



# CLI REFERENCE GUIDE

PRODUCT MODEL : **DGS-1210/ME SERIES**  
METRO ETHERNET SWITCHES  
RELEASE 1.00

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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 DGSigned 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

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

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# INTRODUCTION

The DGS-1210-20/ME, DGS-1210-28/ME, DGS-1210-28P/ME and DGS-1210-52/ME are L2 Managed Metro Ethernet switches. They consist of 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:

- Firmware version 6.10: Baud rate 115200bps  
Firmware version 6.11: Baud rate 9600bps
- No parity
- 8 data bits
- 1 stop bit

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-1210-28P/ME Gigabit Ethernet Switch
Command Line Interface

Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
Password:

DGS-1210-28P/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-1210-28P/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.

```

DDR speed = 667MHz
Running simple memory test ..... OK
DRAM: 128 MiB

Model_Name: DGS-1210-28P/ME
Hit any key to stop autoboot: 0
  Uncompressing Kernel Image ... OK

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

MAC Address : 9C-D6-43-60-4F-A4
H/W Version : Rev.A1
F/W Version : 6.10.B020
.....

```

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-1210-28P/ME:5# config ipif System ipaddress 10.90.90.91/8
Command: config ipif System ipaddress 10.90.90.91/8

Success.

DGS-1210-28P/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
- Firmware version 6.10: Baud rate 115200bps  
Firmware version 6.11: 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-1210-28P/ME Gigabit Ethernet Switch
Command Line Interface

Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:
Password:

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

Figure 2–1 Initial Console Screen after Logging In

Commands are entered at the command prompt, DGS-1210-28P/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.

```

Command: ?

?
CPU Loading
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
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL_

```

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.

```

traffic_segmentation          vlan          vlan_trunk

DES-1210-28/ME:5# config ipif
Command: config ipif

Next possible completions:
System
DES-1210-28/ME:5# config mirror
Command: config mirror

Next possible completions:
target
DES-1210-28/ME:5# config vlan
Command: config vlan

Next possible completions:
<vlan_name 20>          vlanid
DES-1210-28/ME:5# config time
Command: config time

Next possible completions:
<date>
DES-1210-28/ME:5#

```

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.

```

add          advertisement      delete
DGS-1210-28P/ME:5# config 802.1p
Command: config 802.1p

Next possible completions:
default_priority  user_priority
DGS-1210-28P/ME:5# config time
Command: config time

Next possible completions:
<date>
DGS-1210-28P/ME:5# config igmp
Command: config igmp

Next possible completions:
access_authentication
DGS-1210-28P/ME:5# config 802.1x
Command: config 802.1x

Next possible completions:
auth_mode          auth_parameter      auth_protocol      capability
fwd_pdu            guest_vlan          init               reauth
DGS-1210-28P/ME:5#

```

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-1210-28P/ME:5# asd
Available commands:
?          CPU_Loading      cable          clear
config     create          delete        disable
download   enable         logout        ping
ping6      reboot         reset         save
show       smtp           telnet        test
upload
DGS-1210-28P/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.

```

igmp_snooping      ipif      lacp
limited_multicast_addr  link_aggregation  lldp
log                log_save_timing  loopdetect      mac_notification
management        max_mcast_group  mcast_filter_profile
mirror            multicast      multicast_fdb   packet
port_security     ports        pppoe          qinq
radius            rmon         router_ports    safeguard_engine
scheduling        scheduling_mechanism  session
smart_binding     smtp         snmp           snmp
ssh               ssl          stp            switch
syslog           tech         time           traffic
traffic_segmentation  trusted_host  uplink
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 DGScribe 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.

<angle brackets>	
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	<b>create account admin newadmin1</b>

[square brackets]	
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	<b>create account user newuser1</b>

vertical bar	
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	<b>create account user newuser1</b>

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
Description	execute "reset" will return the switch to its factory default setting.
Example command	reset Please be aware that all configurations will be reset to default value. Are you sure you want to proceed with system reset now? (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>
show session	
show switch	
show serial_port	
config serial_port	{baud_rate [9600   19200   38400   115200]   auto_logout [never   2_minutes   5_minutes   10_minutes   15_minutes]}
enable clipaging	
disable clipaging	
enable web	{<tcp_port_number 1-65535>}
disable web	
enable autoconfig	
disable autoconfig	
save	{[config config_id <value 1-2>   log]}
reboot	
reset	{[config   system   account   password]} {force_agree}
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>}
enable telnet	
disable telnet	
show 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-1210-28P/ME:5# enable password encryption
Command: enable password encryption

Success.

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

## disable password encryption

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

Success.
```

**DGS-1210-28P/ME:5#****create account**

Purpose	To create user accounts.
Syntax	<b>create account [admin   operator   power-user   user] &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	<p><i>admin</i> – Name of the administrator account.</p> <p><i>operator</i> – Specify an operator level account.</p> <p><i>power-user</i> – Specify a power-user level account.</p> <p><i>user</i> – Specify a user account with read-only permissions.</p> <p><i>&lt;username 15&gt;</i> – The account username may be between 1 and 15 characters.</p> <p><i>password &lt;password_string&gt; {encrypted}</i> - the account password can be included, and (optionally) can be encrypted.</p>
Restrictions	<p>Only Administrator level users can issue this command.</p> <p>Usernames can be between 1 and 15 characters.</p> <p>Passwords can be between 0 and 15 characters.</p>



**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-1210-28P/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-1210-28P/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	<username 15> – the account username.
Restrictions	Only Administrator-level users can issue this command.

**Example usage:**

To configure the user password of 'dlink' account:

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

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

Success.

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

Username      Access Level
-----
dlink         Admin

Total Entries : 1

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

Success.

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

**show session**

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 includes 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

Total Entries: 1

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-1210-28P/ME:5# show switch
Command: show switch

Device Type           : DGS-1210-28P/ME
MAC Address           : 9C-D6-43-60-4F-A4
IP Address             : 10.90.90.90 (Manual)
VLAN Name              : default
Subnet Mask            : 255.0.0.0
Default Gateway        : 0.0.0.0
Default Gateway        : 0.0.0.0
System Protocol Version : 2.001.004
System Firmware Version : 6.10.B019
System Hardware Version : A1
System Serial Number   : S3221DB000014
System Name            : 2
System Location        :
System up time         : 0 days, 0 hrs, 4 min, 43 secs
System Contact         :
System Time            : 01/01/2014 00:04:11
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

DGS-1210-28P/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-1210-28P/ME:5# show serial_port
Command: show serial_port

Baud Rate   : 115200
Data Bits   : 8
Parity Bits  : None
Stop Bits    : 1
Auto-Logout : 10 minutes

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

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable clipaging
Command: disable clipaging

Success.
DGS-1210-28P/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:

```
DGS-1210-28P/ME:5# enable web 80
Command: enable web 80

Note: SSL will be disabled if web is enabled.
Success.
DGS-1210-28P/ME:5#
```

<b>disable web</b>	
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:

```
DGS-1210-28P/ME:5# disable web
Command: disable web

Success.

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

<b>enable autoconfig</b>	
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-1210-28P/ME:5# enable autoconfig
Command: enable autoconfig

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable autoconfig
Command: disable autoconfig

Success.
DGS-1210-28P/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-1210-28P/ME:5# show autoconfig
Command: show autoconfig

Autoconfig State: Enabled
```

```
Timeout      : 50 sec
```

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

## save

Purpose	To save changes in the Switch's configuration to non-volatile RAM.
Syntax	<b>save</b> {[ <b>config config_id</b> <value 1-2>   <b>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	<i>config</i> – Used to save the current configuration to a file. <i>config_id</i> <value 1-2> - Specifies which cfg file ID. if cfg ID is not specified, it refers to the boot_up CFG file. <i>log</i> – Used to save the current log to a file. The log file cannot be deleted.
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-1210-28P/ME:5# save
Command: save

Building configuration ...
[OK]
DGS-1210-28P/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</b>
Description	The <b>reboot</b> command restarts the Switch.
Parameters	None.
Restrictions	Only Administrator -level users can issue this command.

