will be displayed.</p> <p>&lt;portlist&gt; - Specify a list of ports.</p> <p>rx - Clear the RX counter. If not specified, both the RX and TX counters will be cleared.</p> <p>tx - Clear the TX counter. If not specified, both the RX and TX counters will be cleared.</p> <p>rx - Clear the RX counter. If not specified, both the RX and TX counters will be cleared.</p> <p>tx - Clear the TX counter. If not specified, both the RX and TX counters will be cleared.</p> <p>ccm - Clear the CCM RX counters.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To clear the CFM packet's RX/TX counters:

```
DGS-1210-28/ME:5# clean cfm pkt_cnt
Command: clean cfm pkt_cnt

Success.
```



**config cfm ais md**

Purpose	This command is used to configure the parameters of the AIS (Alarm Indication Signal) function on an MEP.
Syntax	<b>config cfm ais md [&lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;] ma [&lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;] mepid &lt;integer 1-8191&gt; ( [period {1sec   1min}] [level &lt;integer 0-7&gt;] [state {enable   disable} ])</b>
Description	AIS is a feature used to determine whether a connectivity fault exists at the specified domain.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>period</i> - Specifies the transmitting interval of the AIS PDU.</p> <p><i>1sec</i> - Specifies that the transmitting interval period will be set to 1 second.</p> <p><i>1min</i> - Specifies that the transmitting interval period will be set to 1 minute.</p> <p><i>level</i> - Specifies the client level ID to which the MEP sends AIS PDU. The default client MD level is the MD level that the most immediate client layer MIPs and MEPs exist on.</p> <p>&lt;integer 0-7&gt; - Enter the client level ID used here. This value must be between 0 and 7.</p> <p><i>state</i> - Specifies the AIS function state used.</p> <p><i>enable</i> - Specifies that AIS function state will be enabled.</p> <p><i>disable</i> - Specifies that AIS function state will be disabled.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To configure the parameters of the AIS (Alarm Indication Signal) function on an MEP:

```
DGS-1210-28/ME:5# config cfm ais md op-domain ma op-ma mepid 1 state enable level 5
```

```
Command: config cfm ais md op-domain ma op-ma mepid 1 state enable level 5
```

```
Success.
```

```
DGS-1210-28/ME:5#
```

**cfm lock md**

Purpose	This command is used to start/stop cfm management lock.
Syntax	<b>cfm lock md {&lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;} ma {&lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;} mepid &lt;integer 1-8191&gt; remote_mepid &lt;integer 1-8191&gt; action {start   stop}</b>
Description	CFM Lock signal is a set of data contained in CFM. This feature is used to signal administrative locking of specified MEP and interruption of data traffic forwarding toward the MEP.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p>&lt;string 22&gt; - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p>&lt;string 22&gt; - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p>&lt;integer 1-4294967295&gt; - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p>&lt;integer 1-8191&gt; - Specify the MEP MEPID between 1 and 8191.</p> <p><i>Remote_mepid</i> - The peer MEP is the target of management action</p> <p>&lt;integer 1-8191&gt; - Specify the remote MEPID between 1 and 8191.</p> <p><i>action</i> - Specifies to start or to stop the management lock function.</p> <p><i>start</i> - To start the management lock function.</p> <p><i>stop</i> - To stop the management lock function.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To start management lock:

```
DGS-1210-28/ME:5# cfm lock md op-domain ma op-ma mepid 1 remote_mepid 2
action start
Command: cfm lock md op-domain ma op-ma mepid 1 remote_mepid 2 action start

Success.
DGS-1210-28/ME:5#
```

**config cfm lock md**

Purpose	This command is used to configure the parameters of the LOCK function on an MEP.
Syntax	<b>config cfm lock md {&lt;string 22&gt;   md_index &lt;integer 1-4294967295&gt;} ma {&lt;string 22&gt;   ma_index &lt;integer 1-4294967295&gt;} mepid &lt;integer 1-8191&gt; ([period {1sec   1min}] [level &lt;integer 0-7&gt;] [state {enable   disable}])</b>
Description	CFM Lock signal is a set of data contained in CFM. This feature is used to signal administrative locking of specified MEP and interruption of data traffic forwarding toward the MEP.
Parameters	<p><i>md</i> - Specify the maintenance domain name.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance domain name. The maximum length is 22 characters.</p> <p><i>md_index</i> - Specify the maintenance domain index.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the maintenance domain index value here. This value must be between 1 and 4294967295.</p> <p><i>ma</i> - Specify the maintenance association name.</p> <p><i>&lt;string 22&gt;</i> - Specify the maintenance association name. The maximum length is 22 characters.</p> <p><i>ma_index</i> - Specify the maintenance association index.</p> <p><i>&lt;integer 1-4294967295&gt;</i> - Enter the maintenance association index value here. This value must be between 1 and 4294967295.</p> <p><i>mepid</i> - Specify the MEPID.</p> <p><i>&lt;integer 1-8191&gt;</i> - Specify the MEP MEPID between 1 and 8191.</p> <p><i>period</i> - Specifies the transmitting interval of the LCK PDU.</p> <p><i>1sec</i> - Specifies that the transmitting interval period will be set to 1 second.</p> <p><i>1min</i> - Specifies that the transmitting interval period will be set to 1 minute.</p> <p><i>level</i> - Specifies the client level ID to which the MEP sends LCK PDU. The default client MD level is the MD level that the most immediate client layer MIPs and MEPs exist on.</p> <p><i>&lt;integer 0-7&gt;</i> - Enter the client level ID used here. This value must be between 0 and 7.</p> <p><i>state</i> - Specifies the LCK function state used.</p> <p><i>enable</i> - Specifies that LCK function state will be enabled.</p> <p><i>disable</i> - Specifies that LCK function state will be disabled.</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To configure the parameters of the Lock (Lock Signal) function on an MEP:

```
DGS-1210-28/ME:5# config cfm lock md op-domain ma op-ma mepid 1 state enable
level 5
Command: config cfm lock md op-domain ma op-ma mepid 1 state enable level 5
Success.

DGS-1210-28/ME:5#
```

**config cfm trap**

Purpose	This command is used to configure the state of the CFM trap.
Syntax	<b>config cfm trap [ ais   lock ] state [ enable   disable ]</b>
Description	To configure the state of CFM trap for AIS/LCK events.
Parameters	<p><i>ais</i> - Specify the AIS trap status to be configured. If the trap status of AIS is enabled, a trap will be sent out when an ETH-AIS event occurs or clears.</p> <p><i>lock</i> - Specify the LCK trap status that to be configured. If the trap status of LCK is enabled, a trap will be sent out when an ETH-LCK event occurs or clears.</p> <p><i>state</i> – Specify the state of the CFM trap.</p> <p><i>enable</i> – Enable the CFM trap state. This is the default.</p> <p><i>disable</i> – Disable the CFM trap state..</p>
Restrictions	Only Administrator, Operator and Power-User level users can issue this command.

Example usage:

To configure the state of the CFM trap:

```
DGS-1210-28/ME:5# config cfm trap ais state enable
```

```
Command: config cfm trap ais state enable
```

```
Success.
```

```
DGS-1210-28/ME:5#
```

## DEBUG COMMANDS

The Debug commands in the Command Line Interface (CLI) are listed (along with the appropriate parameters) in the following table.

Command	Parameter
debug clear hol_prevention counter	
debug config packet_memory_lackage	[ action { free   syslog   syslog and free }   pendinginterval <sec 30-600>   pollingtime <sec 30-600> ]
debug config ports	[ <portlist>   all ] register <value 0-31> data <value 0-65535>
debug disable	[all errtrc mem_monitor mem_nml memtrace packet_memory_leakage ping_flow port pppoe semaphore syslog sfp system diag trace dhcp_relay]
debug enable	[all errtrc mem_monitor mem_nml memtrace packet_memory_leakage ping_flow pppoe semaphore syslog sfp trace dhcp_relay]
debug mempool	[ CRU <integer>   DCRU <integer> ]
debug module log	[enable   disable]
debug show hol_prevention counter	
debug show hw_fdb	ports <portlist>
debug show ip interface	
debug show packet_memory_leakage	{ information<interger>   all }
debug show ports	[ portlist>   all ]
debug reset packet_memory_leakage free_counter	
debug RX_PACKET_DUMP	port <portlist> [ all   filed { DA <macaddr>   SA <macaddr>   VLAN <value (0-4094)   EtherType <hex_str>   offset_start <value (0-65535)   rx_queue <value (0-7)   Ipv4_protocol <hex_str> } ]
debug TX_PACKET_DUMP	port <portlist> [ all   filed { DA <macaddr>   SA <macaddr>   VLAN <value (0-4094)   EtherType <hex_str>   offset_start <value (0-65535)   Ipv4_protocol <hex_str> } ]
debug NO_RX_PACKET_DUMP	
debug NO_TX_PACKET_DUMP	



**NOTE:** Debug commands are recommend to use by instructed from D-Link product specialist.

Each command is listed in detail, as follows:

### debug clear hol\_prevention counter

Purpose	To clear the counter for Head-of-Line prevention function.
Syntax	<b>debug clear hol_prevention counter</b>
Description	To clear the counter for Head-of-Line prevention function.
Parameters	None
Restrictions	None

Example usage:

To enable the safeguard engine on the switch:

```
DGS-1210-28/ME:5# debug clear hol_prevention counter
Command: debug clear hol_prevention counter

DGS-1210-28/ME:5#
```

### debug config packet\_memory\_leakage

Purpose	To configure the debug tool for packet memory leakage
Syntax	<b>debug config packet_memory_leakage [ action { free   syslog   syslog and free }   pendinginterval &lt;sec 30-600&gt;   pollingtime &lt;sec 30-600&gt; ]</b>
Description	To configure the debug tool for packet memory leakage.
Parameters	<p><i>action</i> - Specifies the action for packets cause memory leakage:</p> <ul style="list-style-type: none"> <li>• <i>free</i> – Free the memory occupied</li> <li>• <i>syslog</i> – Sending log to syslog server</li> <li>• <i>syslog and free</i> – Do both actions described above.</li> </ul> <p><i>Pendinginterval</i>: Specifies the pending time of actions in &lt;30-600&gt; seconds</p> <p><i>Pollingtime</i>: Specifies the time to update the memory leakage information in &lt;30-600&gt; seconds</p>
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To configure debug tool for packet memory leakage on the switch:

```
DGS-1210-28/ME:5# debug config packet_memory_leakage action free
Command: debug config packet_memory_leakage action free

Suces.
DGS-1210-28/ME:5# debug config packet_memory_leakage pendinginterval
60
Command: debug config packet_memory_leakage pendinginterval 60

Suces.
DGS-1210-28/ME:5# debug config packet_memory_leakage pollingtime 60
Command: debug config packet_memory_leakage pollingtime 60

Suces.
DGS-1210-28/ME:5#
```