### Example usage:

To restart the Switch:

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

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```

```

UserName: System will Reboot....
DDR type: DDR3
DDR speed = 667MHz
Running simple memory test ..... OK
DRAM: 128 MiB

Model_Name: DGS-1210-28P/ME
Hit any key to stop autoboot: 0
Uncompressing Kernel Image ... OK

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

100%

MAC Address : 9C-D6-43-60-4F-A4
H/W Version : Rev.A1
F/W Version : 6.10.B020

.....

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

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UserName:
Password:
    
```

<b>reset</b>	
Purpose	To reset the Switch to the factory default settings.
Syntax	<b>reset {[config   system   account   password]} {force_agree}</b>
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</p>

	<p>default password settings are restored on the Switch.</p> <p><i>{force_agree}</i> - When <i>force_agree</i> 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-1210-28P/ME:5# reset system
Command: reset system

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

<b>logout</b>	
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-1210-28P/ME:5# logout
```

<b>ping</b>	
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-1210-28P/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-1210-28P/ME:5#
```

**ping6**

Purpose	To test the IPv6 connectivity between network devices.
Syntax	<b>ping6 &lt;ipv6_addr&gt; {frequency &lt;sec 0-86400&gt;   size &lt;value 1-1522&gt;   source_ip &lt;ipv6_addr&gt;   timeout &lt;sec 1-99&gt;   times &lt;value 1-255&gt;}</b>
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><i>&lt;ipv6_addr&gt;</i> - The IPv6 address of the host.</p> <p><i>frequency &lt;sec 0-86400&gt;</i> - 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><i>size &lt;short 1-1522&gt;</i> - Specify the size of the test packet. A value of 1 to 6000 can be specified.</p> <p><i>source_ip &lt;ipv6_addr &gt;</i> - 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><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>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>
Restrictions	None.

**Example usage:**

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

```
DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# enable telnet**

**Command: enable telnet**

**Success.**

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

**Command: disable telnet**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# show tech support

Command: show tech support

- Stacktrace Log -

No stacktrace information.

- System Info. -

Device Type           : DGS-1210-28P/ME
MAC Address           : 9C-D6-43-60-4F-A4
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   : 1.00.013
System Protocol Version : 2.001.004
System Firmware Version : 6.10.B019
System Hardware Version : A1
System Serial Number  : S3221DB000014
System Name           : 2
System Location       :
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```

## 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:

### enable smtp

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-1210-28P/ME:5# enable smtp
Command: enable smtp

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

### disable smtp

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 SMTP feature on the Switch:

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

Success.
DGS-1210-28P/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 [self_mail_addr &lt;mail_addr 64&gt;   server [&lt;ipaddr&gt;   &lt;ipv6addr&gt;]   server_port &lt;tcp_port_number 1-65535&gt;] [{add mail_receiver &lt;mail_addr 64&gt;  delete mail_receiver &lt;index 1-8&gt;}]</b>
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><i>server</i> [&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><i>add mail_receiver</i> &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><i>delete mail_receiver</i> &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-1210-28P/ME:5# config smtp self_mail_addr dlink@mail.com.tw
Command: config smtp self_mail_addr dlink@mail.com.tw

Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# smtp sent_testmsg
Command: smtp sent_testmsg

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

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

**Success.**

**DGS-1210-28P/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 32>   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</b> [<string 32>   default   username]
Description	The <b>config command_prompt</b> command configures the command prompt.
Parameters	<p><i>&lt;string 32&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-1210-28P/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 DGScribed 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.</p> <p>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> <p>Only valid in threshold level.</p>

**Example usage:**

```

To the banner:DGS-1210-28P/ME:5#
Command: config greeting_message

Greeting Messages Editor
=====

                DGS-1210-28/ME Fast Ethernet Switch
                Command Line Interface

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=====

<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
    
```

<b>show greeting_message</b>	
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-1210-28P/ME:5# show greeting_message
Command: show greeting_message

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

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

## 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>] medium_type [copper   fiber] MDI/MDIX [MDI   MDIX   auto] {clear_description   description <DGSc 32>   flow_control [enable   disable]   learning [enable   disable]   state [enable   disable]   speed [auto   1000_full   100_full   100_half   10_full   10_half]}
show ports	{<portlist>   all} {description   err_disabled}

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>] medium_type [copper   fiber] MDI/MDIX [MDI   MDIX   auto] {clear_description   description <desc 32>   flow_control [enable   disable]   learning [enable   disable]   state [enable   disable]   speed [auto   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>medium_type</i> [copper   fiber] – If configuring the Combo ports, this defines the type of medium being configured.</p> <p><i>MDI/MDIX</i> [MDI   MDIX   auto] – Specifies the MDI or 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><i>clear_description</i> – Clear the description of selected port.</p> <p><i>description</i> &lt;desc 32&gt; – Enter and alphanumeric string of no more that 32 characters to DGScibe a selected port interface.</p> <p><i>flow_control</i> [enable] – Enables flow control for the specified ports.</p> <p><i>flow_control</i> [disable] – Disables flow control for the specified ports.</p> <p><i>learning</i> [enable   disable] c Enables or disables the MAC address learning on the specified range of ports.</p> <p><i>state</i> [enable   disable] – Enables or disables the specified range of ports.</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><i>auto</i> – Enables auto-negotiation for the specified range of</li> </ul>

	ports.
	<ul style="list-style-type: none"> <li>• <i>[10   100   1000]</i> – Configures the speed in Mbps for the specified range of ports.</li> <li>• <i>[half   full]</i> – 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 1-3 to be 100 Mbps, full duplex, learning and state enabled:

```
DGS-1210-28P/ME:5# config ports 1-3 medium_type copper speed 100_full
learning enable state enable
Command: config ports 1-3 medium_type copper speed 100_full learning enable
state enable

Success.

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

<b>show ports</b>	
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 a port or range of ports.
Parameters	<p>&lt;portlist&gt; – A port or range of ports whose settings are to be displayed.</p> <p>all – Specifies all ports to be displayed.</p>
Restrictions	None.

**Example usage:**

To display the configuration of port 8 on the Switch:

```
DGS-1210-28P/ME:5# show ports 8
Command: show ports 8

Port State/      Settings          Connection        Address
Type  MDI          Speed/Duplex/FlowCtrl  Speed/Duplex/FlowCtrl  Learning
-----  -----  -
8      Enabled  Auto/Disabled          Link Down              Enabled
      Auto
```

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

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable loopdetect
Command: disable loopdetect
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# config loopdetect mode portbase
Command: config loopdetect mode portbase
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# config loopdetect ports all enable
Command: config loopdetect ports all enable
```

```
Success.
DGS-1210-28P/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</i> <value 1-32767> – Specifies the interval time of loop back detection. The range is between 1 and 32767 seconds. <i>lbd_recover_time</i> [0   <value 60-10000>] – 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-1210-28P/ME:5# config loopdetect interval_time 500
Command: config loopdetect interval_time 500

Success.
DGS-1210-28P/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	<portlist> – 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-1210-28P/ME:5# show loopdetect
Command: show loopdetect

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

```
Loopdetect Interval : 2  
Recover Time : 60  
DGS-1210-28P/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 }

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

**Example usage:**

To configure a land attack and blat attack prevention:

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

Success.

DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# show dos_prevention land_attack
Command: show dos_prevention land_attack

DoS Type      : Land Attack
State         : Enabled
```

**Action** : Drop  
**Frame Counts** : -

**DGS-1210-28P/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> ]   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>D</li> <li>evice 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-1210-28P/ME:5# config pppoe circuit_id_insertion state enable
```



```
Command: config pppoe circuit_id_insertion state enable
```

```
Success.
```

```
DGS-1210-28P/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; ]   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>The default encoding for the device ID option is the Switch IP address.</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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show pppoe circuit_id_insertion
Command: show pppoe circuit_id_insertion

Status: Enabled

DGS-1210-28P/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-1210-28P/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-1210-28P/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 Addresses and Client MAC Addresses 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]
show filter dhcp_server	

Each command is listed in detail, as follows:

config filter dhcp_server	
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</b> [add permit server_ip <ipaddr> { client_mac <macaddr>} ports [ <portlist>   all ]   delete permit server_ip <ipaddr> { client_mac <macaddr> } {ports <portlist> state [ enable   disable]}
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 be 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 the network.
Parameters	<p>&lt;ipaddr&gt; – The IP address of the DHCP server to be filtered</p> <p>client_mac &lt;macaddr&gt; – The MAC address of the DHCP client.</p> <p>ports &lt;portlist&gt; – The port number to which the DHCP filter will be applied.</p> <p>state – Enable/Disable the DHCP filter state.</p>
Restrictions	Only administrator or operator-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-1210-28P/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-1210-28P/ME:5#
```

## config filter dhcp\_server

Purpose	DHCP se
Syntax	<b>config filter dhcp_server illegal_server_log_suppress_duration</b> [1min   5min   30min]
Description	The <b>config filter dhcp_server</b> .
Parameters	[1min   5min   30min] – 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show filter dhcp_server
Command: show filter dhcp_server
```

```
Enabled ports :
Illegal Server Log Suppress Duration : 5 Minutes
```

**DGS-1210-28P/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> port <port 1-28>
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 <port 1-28>]   ports]}
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}
show address_binding dhcp_snoop	[binding_entry   max_entry] ports <portlist>

Each command is listed in detail, as follows:

**create address\_binding ip\_mac**

Purpose	Used to create an IP-MAC-port binding entry.
Syntax	<b>create address_binding ip_mac</b> [ <i>ipaddress</i> <ipaddr>   <i>ipv6address</i> <ipv6addr>] <i>mac_address</i> <macaddr> <i>port</i> <port 1-28>
Description	The <b>create address_binding ip_mac ipaddress</b> command is used to create an IP-MAC-port binding entry.
Parameters	<i>ipaddress</i> <ipaddr> – The IPv4 address of the device where the IP-MAC-port binding is made. <i>ipv6address</i> <ipv6addr> – The IPv4v6 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. <port 1-28> – Specifies a port to be configured for address binding.
Restrictions	Only administrator or operate-level users can issue this command.

**Example usage:**

To create address binding on the Switch:

```
DGS-1210-28P/ME:5# create address_binding ip_mac ipaddress 10.0.0.21
mac_address 00-00-00-00-01-02 port 3
Command: create address_binding ip_mac ipaddress 10.0.0.21
mac_address 00-00-00-00-01-02 port 3

Success.
DGS-1210-28P/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_dhcp pkt [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_dhcp pkt. 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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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>ipv6address &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 the blocked VLANs and their bound physical addresses.</p> <p><i>&lt;port 1-28&gt;</i> – Specifies a port to be deleted for address binding.</p>
Restrictions	Only administrator or operate-level users can issue this command.

**Example usage:**

To delete all address binding entries on the Switch:

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

```
Success.
```

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

**show address\_binding**

Purpose	Used to display IP-MAC-port binding entries.
Syntax	<b>show address_binding [{ip_mac [all   {ipaddress &lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;   mac_address &lt;macaddr&gt;}]   blocked [all   vlan_name &lt;string 32&gt; mac_address &lt;macaddr&gt; port &lt;port 1-28&gt;]   ports}]}</b>
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	<p><i>ip_mac</i> – The database the user creates for address binding.</p> <p><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.</p> <p><i>blocked</i> – The address database that the system auto learns and blocks.</p> <p><i>ipaddress</i> &lt;<i>ipaddr</i>&gt; – The IPv4 address of the device where the IP-MAC-port binding is made.</p> <p><i>ipv6address</i> &lt;<i>ipv6addr</i>&gt; – The IPv6 address of the device where the IP-MAC-port binding is made.</p> <p>&lt;<i>macaddr</i>&gt; – The MAC address of the device where the IP-MAC-port binding is made.</p> <p><i>vlan_name</i> &lt;<i>string 32</i>&gt; – 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>port</i> &lt;<i>port 1-28</i>&gt; – Specifies a port to be displayed for the address binding on the Switch.</p>
Restrictions	None.

**Example usage:**

To display address binding entries on the Switch:

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

**show address\_binding auto\_scan list**

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:

```
DGS-1210-28P/ME:5# show address_binding auto_scan list
Command: show address_binding auto_scan list
```

VLAN IP Address	MAC Address	Port	Bound
-----	-----	-----	-----
<b>Total Entries : 0</b>			
<b>DGS-1210-28P/ME:5#</b>			

### enable address\_binding dhcp\_snoop

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:

```
DGS-1210-28P/ME:5# enable address_binding dhcp_snoop ports 3-5
Command: enable address_binding dhcp_snoop ports 3-5

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

### 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-1210-28P/ME:5# disable address_binding dhcp_snoop ports 4
Command: disable address_binding dhcp_snoop ports 4

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

### config address\_binding dhcp\_snoop max\_entry ports

Purpose	Used to specify the maximum number of entries which can be dynamically learned (DHCP snooping) by the specified ports.
---------	--

Syntax	<b>config address_binding dhcp_snoop max_entry ports</b> <b>[&lt;portlist&gt;   all] limit [&lt;int 1-10&gt;   no_limit] {IPv6}</b>
Description	This <b>config address_binding dhcp_snoop max_entry ports</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.
Parameters	<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.
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-1210-28P/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-1210-28P/ME:5#
```

<b>show address_binding dhcp_snoop</b>	
Purpose	Used to display DHCP snoop of IP-MAC-port binding.
Syntax	<b>show address_binding dhcp_snoop [binding_entry  </b> <b>max_entry] ports &lt;portlist&gt;</b>
Description	This <b>show address_binding dhcp_snoop</b> command is used to display DHCP snoop of IP-MAC-port binding entries. Two different kinds of information can be viewed. They are binding entry and max entry. <i>[binding_entry   max_entry]</i> – Address binding entries can be viewed by entering the physical and IP addresses of the device. <i>ports</i> – The number of enabled ports on the device to be displayed.
Parameters	<i>[binding_entry   max_entry]</i> – Specifies address binding entries can be viewed <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-1210-28P/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
```