## debug config ports

Purpose	To configure the debug tool for ports register
Syntax	<b>debug config ports [ &lt;portlist&gt;   all ] register &lt;value 0-31&gt; data &lt;value 0-65535&gt;</b>
Description	To configure the debug tool for ports register.
Parameters	<i>ports &lt;portlist&gt;</i> – A port or range of ports whose settings are to be configured <i>register &lt;value 0-31&gt;</i> – Specifies the register to be configured <i>data &lt;value 0-65535&gt;</i> - Specifies the decimal value to the register
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To configure debug tool for ports register on the switch:

```
DGS-1210-28/ME:5# debug config ports 1-2 register 2 data 1234
Command: debug config ports 1-2 register 2 data 1234

Port Register Value
---- -
1      0x02 0x04d2
2      0x02 0x04d2

DGS-1210-28/ME:5#
```

**debug disable**

Purpose	To disable the debug tool for packet_memory_leakage and semaphore
Syntax	<b>debug disable</b> <b>[all errtrc mem_monitor mem_nml memtrace packet_memory_leakage ping_flow port pppoe semaphore syslog sfp system diag trace dhcp_relay]</b>
Description	To disable the debug tool for packet_memory_leakage and semaphore.
Parameters	<i>Support options for get RD debug info.</i>
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To disable debug tool for packet\_memory\_leakage:

```
DGS-1210-28/ME:5# debug disable packet_memory_leakage
Command: debug disable packet_memory_leakage

Success.
DGS-1210-28/ME:5# debug show packet_memory_leakage
Command: debug show packet_memory_leakage

Packet Memory Leakage Global Settings
-----
Status           : Disabled
Polling Time     : 60 seconds
Pending Interval : 60 seconds
Action Type      : Free Buffer
Total Free Counter : 0
Current Pending Counter : 0
DGS-1210-28/ME:5#
```



To disable debug tool for semaphore:

```
DGS-1210-28/ME:5# debug disable semaphore
Command: debug disable semaphore

Success.
DGS-1210-28/ME:5# debug show semaphore all
Command: debug show semaphore all

State: Disabled  Mode : Default  Trace: Disabled  DelSem Log: Disabled

Semaphore list
-----

DGS-1210-28/ME:5#
```

## debug enable

Purpose	To enable the debug tool for packet_memory_leakage and semaphore
Syntax	<b>debug enable</b> [all   errtrc   mem_monitor   mem_nml   memtrace   packet_memory_leakage   ping_flow  pppoe  semaphore  syslog sfp  trace dhcp_relay]
Description	To enable the debug tool for packet_memory_leakage and semaphore.
Parameters	<i>Support options for get RD debug info.</i>
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To enable debug tool for packet\_memory\_leakage:

```
DGS-1210-28/ME:5# debug enable packet_memory_leakage  
Command: debug enable packet_memory_leakage
```

Success.

```
DGS-1210-28/ME:5# debug show packet_memory_leakage  
Command: debug show packet_memory_leakage
```

#### Packet Memory Leakage Global Settings

```
-----  
Status           : Enabled  
Polling Time     : 60 seconds  
Pending Interval : 60 seconds  
Action Type      : Free Buffer  
Total Free Counter : 0  
Current Pending Counter : 0  
DGS-1210-28/ME:5#
```

To enable debug tool for semaphore:

```

DGS-1210-28/ME:5# debug enable semaphore default
Command: debug enable semaphore default

Success.
DGS-1210-28/ME:5# debug enable semaphore log_record
Command: debug enable semaphore log_record

Success.
DGS-1210-28/ME:5# debug enable semaphore del_sem_log
Command: debug enable semaphore del_sem_log

Success.
DGS-1210-28/ME:5# debug show semaphore all
Command: debug show semaphore all

State: Enabled  Mode : Log_Record  Trace: Enabled  DelSem Log: Enabled

Semaphore list
-----
[0002][0x3bbb9d0][00] SemName[BUFS]:
[0004][0x3bbba10][00] SemName[000m]:
[0006][0x3bbba50][00] SemName[002m]:
[0007][0x3bbba70][00] SemName[TMMU]:
[0016][0x3bbbb90][00] SemName[PP_]:
[0018][0x3bbbbd0][00] SemName[CPUM]:
[0024][0x3bbbc90][00] SemName[L2SM]:
[0031][0x3bbbd70][00] SemName[002r]:
[0036][0x3bbbe10][00] SemName[CFAP]:
[0039][0x3bbbe70][00] SemName[FCLK]:
[0040][0x3bbbe90][00] SemName[CFAC]:
[0041][0x3bbbeb0][00] SemName[005r]:
[0044][0x3bbbf10][00] SemName[CFAI]:
[0056][0x3bbc090][00] SemName[SLG]:
[0059][0x3bbc0f0][00] SemName[EOAP]:
[0097][0x3bbc5b0][00] SemName[VSM1]:
[0099][0x3bbc5f0][00] SemName[00dm]:
[0100][0x3bbc610][00] SemName[00em]:
[0103][0x3bbc670][00] SemName[009r]:
[0107][0x3bbc6f0][00] SemName[00km]:
[0121][0x3bbc8b0][00] SemName[00;r]:
[0183][0x3bbd070][01] SemName[MGMS]: (*Tsk[CLIC]-Pid[2931714176]-
Tr[cliparse.c,4484,CliExecuteCommand]),
[0184][0x3bbd090][01] SemName[ISEM]: (*Tsk[CLIC]-Pid[2931714176]-