<b>4</b>	<b>No Limit</b>	<b>No Limit</b>
<b>5</b>	<b>No Limit</b>	<b>No Limit</b>
<b>DGS-1210-28P/ME:5#</b>		

## 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
create snmp user	<username 32> <groupname 32> [v1   v2c   v3 [MD5 <auth_password 32>   SHA <auth_password 32>   none ] [DES <priv_password 32>   none]]
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>
delete snmp community	<community_string 32>
show snmp community	{<community_string 32>}
config snmp engineID	<snmp_engineID 64>
show snmp engineID	
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	

Command	Parameter
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>   network <network_address>   <ip6_addr>   ipv6_prefix <ipv6networkaddr>]
show trusted_host	
delete trusted_host	[<ipaddr>   network <network_address>   <ip6_addr>   ipv6_prefix <ipv6networkaddr>   all]
enable snmp traps	
disable snmp traps	
enable snmp authenticate trap	
disable snmp authenticate trap	
show snmp traps	
config snmp linkchange_traps ports	[<portlist>   all] [enable   disable]
show snmp traps linkchange_traps	
config snmp system_contact	<string 128>
config snmp system_location	<string 128>
config snmp system_name	<string 128>
config snmp warmstart_traps	[enable   disable]
enable snmp	
disable snmp	
enable snmp DHCP_screening traps	

Command	Parameter
disable snmp DHCP_screening 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 rstpport_state_change traps	
disable snmp rstpport_state_change traps	
enable snmp system_device_bootup traps	
disable snmp system_device_bootup traps	
enable snmp twistedpair_port_link traps	
disable snmp twistedpair_port_link traps	
enable snmp duplicate_IP_detected traps	
disable snmp duplicate_IP_detected traps	

Each command is listed in detail, as follows:



**create snmp user**

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]]</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>DES</i> – Specifies that the DGS authentication level will be used.</li> </ul>
Restrictions	Only administrator, operate or power user-level users can issue this command.

**Example usage:**

To create an SNMP user on the Switch:

```
DGS-1210-28P/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-1210-28P/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	<i>&lt;username 32&gt;</i> – 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-1210-28P/ME:5# delete snmp user dlink v3
Command: delete snmp user dlink v3
```

**Success.**

```
DGS-1210-28P/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-1210-28P/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

**Total Entries: 4**

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

**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><b>&lt;view_name 32&gt;</b> – A string of up to 30 alphanumeric characters that identifies the SNMP view to be created.</p> <p><b>&lt;oid 32&gt;</b> – The object ID that identifies an object tree (MIB tree) to be included or excluded from access by an SNMP manager.</p> <p><b>&lt;oid_mask 32&gt;</b> – The object ID mask that identifies an object tree (MIB tree) to be included or excluded from access by an SNMP manager.</p> <p><b>included</b> – IncluDGS this object in the list of objects that an SNMP manager can access.</p> <p><b>excluded</b> – 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:

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

## 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:

<p><b>DGS-1210-28P/ME:5# delete snmp view dlink 1.3.6</b></p> <p><b>Command: delete snmp view dlink 1.3.6</b></p>
<p><b>Success.</b></p>
<p><b>DGS-1210-28P/ME:5#</b></p>

## 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	<view_name 32> – 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-1210-28P/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-1210-28P/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;</b>
Description	<p>The <b>create snmp community</b> command creates an SNMP 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>&lt;community_string 32&gt; – 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>&lt;username 32&gt; – 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>
Restrictions	Only administrator, operate or power user-level users can issue this command.

**Example usage:**

To create the SNMP community string 'dlink':

```
DGS-1210-28P/ME:5# create snmp community dlinkgroup dlink
Command: create snmp community dlinkgroup dlink

Success.

DGS-1210-28P/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	<community_string 32> - 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-1210-28P/ME:5# delete snmp community dlink
Command: delete snmp community dlink

Success.

DGS-1210-28P/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	<community_string 32> - 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-1210-28P/ME:5# show snmp community
Command: show snmp community
```

```

SNMP Community Table
(Maximum Entries : 10)

Community Name      User Name
-----
public              ReadOnly
private             ReadWrite

Total Entries: 2

DGS-1210-28P/ME:5#

```

## config snmp engineID

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	<snmp_engineID 64> – 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:

```

DGS-1210-28P/ME:5# config snmp engineID 12345678900
Command: config snmp engineID 12345678900

Success.

DGS-1210-28P/ME:5#

```

## show snmp engineID

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:

```

DGS-1210-28P/ME:5# show snmp engineID
Command: show snmp engineID

```

```
Default SNMP Engine ID : *??445532d313231
```

```
SNMP Engine ID :
4445532d313231302d323600aebfcb2d8d
```

```
DGS-1210-28P/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 SNMP manager is allowed to access on the Switch.</li> </ul> <p><i>write_view</i> – Specifies that the SNMP group being created has write</p>

	privileges.
	<ul style="list-style-type: none"> <li>• <i>&lt;view_name 32</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-1210-28P/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-1210-28P/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-1210-28P/ME:5# delete snmp group sg1 v3 auth_priv
```

```
Command: delete snmp group sg1 v3 auth_priv
```

**Success.**

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

SNMP Global State : Enable

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

<b>show snmp groups</b>	
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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# delete snmp host 10.90.90.22
Command: delete snmp host 10.90.90.22
```

**Success.**

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

```
Command: create snmp v6host 3000::1 v3 noauth_nopriv dlink
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# delete snmp v6host 90.90.22
Command: delete snmp host 10.90.90.22

Success.

DGS-1210-28P/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-1210-28P/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
```

```
Success.
DGS-1210-28P/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:

```
DGS-1210-28P/ME:5# enable trusted_host
Command: enable trusted_host

Success.
DGS-1210-28P/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:

```
DGS-1210-28P/ME:5# disable trusted_host
Command: disable trusted_host

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

## create trusted\_host

Purpose	To create a trusted host.
Syntax	<b>create trusted_host</b> [<ipaddr>   network <network_address>   <ip6_addr>   ipv6_prefix <ipv6networkaddr>]
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>ip6_prefix &lt;ip6networkaddr&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-1210-28P/ME:5# create trusted_host 10.90.90.91
Command: create trusted_host 10.90.90.91

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

To create the IPv6 trusted host:

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

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

<b>show trusted_host</b>	
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-1210-28P/ME:5# show trusted_host
Command: show trusted_host

Trusted Host Status : Disable

Management Stations
```

IP Address	Subnet Mask
10.90.90.91	255.255.255.255
3000::1	128
Total Entries: 2	
DGS-1210-28P/ME:5#	

## delete trusted\_host

Purpose	To delete a trusted host entry made using the <b>create trusted_host</b> command above.
Syntax	<b>delete trusted_host</b> [ <i>&lt;ipaddr&gt;</i>   <b>network</b> <i>&lt;network_address&gt;</i>   <i>&lt;ip6_addr&gt;</i>   <b>ipv6_prefix</b> <i>&lt;ipv6networkaddr&gt;</i>   <b>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. <b>all</b> – 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-1210-28P/ME:5# delete trusted_host 10.90.90.91
Command: delete trusted_host 10.90.90.91

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

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

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

Success.
DGS-1210-28P/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-1210-28P/ME:5# enable snmp traps**

**Command: enable snmp traps**

**Success.**

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

**Command: disable snmp traps**

**Success.**

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

## 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-1210-28P/ME:5# enable snmp authenticate traps**

**Command: enable snmp authenticate traps**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# disable snmp authenticate traps
Command: disable snmp authenticate traps

Success.
DGS-1210-28P/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:

```
DGS-1210-28P/ME:5# show snmp traps
Command: show snmp traps

SNMP Traps : Enable
SNMP Authentication Traps : Enable
Coldstart Traps : Enable
Warmstart Traps : Enable
Linkchange Traps : Enable
RSTP Port State Change : Enable
Firmware Upgrade State : Enable
Port Security violation State : Enable
IMPB violation State : Enable
Loopback detection State : Enable
DHCP server screening State : Enable
Duplicate IP Detected State : Enable

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

## config snmp linkchange\_traps ports

Purpose	To configure SNMP traps support on the Switch.
Syntax	<b>config snmp linkchange_traps ports</b> [<portlist>   all] [enable   disable]
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:

```
DGS-1210-28P/ME:5# config snmp linkchange_traps ports all enable
Command: config snmp linkchange_traps ports all enable
```

Success.

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

## show snmp traps linkchange\_traps

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-1210-28P/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 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 character 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-1210-28P/ME:5# config snmp system_contact MIS
Command: config snmp system_contact MIS
```

```
Success.
DGS-1210-28P/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 DGSired.
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To configure the Switch location to "HQ":

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

```
Success.
DGS-1210-28P/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	<string 128> – A maximum of 128 characters is allowed. A NULL string is accepted if there is no location DGSired.
Restrictions	Only Administrator or operator-level users can issue this command.

#### Example usage:

To configure the Switch name for “DGS-1210:

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

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

### 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	[enable   disable] – 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-1210-28P/ME:5# config snmp warmstart_traps enable
Command: config snmp warmstart_traps enable

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

### 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-1210-28P/ME:5# enable snmp
Command: enable snmp

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable snmp
Command: disable snmp

Success.
DGS-1210-28P/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-1210-28P/ME:5# enable snmp DHCP_ screening traps
Command: enable snmp DHCP_ screening traps

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable snmp DHCP_screening
traps
Command: disable snmp DHCP_screening traps

Success.
DGS-1210-28P/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-1210-28P/ME:5# enable snmp IMPB_violation
traps
Command: enable snmp IMPB_violation traps

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable snmp IMPB_violation traps
Command: disable snmp IMPB_violation traps
```

```
Success.
```

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

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable snmp firmware_upgrade_state traps
Command disable enable snmp firmware_upgrade_state traps
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# enable snmp LBD traps
```

```
Command: enable snmp LBD traps
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable snmp LBD traps
```

```
Command: disable snmp LBD traps
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# enable snmp port\_security\_violation traps**  
**Command: enable snmp port\_security\_violation traps**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# disable snmp port\_security\_violation traps**  
**Command: disable snmp port\_security\_violation traps**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# enable snmp rstpport\_state\_change traps**  
**Command: enable snmp rstpport\_state\_change traps**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# disable snmp rstpport_state_change traps
Command: disable snmp rstpport_state_change traps
```

```
Success.
```

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

```
Success.
```

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

```
Success.
```

```
DGS-1210-28P/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>] 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>]]
show firmware information	
show config	[current_config   config_in_nvram config_id <value 1-2> {[begin   exclude   include] <string 80>}]

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>] image_id <value 1-2>]
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:\31xx.had.</p> <p><i>config_id</i> – Indicates the Configuration file is to be downloaded.</p> <p><i>firmware_fromTFTP</i> – Downloads and installs firmware on the Switch from a TFTP server.</p> <p><i>image_id</i> – Indicates the image file is to be downloaded.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To download a firmware file:

```
DGS-1210-28P/ME:5# download firmware_fromTFTP 1.1.1.23 1\DGS_1210-28me.ros
Command: download firmware_fromTFTP 1.1.1.23 1\DGS_1210-28me.ros
```



	the TFTP server. <i>config_id</i> <value 1-2> - Specifies the config id which to be uploaded.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

```
DGS-1210-28P/ME:5# upload log_toTFTP 1.1.1.23 DGS-1210-28me.ros
Command: upload log_toTFTP 1.1.1.23 DGS-1210-28me.ros
01-Jan-2000 01:26:11 %COPY-I-FILECPY: Files Copy - source
URL running-config Destination URL tftp://1.1.1.23/1/running-
config
...01-Jan-2000 01:26:16 %COPY-W-TRAP: The copy operation
was completed success fully!
158 bytes copied in 00:00:05 [hh:mm:ss]

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

**show firmware information**

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-1210-28P/ME:5# show firmware information
Command: show firmware information

Version      : 6.02.008
Size         : 11381470 Bytes
Updated Time : 01/01/2012 00:05:49
From         : 0.0.0.0
User         : (web)
DGS-1210-28P/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   config_in_nvram config_id &lt;value 1-2&gt; {[begin   exclude   include] &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	None.
Restrictions	Only Administrator -level users can issue this command.

**Example usage:**

```
DGS-1210-28P/ME:5# show config current_config
Command: show config current_config

#-----
#      DGS-1210-28P/ME Gigabit Ethernet Switch Configuration
#
#      Firmware: Build 6.10.B020
#      Copyright(C) 2010 D-Link Corporation. All rights reserved.
#-----

command-start

# User Account
disable password encryption

# Basic
config snmp system_name "2"
config syslogintimeout 5
config sysgroupinterval 0
enable web 80
disable web
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL
```



## 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 ipif System	<ipaddr>
config dhcp_relay delete ipif System	<ipaddr>
config dhcp_relay hops	<value 1-16>
config dhcp_relay option_82	[check [enable   disable]   circuit_id [default   user_define <desc 32>   user_define_hex <string 246>]   policy [drop   keep   replace]   remote_id [default   user_define <desc 32>   user_define_hex <string 246>]   state [enable   disable]]
show dhcp_relay	{ipif}
enable dhcp_local_relay	
disable dhcp_local_relay	
config dhcp_local_relay vlan	<vlan_name 32> state [enable   disable]
show dhcp_local_relay	
enable dhcpv6_relay	
disable dhcpv6_relay	
show dhcpv6_relay	{ipif System   option_38 {ports <portlist>}}
config dhcpv6_relay	[add   delete] ipif system <ip6_addr>
config dhcpv6_relay hop_count	<value 1-32>
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>]]

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-1210-28P/ME:5# enable dhcp_relay
Command: enable dhcp_relay
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable dhcp_relay
Command: disable dhcp_relay
```

```
Success.
```

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

### config dhcp\_relay add ipif System

Purpose	To define a DHCP server as a DHCP Relay server
Syntax	<b>config dhcp_relay add ipif System &lt;ipaddr&gt;</b>
Description	The <b>config dhcp_relay add ipif System</b> command adds DHCP servers as DHCP Relay servers.
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-1210-28P/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-1210-28P/ME:5#
```

### config dhcp\_relay delete ipif System

Purpose	To delete a DHCP server from the DHCP Relay server list.
Syntax	<b>config dhcp_relay delete ipif System &lt;ipaddr&gt;</b>
Description	The <b>config dhcp_relay delete ipif System</b> command deletes a DHCP servers defined as a DHCP Relay server.
Parameters	<ipaddr> – The IP address of the DHCP server.
Restrictions	Only Administrator, operator or power user-level users can issue this command.