```

```
Tr[,0,]),
[0213][0x3bbd430][00] SemName[CPUF]:
[0220][0x3bbd510][00] SemName[SLIS]:
[0224][0x3bbd590][00] SemName[SEL]:
[0231][0x3bbd670][00] SemName[IP6L]:
[0263][0x3bbda70][00] SemName[00Or]:
[0302][0x3bbdf50][00] SemName[ARDS]:
[0303][0x3bbdf70][00] SemName[ARPS]:
[0305][0x3bbdfb0][00] SemName[00PT]:
[0436][0x3bbf010][00] SemName[LbLt]:
[0591][0x3bc0370][00] SemName[PORT]:

DGS-1210-28/ME:5#
```

## debug mempool

Purpose	To print the specific ID information in CRU or DCRU
Syntax	<b>debug mempool [ CRU&lt;integer&gt;   DCRU&lt;integer&gt; ]</b>
Description	To print the specific ID information in CRU or DCRU.
Parameters	<i>CRU&lt;integer&gt;</i> – Specifies the ID in CRU <i>DCRU&lt;integer&gt;</i> – Specifies the ID in DCRU
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print the specific ID information in CRU or DCRU:

```
DGS-1210-28/ME:5# debug mempool CRU 2
Command: debug mempool CRU 2

No Double Free!
|*****|*****|*****|*****|*****|*****|*****|*****|*****|
|Pool | TOTAL | FREE | Count |MemType|MAX |Invalid|Heap |Heap |
| ID | UNITS | UNITS | Size | |Count |Release|Count |Fail |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2| 801| 801| 32| 0| 0| 0| 0| 0|
|*****|*****|*****|*****|*****|*****|*****|*****|*****|

DGS-1210-28/ME:5#
DGS-1210-28/ME:5# debug mempool DCRU 3
Command: debug mempool DCRU 3

dest[003]=b6dda44c, u2len = 8, on port 0 vlan 0, During 19185 secs,
isAllocFrom 0
01 00 00 00 01 27 7c 05
DGS-1210-28/ME:5#
```

**debug module log**

Purpose	To control the log state of debug module
Syntax	<b>debug module log [ enable   disable ]</b>
Description	To control the log state of debug module.
Parameters	<i>enable</i> – To enable the module log <i>disable</i> – To disable the module log
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To control the log state of debug module:

```
DGS-1210-28/ME:5# debug module log enable
Command: debug module log enable

DGS-1210-28/ME:5#
```

**debug show hol\_prevention counter**

Purpose	To print the counter of Head-of-Link blocking
Syntax	<b>debug show hol_prevention counter</b>
Description	To print the counter of Head-of-Link blocking.
Parameters	None
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print the counter of Head-of-Link blocking:

```
DGS-1210-28/ME:5# debug show hol_prevention counter
Command: debug show hol_prevention counter

Port Total    Diff
-----
CPU 0         +0
1 0           +0
2 0           +0
3 0           +0
4 8538236     +5721089
5 0           +0
```

**debug show hw\_fdb**

Purpose	To print the MAC entry learned by switch's MAC.
Syntax	<b>debug show hw_fdb ports &lt;portlist&gt;</b>
Description	To print the MAC entry learned by switch's MAC.
Parameters	<i>ports &lt;portlist&gt;</i> – A port or range of ports whose settings are to be configured
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print the MAC entry learned by switch's MAC:

```
DGS-1210-28/ME:5# debug show hw_fdb port 2
Command: debug show hw_fdb port 2

[ 1] mac=00:00:00:00:00:35 vlan=1 GPORT=0x3 modid=0 port=3/ge1 Hit
[ 2] mac=00:00:00:00:00:29 vlan=1 GPORT=0x3 modid=0 port=3/ge1 Hit
DGS-1210-28/ME:5#
```

**debug show ip interface**

Purpose	To print IP address configured in switch OS.
Syntax	<b>debug show ip interface</b>
Description	To print IP address configured in switch OS.
Parameters	None
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print IP address configured in switch OS:

```
DGS-1210-28/ME:5# debug show ip interface
Command: debug show ip interface

vlan1 is up, line protocol is up
Internet Address is 10.90.90.90/8
Broadcast Address 10.255.255.255

DGS-1210-28/ME:5#
```

## debug show packet\_memory\_leakage

Purpose	To print configuration status and information for memory leakage debug tool
Syntax	<b>debug show packet_memory_leakage { information&lt;interger&gt;   all }</b>
Description	To print configuration status and information for memory leakage debug tool.
Parameters	<i>information&lt;interger&gt;</i> – Specifies the entry ID
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print configuration status and information for memory leakage tool:

```
DGS-1210-28/ME:5# debug show packet_memory_leakage
Command: debug show packet_memory_leakage

Packet Memory Leakage Global Settings
-----
Status           : Enabled
Polling Time     : 60 seconds
Pending Interval : 60 seconds
Action Type      : Free Buffer
Total Free Counter : 0
Current Pending Counter : 0
DGS-1210-28/ME:5# debug show packet_memory_leakage information 28
Command: debug show packet_memory_leakage information 28

[028]PacketLength:0, on port 0 vlan 0, During 25270 secs
DGS-1210-28/ME:5#
```