**Example usage:**

To remove a DHCP server from the DHCP Relay server list:

```
DGS-1210-28P/ME:5# config dhcp_relay delete ipif System 10.6.150.49
Command: config dhcp_relay delete ipif System 10.6.150.49

Success.

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

### config dhcp\_relay hops

Purpose	To delete a DHCP server from the DHCP Relay server list.
Syntax	<b>config dhcp_relay hops &lt;value 1-16&gt;</b>
Description	The <b>config dhcp_relay hops</b> command configures the DHCP/BOOTP relay feature.
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-1210-28P/ME:5# config dhcp_relay hops 12
Command: config dhcp_relay hops 12

Success.
```

**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;]   policy [drop   keep   replace]   remote_id [default   user_define &lt;desc 32&gt;   user_define_hex &lt;string 246&gt;]   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> <p><i>policy</i>: used to configure the re-forwarding policy of DHCP relay agent information option 82 of the Switch.</p> <p><i>replace</i> – The option 82 field will be replaced if the option 82 field already exists in the packet received from the DHCP client.</p> <p><i>drop</i> – The packet will be dropped if the option 82 field already exists in the packet received from the DHCP client.</p> <p><i>keep</i> – The option 82 field will be retained if the option 82 field already exists in the packet received from the DHCP client.</p> <p><i>remote_id</i>: used to configure the remote id of DHCP relay agent information option 82 of the Switch.</p> <p><i>default</i> – The default value for the remote id.</p> <p><i>user_define &lt;desc32&gt;</i> - The remote id which user defined.</p> <p><i>user_define_hex &lt;string 246&gt;</i> - The remote id which user defined with hex.</p> <p><i>state</i>: used to configure the state of DHCP relay agent information option 82 of the Switch.</p> <p><i>enable</i> – 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</p>

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-1210-28P/ME:5# config dhcp_relay option_82 state disable
Command: config dhcp_relay option_82 state disable
```

Success.

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

### show dhcp\_relay

Purpose	To display the DHCP Relay settings on the Switch.
Syntax	<b>show dhcp_relay {ipif}</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-1210-28P/ME:5# show dhcp_relay
Command: show dhcp_relay
```

```
DGS-1210-28P/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
```

<b>DHCP Relay Agent Information Option 82 ID</b>				
<b>DHCP Relay Agent Information Option 82 Circuit ID Type : Default</b>				
<b>DHCP Relay Agent Information Option 82 Remote ID Type : Default</b>				
<b>Interface</b>	<b>Server 1</b>	<b>Server 2</b>	<b>Server 3</b>	<b>Server 4</b>
-----	-----	-----	-----	-----
<b>DGS-1210-28P/ME:5#</b>				

<b>enable dhcp_local_relay</b>	
Purpose	To enable the DHCP local relay feature globally.
Syntax	<b>enable dhcp_local_relay</b>
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-1210-28P/ME:5# enable dhcp_local_relay
Command: enable dhcp_local_relay

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

<b>disable dhcp_local_relay</b>	
Purpose	To disable the DHCP local relay feature globally
Syntax	<b>disable dhcp_local_relay</b>
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-1210-28P/ME:5# disable dhcp_local_relay
Command: disable dhcp_local_relay

Success.
DGS-1210-28P/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-1210-28P/ME:5# config dhcp_local_relay vlan rd1 state disable
Command: config dhcp_local_relay vlan vlanid 10 state disable
```

```
Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# enable dhcpv6_relay
```

```
Command: enable dhcpv6_relay
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable dhcpv6_relay
```

```
Command: disable dhcpv6_relay
```

```
Success.
```

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

**show dhcpv6\_relay**

Purpose	To display the current DHCPv6 relay configuration.
Syntax	<b>show dhcpv6_relay</b> {ipif System   option_38 {ports <portlist>}}
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	Ipif System – Specifies the name of the IP interface in which DHCPv6 relay. Option_38 <portlist> - Specifies the ports of option 38 to be



	displayed.
Restrictions	None.

**Example usage:**

To display DHCPv6 Relay settings:

```
DGS-1210-28P/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-1210-28P/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	<i>add</i> – Add an IPv6 destination to the DHCPv6 relay table. <i>delete</i> – Remove an IPv6 destination to the DHCPv6 relay table. <i>ipif System</i> – The name of the IP interface in which DHCPv6 relay is to be enabled. <ipv6_addr> – The DHCPv6 server IP address.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To add the DHCPv6 relay on the Switch:

```
DGS-1210-28P/ME:5# config dhcpv6_relay add ipif System 3000::1
Command: config dhcpv6_relay add ipif System 3000::1

Success.

DGS-1210-28P/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	<i>&lt;value 1-32&gt;</i> – 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-1210-28P/ME:5# config dhcpv6_relay hop_count 3
Command: config dhcpv6_relay hop_count 3
```

```
Success.
```

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

**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]</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. <i>user_define &lt;string 128&gt;</i> - Specifies the DHCPv6 Relay Option37 Remote ID type.
Restrictions	Only Administrator or operate-level users can issue this command.

**Example usage:**

To configure the DHCPv6 relay option 37 on the Switch:

```
DGS-1210-28P/ME:5# config dhcpv6_relay option_37 remote_id default
Command: config dhcpv6_relay option_37 remote_id default
```

```
Success!
```

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

**config dhcpv6\_relay option\_38**

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	<p><i>ports &lt;portlist&gt;</i> - Specifies the ports to be configured.</p> <p><i>state [enable   disable]</i> – Specifies the DHCPv6 Relay Option37 state to be enabled or disabled.</p> <p><i>subscriber_id [default   user_define &lt;string 128&gt;]</i> - Specifies the subscriber id to use default value or user defined.</p>
Restrictions	Only Administrator or operate-level users can issue this command.

**Example usage:**

To configure the DHCPv6 relay option 38 on the Switch:

```
DGS-1210-28P/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-1210-28P/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]
show gratuitous_arp	
config gratuitous_arp send periodically 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	<b>config gratuitous_arp send ipif_status_up [enable   disable]</b>
Description	The <b>config gratuitous_arp send ipif_status_up</b> 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-1210-28P/ME:5# config gratuitous_arp send ipif_status_up
enable
Command: config gratuitous_arp send ipif_status_up enable
```

```
Success.
DGS-1210-28P/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 send dup_ip_detected [enable   disable]</b>
Description	The <b>config gratuitous_arp send 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-1210-28P/ME:5# config gratuitous_arp send dup_ip_detected
enable
Command: config gratuitous_arp send dup_ip_detected enable

Success.
DGS-1210-28P/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-1210-28P/ME:5# config gratuitous_arp learning enable
Command: config gratuitous_arp learning enable

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

**enable gratuitous\_arp**

Purpose	Used to enable the gratuitous ARP trap and log.
Syntax	<b>enable gratuitous_arp [log   trap]</b>
Description	The <b>enable gratuitous_arp</b> command is used to enable gratuitous ARP trap and log states. The Switch can trap or log the IP conflict event to inform the administrator. By default, the trap is disabled and 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 trap:

```
DGS-1210-28P/ME:5# enable gratuitous_arp trap
Command: enable gratuitous_arp trap

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

**disable gratuitous\_arp**

Purpose	Used to disable the gratuitous ARP trap and log.
Syntax	<b>disable gratuitous_arp [log   trap]</b>
Description	The <b>disable gratuitous_arp</b> command is used to disable gratuitous ARP trap and log states. The Switch can trap and log the IP conflict event to inform the administrator. By default, the trap is disabled and 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 trap:

```
DGS-1210-28P/ME:5# disable gratuitous_arp trap
Command: disable gratuitous_arp trap
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# show gratuitous_arp
Command: show gratuitous_arp
```

```
Send on IPIF status up      : Enabled
Send on Duplicate_IP_Detected : Enabled
Gratuitous ARP Learning     : Enabled
```

```
IP Interface Name          : System
Gratuitous ARP Trap        : Enabled
Gratuitous ARP Log         : Disabled
Gratuitous ARP Periodical Send Interval : 0
```

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

## config gratuitous\_arp send periodically interval

Purpose	Used to configure the interval for periodical sending of gratuitous ARP request packets.
Syntax	<b>config gratuitous_arp send periodically interval &lt;integer 0-65535&gt;</b>
Description	The <b>config gratuitous_arp send periodically interval</b> command is used to configure the interval for periodical sending of gratuitous ARP request packets. By default, the interval is 0.
Parameters	<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-1210-28P/ME:5# config gratuitous_arp send periodically interval 100  
Command: config gratuitous_arp send periodically interval 100
```

```
Success.
```

```
DGS-1210-28P/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>}
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>]}
delete syslog host	[<index 1-4>   all]
show syslog host	{<index 1-4>}
cable diagnostic port	[<portlist>   all]

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-1210-28P/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
    
```

<b>show error ports</b>	
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	<i>&lt;portlist&gt;</i> – 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-1210-28P/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
    
```

<b>Jabber</b>	<b>0</b>	<b>Single Collision</b>	<b>0</b>
<b>Drop Pkts</b>	<b>0</b>	<b>Collision</b>	<b>0</b>
<b>DGS-1210-28P/ME:5#</b>			

<b>show utilization</b>	
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-1210-28P/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

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

To display the cpu utilization statistics:

```

DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# clear counters**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# clear log**

**Command: clear log**

**Success.**

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

## show log

Purpose	To display the Switch history log.
Syntax	<b>show log</b> {index <value 1-500> - <value 1-500>   module <string 32>}
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-1210-28P/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-1210-28P/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-1210-28P/ME:5# enable syslog
```

```
Command: enable syslog
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable syslog
```

```
Command: disable syslog
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# show syslog
```

```
Command: show syslog
```

```
Syslog Global State: Enabled
```

```
DGS-1210-28P/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> </tbody> </table>	Numerical Code	Severity	0	Emergency: system is unusable	1	Alert: action must be taken immediately
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

*informational* – Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.

*warning* – Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.

*all* – Specifies that all message are to be sent to the remote host.

*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 table below (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.

*state* [enable | disable] – 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-1210-28P/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-1210-28P/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> [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>]}		
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;<i>index 1-4</i>&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 DGScribed 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</th> <th>Severity</th> </tr> </thead> </table>	Numerical	Severity
Numerical	Severity		



## Code

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

*informational* – Specifies that informational messages are to be sent to the remote host. This corresponds to number 6 from the list above.

*warning* – Specifies that warning messages are to be sent to the remote host. This corresponds to number 4 from the list above.

*all* – Specifies that all message are to be sent to the remote host.

*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
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 are to be 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.

*ipaddress* [<ipaddr> | <ipv6addr>] – Specifies the IPv4 or IPv6 address of the remote host to which syslog messages are to be sent.

*state* [enable | disable] – 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 configure a syslog host:

```
DGS-1210-28P/ME:5# config syslog host 1 severity all facility local0
```

```
Command: config syslog host 1 severity all facility local0
```

```
Success.
```

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

## delete syslog host

Purpose	To remove a previously configured syslog host from the Switch.
Syntax	<b>delete syslog host</b> [<index 1-4>   all]
Description	The <b>delete syslog host</b> command removes a previously configured syslog host from the Switch.
Parameters	<index 1-4> – The syslog host index id. There are four available indices, numbered 1 to 4. all – Specifies that the command applies to all hosts.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To delete a previously configured syslog host:

```
DGS-1210-28P/ME:5# delete syslog host all
Command: delete syslog host all

Success.

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

**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	<index 1-4> – The syslog host index id. There are four available indices, numbered 1 to 4.
Restrictions	None.

**Example usage:**

To show Syslog host information:

```
DGS-1210-28P/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-1210-28P/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]</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	<portlist> – A port or range of ports to be configured. all – Specifies all ports on the Switch are to be configured.
Restrictions	None.

**Example usage:**

To determine the copper cables and position of port 3 on the Switch:

```

DGS-1210-28P/ME:5# cable diagnostic port 3
Command: cable diagnostic port 3

Perform Cable Diagnostics ...

Port Type Link Status Test Result Fault Distance (meters) Length(M)
----
3 FE Link Down Pair1:N/A Pair1:No Cable N/A
Pair2:OPEN Pair2:1
Pair3:N/A Pair3:N/A
Pair4:N/A Pair4:N/A

DGS-1210-28P/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>] {clear_time_range   power_limit [auto   class_1   class_2   class_3   class_4   user_define <value 1-30>]   priority [high   normal   low]   state [enable   disable]   time_range <range_name 32>}
config por system	[legacy_pd [enable   disable]   power_disconnect_method [deny_low_priority_port   deny_next_port]   power_limit <value 7-193>]
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>] {clear_time_range   power_limit [auto   class_1   class_2   class_3   class_4   user_define <value 1-30>]   priority [high   normal   low]   state [enable   disable]   time_range <range_name 32>}
Description	The <b>config poe ports</b> configures the Power over Ethernet (PoE) functionality of the Switch.
Parameters	<p><i>all</i>   &lt;portlist&gt; – Specifies the port or all ports to be configured with PoE of the Switch.</p> <p><i>clear_time_range</i> – Specifies the time range to be cleared.</p> <p><i>power_limit</i> [auto   class_1   class_2   class_3   class_4   user_define &lt;value 1-30&gt;] – Specifies the power limit with different class or user defined. Auto will negotiate and follow the classification from the PD power current based on the 802.3at standard.</p> <p><i>priority</i> [high   normal   low] – Specifies the priority of specified ports. The default is normal.</p> <p><i>state</i> [enable   disable] – To configure the PoE function for designated ports.</p> <p><i>time_range</i> &lt;range_name 32&gt; - To configure the time-based PoE function on designated port(s).</p>
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To configure PoE with ports 8-10:

```
DGS-1210-28P/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!**

**Success!**

**Success!**

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

## config poe system

Purpose	Used to configure the Power over Ethernet (PoE) functionality.
Syntax	<b>config poe system</b> [ <b>legacy_pd</b> [ <b>enable</b>   <b>disable</b> ]   <b>power_disconnect_method</b> [ <b>deny_low_priority_port</b>   <b>deny_next_port</b> ]   <b>power_limit</b> <value 7-193>]
Description	The <b>config poe system</b> configures the Power over Ethernet (PoE) functionality of the Switch.
Parameters	<p><i>legacy_pd</i> [<i>enable</i>   <i>disable</i>] – If the legacy pd is enabled, it will be classified to non_AF PD or Legacy PD.</p> <p><i>[deny_low_priority_port   deny_next_port]</i> – Defines the method used to deny power to a port once the threshold is reached. The possible fields are:</p> <p><b>Deny next port:</b> When the power budget is exceeded, the next port attempting to power up is denied, regardless of the port priority.</p> <p><b>Deny low priority port:</b> The port with the lower priority will be shut down to allow the higher priority port to power up.</p> <p><i>power_limit</i> &lt;value 7-193&gt; - Configure the system power budget 7.1 ~ 193.0 watts.</p>
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To configure PoE with ports 8-10:

**DGS-1210-28P/ME:5# config poe system power\_limit 193**

**Command: config poe system power\_limit 193**

**Success!**

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

## show poe ports

Purpose	Used to display the ports of Power over Ethernet (PoE).
Syntax	<b>show poe ports</b> [ <b>all</b>   <portlist>]

Description	The <b>show poe ports</b> 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-1210-28P/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

Success!

DGS-1210-28P/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 <b>show poe system</b> 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-1210-28P/ME:5# show poe system
Command: show poe system

Power Limit           : 193
Power Consumption     : 0
Power Remained        : 0
Power Disconnection Method : Deny Next Port
Detection Legacy PD   : Disable
```