## debug show ports

Purpose	To print the register values of ports.
Syntax	<b>debug show ports [ &lt;portlist&gt;   all ]</b>
Description	To print the register values of ports.
Parameters	<i>&lt;portlist&gt;</i> – A port or range of ports whose settings are to be configured
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To print the register values of ports:

```
DGS-1210-28/ME:5# debug show ports 1
```

```
Command: debug show ports 1
```

```
Port Register Value
```

```
-----
1    0x00 0x1140
1    0x01 0x79c9
1    0x02 0x600d
1    0x03 0x85b0
1    0x04 0x01e1
1    0x05 0x0000
1    0x06 0x0064
1    0x07 0x2001
1    0x08 0x0000
1    0x09 0x0600
1    0x0a 0x0000
1    0x0b 0x0000
```

```
DGS-1210-28/ME:5#
```

### **debug reset packet\_memory\_leakage\_free\_counter**

Purpose	To reset the free counter of memory leakage debug tool.
Syntax	<b>debug reset packet_memory_leakage_free_counter</b>
Description	To reset the free counter of memory leakage debug tool.
Parameters	None
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:



To reset the free counter of memory leakage debug tool:

```
DGS-1210-28/ME:5# debug reset packet_memory_leakage free_counter
Command: debug reset packet_memory_leakage free_counter
```

```
DGS-1210-28/ME:5# debug show packet_memory_leakage
Command: debug show packet_memory_leakage
```

#### Packet Memory Leakage Global Settings

```
-----
Status           : Enabled
Polling Time     : 60 seconds
Pending Interval : 60 seconds
Action Type      : Free Buffer
Total Free Counter : 0
Current Pending Counter : 0
```

## debug RX\_PACKET\_DUMP

Purpose	To sniffer ingress packets of CPU in specified port.
Syntax	<b>debug RX_PACKET_DUMP port &lt;portlist&gt; [ all   filed { DA &lt;macaddr&gt;   SA &lt;macaddr&gt;   VLAN &lt;value (0-4094)   EtherType &lt;hex_str&gt;   offset_start &lt;value (0-65535)   rx_queue &lt;value (0-7)   Ipv4_protocol &lt;hex_str&gt; } ]</b>
Description	To sniffer ingress packets of CPU in specified port.
Parameters	<p><i>port &lt;portlist&gt;</i> –A port or range of ports whose settings are to be configured</p> <p><i>DA &lt;macaddr&gt;</i> –Specifies the particular destination MAC as filter</p> <p><i>SA &lt;macaddr&gt;</i> – Specifies the particular source MAC as filter</p> <p><i>VLAN &lt;value (0-4094)</i> – Specifies the particular VLAN ID as filter</p> <p><i>EtherType &lt;hex_str&gt;</i> – Specifies the particular EtherType value as filter</p> <p><i>offset_start &lt;value (0-65535)</i> – Specifies the start location for offset filter</p> <p><i>rx_queue &lt;value (0-7)</i> – Specifies the particular ingress queue as filter</p> <p><i>Ipv4_protocol &lt;hex_str&gt;</i> - Specifies the particular <i>Ipv4_protocol</i> value as filter</p>
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To sniffer ingress packets of CPU in specific port:

```
DGS-1210-28/ME:5# debug RX_PACKET_DUMP port 3 all
Command: debug RX_PACKET_DUMP port 3 all
```

```
Receive packet on port 3 vlanId 1 ,and queue 1
```

```
packet[64]:
```

```
FF:FF:FF:FF:FF:FF 20:1A:06:31:27:AC 8100 0001
0806 0001 0800 0604 0001 201A 0631 27AC
0A5A 5A7A 0000 0000 0000 0A5A 5A4E 0000
0000 0000 0000 0000 0000 0000 0000 0000
```

## debug TX\_PACKET\_DUMP

Purpose	To sniffer egress packets of CPU in specific port.
Syntax	<b>debug TX_PACKET_DUMP port &lt;portlist&gt; [ all   filed { DA &lt;macaddr&gt;   SA &lt;macaddr&gt;   VLAN &lt;value (0-4094)   EtherType &lt;hex_str&gt;   offset_start &lt;value (0-65535)   Ipv4_protocol &lt;hex_str&gt; } ]</b>
Description	To sniffer ingress packets of CPU in specific port.
Parameters	<p><i>port &lt;portlist&gt;</i> –A port or range of ports whose settings are to be configured</p> <p><i>DA &lt;macaddr&gt;</i> –Specifies the particular destination MAC as filter</p> <p><i>SA &lt;macaddr&gt;</i> – Specifies the particular source MAC as filter</p> <p><i>VLAN &lt;value (0-4094)</i> – Specifies the particular VLAN ID as filter</p> <p><i>EtherType &lt;hex_str&gt;</i> – Specifies the particular EtherType value as filter</p> <p><i>offset_start &lt;value (0-65535)</i> – Specifies the start location for offset filter</p> <p><i>Ipv4_protocol &lt;hex_str&gt;</i> - Specifies the particular <i>Ipv4_protocol</i> value as filter</p>
Restrictions	Administrator, Operator and Power User can issue this command.

Example usage:

To sniffer egress packets of CPU in specific port:

```
DGS-1210-28/ME:5# debug TX_PACKET_DUMP port 2 all
Command: debug TX_PACKET_DUMP port 2 all
```

```
DGS-1210-28/ME:5#
```

```
Transmit packets on port 2 vlanId 1
```

```
packet[60]:
```

```
00:00:00:00:00:03 F4:8C:EB:31:D9:68 0806 0001
0800 0604 0002 F48C EB31 D968 0A5A 5A5A
0000 0000 0003 0A5A 5A01 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
```

**debug NO\_RX\_PACKET\_DUMP**

Purpose	To disable ingress packet dump feature.
Syntax	<b>debug NO_RX_PACKET_DUMP</b>
Description	To disable ingress packet dump feature.
Parameters	None
Restrictions	Administrator, Operator and Power User can issue this command.

**debug NO\_TX\_PACKET\_DUMP**

Purpose	To disable egress packet dump feature.
Syntax	<b>debug NO_RX_PACKET_DUMP</b>
Description	To disable egress packet dump feature.
Parameters	None
Restrictions	Administrator, Operator and Power User can issue this command.

## DEVICE SPECIFICATIONS

This appendix contains the device specifications, and contains the following topics:

- **Technical Specifications**
- **Supported Transceivers**

### Technical Specifications

Performance	
<b>Transmission Method</b>	Store-and-forward
<b>Packet Buffer memory</b>	DGS-1210-10/ME: 1.5Mbytes DGS-1210-10P/ME: 1.5Mbytes DGS-1210-12TS/ME: 1.5Mbytes DGS-1210-20/ME: 1.5Mbytes DGS-1210-28/ME: 1.5Mbytes DGS-1210-28P/ME: 1.5Mbytes DGS-1210-28MP/ME: 1.5Mbytes DGS-1210-28X/ME: 1.5Mbytes DGS-1210-28XS/ME: 1.5Mbytes DGS-1210-52/ME: 3.0Mbytes DGS-1210-52P/ME: 3.0Mbytes DGS-1210-52MP/ME: 3.0Mbytes DGS-1210-52MPP/ME: 3.0Mbytes
<b>64 Bytes Max. Packet Forwarding Rate</b>	Full-wire speed for all connections. DGS-1210-10/ME: 14.88Mpps DGS-1210-10P/ME: 14.88Mpps DGS-1210-12TS/ME: 17.86Mpps DGS-1210-20/ME: 29.8Mpps DGS-1210-28/ME: 41.7Mpps DGS-1210-28P/ME: 41.7Mpps DGS-1210-28MP/ME: 41.7Mpps DGS-1210-28X/ME: 95.24Mpps DGS-1210-28XS/ME: 95.24Mpps DGS-1210-52/ME: 77.4Mpps DGS-1210-52P/ME: 77.4Mpps DGS-1210-52MP/ME: 77.4Mpps DGS-1210-52MPP/ME: 77.4 Mpps
<b>MAC Address Learning</b>	Automatic update. Supports 16K MAC address.
<b>DRAM</b>	256 MB – DDR3
<b>Flash Memory</b>	32 MB – SPI flash
<b>Priority Queues</b>	8 Priority Queues per port.
<b>Forwarding Table Age Time</b>	Max age: 10–600 seconds.

Performance	
	Default = 300.

Physical and Environmental	
<b>AC Inputs</b>	<p>DGS-1210-10/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.3A</p> <p>DGS-1210-10P/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 1.3A</p> <p>DGS-1210-12TS/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.4A</p> <p>DGS-1210-20/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.33A</p> <p>DGS-1210-28/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.43A</p> <p>DGS-1210-28P/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 3.05A</p> <p>DGS-1210-28MP/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 5.48A</p> <p>DGS-1210-28X/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.58A</p> <p>DGS-1210-28XS/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.98A</p> <p>DGS-1210-52/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 0.7A</p> <p>DGS-1210-52P/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 3.36A</p> <p>DGS-1210-52MP/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 5.78A</p> <p>DGS-1210-52MPP/ME: AC Input: 100 – 240 VAC, 50-60 Hz, Max. 10A</p>
<b>Power Consumption</b>	<p>DGS-1210-10/ME: Maximum power consumption: 13.59Watts Standby power consumption: 9.4Watts</p> <p>DGS-1210-10P/ME: Maximum power consumption: 103.4Watts (PoE on), 17.9Watts (PoE off)</p>

**Physical and Environmental**

	<p>Standby power consumption: 11.1Watts</p> <p>DGS-1210-12TS/ME: Maximum power consumption: 13.85Watts Standby power consumption: 7.49Watts</p> <p>DGS-1210-20/ME: Maximum power consumption: 13.97Watts Standby power consumption: 6.95Watts</p> <p>DGS-1210-28/ME: Maximum power consumption: 19.14Watts Standby power consumption: 8.21Watts</p> <p>DGS-1210-28P/ME: Maximum power consumption: 251.5Watts (PoE on), 28.7Watts (PoE off) Standby power consumption: 18.4Watts</p> <p>DGS-1210-28MP/ME: Maximum power consumption: 455Watts (PoE on), 35.6Watts (PoE off) Standby power consumption: 23.5Watts</p> <p>DGS-1210-28X/ME: Maximum power consumption: 24.5Watts Standby power consumption: 13Watts</p> <p>DGS-1210-28XS/ME: Maximum power consumption: 33.4Watts Standby power consumption: 16.7Watts</p> <p>DGS-1210-52/ME : Maximum power consumption: 38.85Watts Standby power consumption: 21.72Watts</p> <p>DGS-1210-52P/ME: Maximum power consumption: 273.2Watts (PoE on), 47.9Watts (PoE off) Standby power consumption: 32Watts</p> <p>DGS-1210-52MP/ME: Maximum power consumption: 479.5Watts (PoE on), 54.4Watts (PoE off) Standby power consumption: 33Watts</p> <p>DGS-1210-52MPP/ME: Maximum power consumption: 957.9Watts (PoE on), 56.8Watts</p>
--	--

<b>Physical and Environmental</b>	
	(PoE off) Standby power consumption: 37.8Watts
<b>Fans</b>	DGS-1210-10/ME: Fanless DGS-1210-10P/ME: Fanless DGS-1210-12TS/ME: Fanless DGS-1210-20/ME: Fanless DGS-1210-28/ME: Fanless DGS-1210-28P/ME: 2pcs Smart fan DGS-1210-28MP/ME: 3pcs Smart fan DGS-1210-28X/ME: 1pcs Smart fan DGS-1210-28XS/ME: 2pcs Smart fan DGS-1210-52/ME: 1pcs Smart Fan DGS-1210-52P/ME: 2pcs Smart Fan DGS-1210-52MP/ME: 3pcs Smart Fan DGS-1210-52MPP/ME: 5pcs Smart Fan
<b>Operating Temperature</b>	-5 to 50 degrees Celsius
<b>Storage Temperature</b>	-40 to 70 degrees Celsius
<b>Humidity</b>	Storage: 5% to 95% non-condensing
<b>Dimensions</b>	11-inch, 1U Rack-mount size: - DGS-1210-10/ME: 280mm x 126mm x 44mm - DGS-1210-10P/12TS/20/ME: 280mm x 180mm x 44 mm 19-inch, 1U Rack-mount size: - DGS-1210-28/ME: 440mm x 140mm x 44 mm - DGS-1210-28P/28X/28XS/52/ME: 440mm x 210mm x 44 mm - DGS-1210-28MP/ME: 440mm x 250mm x 44 mm - DGS-1210-52P/52MP/52MPP/ME: 440mm x 430mm x 44 mm
<b>Weight</b>	DGS-1210-10/ME: 1.05 kg DGS-1210-10P/ME: 1.92 kg DGS-1210-12TS/ME: 1.17 kg DGS-1210-20/ME: 1.38 kg DGS-1210-28/ME: 2.21 kg DGS-1210-28P/ME: 3.34 kg DGS-1210-28MP/ME: 3.96 kg DGS-1210-28X/ME: 2.68 kg DGS-1210-28XS/ME: 2.96 kg DGS-1210-52/ME: 3.31 kg DGS-1210-52P/ME: 5.72 kg DGS-1210-52MP/ME: 6.04 kg DGS-1210-52MPP/ME: 6.52 kg
<b>EMI</b>	CE, FCC, VCCI, BSMI CE (DGS-1210-28X/ME, 28XS/ME only)
<b>Safety</b>	UL, CB, LVD, BSMI UL, CB, LVD (DGS-1210-28X/ME, 28XS/ME only)

General	
<b>Number of Ports:</b>	<p>DGS-1210-10/ME: 8-Ports 10/100/1000Mbps + 2-Ports 1000Mbps SFP</p> <p>DGS-1210-10P/ME: 8-Ports PoE 10/100/1000Mbps + 2-Ports 1000Mbps SFP</p> <p>DGS-1210-12TS/ME: 10-Ports 1000Mbps SFP + 2-Ports 10/100/1000Mbps</p> <p>DGS-1210-20/ME: 16-Ports 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-28/ME: 24-Ports 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-28P/ME: 24-Ports PoE 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-28MP/ME: 24-Ports PoE 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-28X/ME: 24-Ports 10/100/1000Mbps + 4-Ports 10G SFP+</p> <p>DGS-1210-28XS/ME: 24-Ports 100/1000Mbps SFP + 4-Ports 10G SFP+</p> <p>DGS-1210-52/ME: 48-Ports 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-52P/ME: 48-Ports 10/100/1000Mbps with 24-Ports PoE 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-52MP/ME: 48-Ports PoE 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p> <p>DGS-1210-52MPP/ME: 48-Ports PoE 10/100/1000Mbps + 4-Ports 1000Mbps SFP</p>



<b>Standards</b>	<ul style="list-style-type: none"> <li>• IEEE 802.3 10BASE-T Ethernet</li> <li>• IEEE 802.3u 100BASE-TX Fast Ethernet</li> <li>• IEEE 802.3ab 1000BASE-T Gigabit Ethernet</li> <li>• IEEE 802.3ae 10 Gigabit Ethernet (for 28X/ME, 28XS/ME)</li> <li>• IEEE 802.3u 100BASE-FX (for 28XS/ME)</li> <li>• IEEE 802.3z 1000BASE-X Gigabit Fiber (for 28XS/ME, 12TS/ME)</li> <li>• IEEE 802.3x Flow Control for full-duplex mode, auto-negotiation</li> </ul>
<b>Protocols</b>	CSMA/CD
<b>Duplex Mode</b>	Full/half-duplex for 10/100Mbps and full-duplex for 1000Mbps speed
<b>Topology</b>	Star

#### Optional DC Primary Power Supply (Non-PoE Models Only)

<b>SF24-2120200-1C</b>	Input voltage: 72V DC to 36V DC, output voltage: 12V/2A (for DGS-1210-ME, 20/ME, 28/ME B1)
<b>SE40-1120333-3C</b>	Input voltage: 72V DC to 36V DC, output voltage: 12V/3.33A (for DGS-1210-52/ME B1)

#### Network Cables

• UTP Cat. 3, Cat. 4, Cat. 5, Cat. 5e (100m max.) • EIA/TIA-568 150-ohm STP (100m max.)

#### Redundant Power Supply (for DGS-1210-10/ME, 12TS/ME, 20/ME, 28/ME, 28X/ME, 28XS/ME, 52/ME only)

<b>DPS-200A</b>	Redundant Power Supply DPS-200A
<b>DPS-500A</b>	Redundant Power Supply DPS-500A
<b>DPS-500DC</b>	Redundant Power Supply DPS-500DC
<b>DPS-CB150-2PS</b>	150cm RPS cable for connecting DGS-1210-10/ME, 12TS/ME, 20/ME, 28/ME, 28X/ME, 28XS/ME, 52/ME, and DPS-200A/500A/500DC
<b>SU54-21124-000S</b>	Optional 54 W AC to DC Power Supply Unit with external lead-acid battery support that can be used as a redundant power supply or to connect an external 12 V DC lead-acid battery to charge the switch. The minimum requirement voltage for the lead-acid battery is 12 V DC, with a minimum capacity of 2 AH (for DGS-1210-10/ME, 20/ME, 28/ME, 52/ME).

## Supported Transceivers

Optional SFP Transceivers	
<b>DEM-310GT</b>	1000BASE-LX, Single-mode, 10 km
<b>DEM-311GT</b>	1000BASE-SX, Multi-mode, 500 m
<b>DEM-312GT2</b>	1000BASE-SX, Multi-mode, 2 km
<b>DEM-312GT2</b>	1000BASE-LHX, Single-mode, 50 km
<b>DEM-315GT</b>	1000BASE-ZX, Single-mode, 80 km
<b>DGS-712</b>	1000BASE-T 100 m (only supports 1000 Mbps mode) (no flow control)
<b>DEM-302S-LX</b>	1000BASE-LX, Single-mode, 2 km
<b>DEM-210</b>	100BASE-FX, Single-mode, 15 km (for DGS-1210-28XS/ME only)
<b>DEM-211</b>	100BASE-FX, Multi-mode, 2 km (for DGS-1210-28XS/ME only)

Optional WDM SFP Transceivers	
<b>DEM-330T</b>	1000BASE-LX, Single-mode, 10 km, Tx: 1550, Rx:1310 nm
<b>DEM-330R</b>	1000BASE-LX, Single-mode, 10 km, Tx: 1310, Rx: 1550 nm
<b>DEM-331T</b>	1000BASE-LX, Single-mode, 40 km, Tx: 1550, Rx: 1310 nm
<b>DEM-331R</b>	1000BASE-LX, Single-mode, 40 km, Tx: 1310, Rx: 1550 nm
<b>DEM-302S-BXD</b>	1000BASE-LX, Single-mode, 2 km, Tx: 1550, Rx: 1310 nm
<b>DEM-302S-BXU</b>	1000BASE-LX, Single-mode, 2 km, Tx: 1310, Rx: 1550 nm
<b>DEM-220T</b>	100BASE-BX, Single-mode, 20 km, Tx: 1550, Rx: 1310 nm (for DGS-1210-28XS/ME only)
<b>DEM-220R</b>	100BASE-BX, Single-mode, 20 km, Tx: 1310, Rx: 1550 nm (for DGS-1210-28XS/ME only)

Optional SFP+ Transceivers (for DGS-1210-28X/ME, 28XS/ME only)	
<b>DEM-431XT</b>	10GBASE-SR SFP+ Transceiver (without DDM), 33 m: OM1 MMF, 82 m: OM2 MMF, 300 m: OM3 MMF
<b>DEM-431XT-DD</b>	10GBASE-SR SFP+ Transceiver (with DDM), 33 m: OM1 MMF, 82 m: OM2 MMF, 300 m: OM3 MMF
<b>DEM-432XT</b>	10GBASE-LR SFP+ Transceiver (without DDM), 10 km
<b>DEM-432XT-DD</b>	10GBASE-LR SFP+ Transceiver (with DDM), 10 km
<b>DEM-433XT</b>	10GBASE-ER SFP+ Transceiver (without DDM), 40 km
<b>DEM-433XT-DD</b>	10GBASE-ER SFP+ Transceiver (with DDM), 40 km
<b>DEM-434XT</b>	10GBASE-ZR SFP+ Transceiver (without DDM), 80 km
<b>DEM-436XT-BXD</b>	10GBASE-LR BiDi SFP+ Transceiver (without DDM), Tx: 1330 nm, Rx: 1270 nm, 20 km
<b>DEM-436XT-BXU</b>	10GBASE-LR BiDi SFP+ Transceiver (without DDM), Tx: 1270 nm, Rx: 1330 nm, 20 km

Optional SFP+ Direct Attach Stacking Cables (for DGS-1210-28X/ME, 28XS/ME only)
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<b>Optional SFP+ Direct Attach Stacking Cables (for DGS-1210-28X/ME, 28XS/ME only)</b>	
<b>DEM-CB100S</b>	10-Gbe SFP+ 1 m Direct Attach Cable
<b>DEM-CB300S</b>	10-Gbe SFP+ 3 m Direct Attach Cable
<b>DEM-CB700S</b>	10-Gbe SFP+ 7 m Direct Attach Cable