**Success!**

**DGS-1210-28P/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>}
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 0-15>}
show stp mst_config_id	
create stp instance_id	<value 1-15>
delete stp instance_id	<value 1-15>
config stp instance_id	<value 1-15> [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>}

Each command is listed in detail, as follows:

config stp	
Purpose	To setup STP, RSTP and MSTP on the Switch.
Syntax	<b>config stp {maxage &lt;value 6-40&gt;   hellotime &lt;value 1-10&gt;   forwarddelay &lt;value 4-30&gt;  txholdcount &lt;value 1-10&gt;}</b>
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>
Restrictions	Only administrator-level users can issue this command.

**Example usage:**

To configure STP with maxage 18 and hellotime 2:

```
DGS-1210-28P/ME:5# config stp maxage 18 hellotime 2
Command: config stp maxage 18 hellotime 2

Success.
DGS-1210-28P/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 colon. 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 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.</li> </ul>

- *<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* DGSignates 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 DGSignated 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 enabled - 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-1210-28P/ME:5# config stp ports 1-3 externalcost 19 state
```

**enable****Command: config stp ports 1-3 externalcost 19 state enable****Success.****DGS-1210-28P/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-1210-28P/ME:5# config stp version mstp****Command: config stp version mstp****Success.****DGS-1210-28P/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-1210-28P/ME:5# config stp fbpdu enable****Command: config stp fbpdu enable****Success.****DGS-1210-28P/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-1210-28P/ME:5# config stp priority 4096 instance_id 2
Command: config stp priority 4096 instance_id 2

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

**enable stp**

Purpose	To globally enable STP on the Switch.
Syntax	<b>enable stp</b>
Description	The <b>enable stp</b> command sets 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-1210-28P/ME:5# enable stp
Command: enable stp

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

**disable stp**

Purpose	To globally disable STP on the Switch.
Syntax	<b>disable stp</b>
Description	The <b>disable stp</b> command sets 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-1210-28P/ME:5# disable stp
Command: disable stp

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

Status 2: STP enabled for RSTP

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

Status 3: STP enabled for MSTP

**DGS-1210-28P/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-1210-28P/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	<portlist> – 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 colon. 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-1210-28P/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-1210-28P/ME:5#
```

**show stp instance**

Purpose	To display the Switch's STP instance configuration
Syntax	<b>show stp instance {&lt;value 0-15&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	<value 0-15> - The value of the previously configured instance_id on the Switch. The value may be between 0 and 15. An entry of 0 displays the STP configuration for the CIST internally set on the Switch.
Restrictions	None.

**Example usage:**

To display the STP instance configuration for instance 0 (the internal CIST) on the Switch:

```
DGS-1210-28P/ME:5# show stp instance 0
Command: show stp instance 0

## MST00
Designated Root Bridge 9c:d6:43:60:4f:a4 Priority 32768
                        We are the Root for CST
                        Port 0 , path cost 0
Regional Root Bridge 9c:d6:43:60:4f:a4 Priority 32768
```



Path cost 0					
Designated Bridge	9c:d6:43:60:4f:a4	Priority	32768		
Configured Forward delay 15, Max age 18, Max hops 20					
Operational Forward delay 15, Max age 18					
Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
5	Designated	Forwarding	20000	128.5	Point to point
DGS-1210-28P/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:

<b>DGS-1210-28P/ME:5# show stp mst_config_id</b>	
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-1210-28P/ME:5#	

## create stp instance\_id

Purpose	To create instance ID on the Switch.
Syntax	<b>create stp instance_id &lt;value 1-15&gt;</b>
Description	The <b>create stp instance_id</b> command creates an instance ID of STP on the Switch.
Parameters	<value 1-15> - The value of the instance ID to be created.
Restrictions	Only administrator-level users can issue this command.

### Example usage:

To create instance id 1:

<b>DGS-1210-28P/ME:5# create stp instance_id 1</b>
--

**Command: create stp instance\_id 1**

**Warning: There is no VLAN mapping to this instance\_id!**

**Success.**

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

## delete stp instance\_id

Purpose	To delete instance ID on the Switch.
Syntax	<b>delete stp instance_id &lt;value 1-15&gt;</b>
Description	The <b>delete stp instance_id</b> command removes the instance ID of STP on the Switch.
Parameters	<value 1-15> - 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-1210-28P/ME:5# delete stp instance\_id 1**

**Command: delete stp instance\_id 1**

**Success.**

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

## config stp instance\_id

Purpose	To configure instance ID on the Switch.
Syntax	<b>config stp instance_id &lt;value 1-15&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 1-15&gt; - Enter a number between 1 and 15 to define the <i>instance_id</i>. The Switch supports 16 STP instances with one unchangeable default instance ID set as 0.</p> <p><i>add_vlan</i> - Along with the <i>vid_range</i> &lt;vidlist&gt; 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</i> &lt;vidlist&gt; 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-1210-28P/ME:5# config stp instance_id 2 add_vlan 10
Command : config stp instance_id 2 add_vlan 10
```

Success.

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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

Parameters	<p>that lower priority values mean higher priorities for forwarding packets.</p> <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 colon. 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-1210-28P/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-1210-28P/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	
clear flood_fdb	
show multicast_fdb	{vlan <vlan_name 32>   mac_address <macaddr>}
show fdb	{port <port 1-28>   [vlan <vlan_name 32>   vlanid <vidlist>]   mac_address <macaddr>   static   aging_time}
config multicast filter	[all   vlan] [filter   forward]
create auto_fdb	<ipaddr>
delete auto_fdb	<ipaddr>
show auto_fdb	{<ipaddr>}

Each command is listed in detail, as follows:

create fdb	
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-1210-28P/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-1210-28P/ME:5#
```

**create multicast\_fdb**

Purpose	To create a static entry in the multicast MAC address forwarding table (database).
Syntax	<b>create multicast_fdb &lt;int 1-4094&gt; &lt;macaddr&gt;</b>
Description	The <b>create multicast_fdb</b> command creates a static entry in the multicast MAC address forwarding table (database).
Parameters	<i>&lt;integer 1-4094&gt;</i> – The item of the VLAN on which the MAC address resides. The range is between 1 and 4094. <i>&lt;macaddr&gt;</i> – The MAC address to be added to the forwarding table.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To create multicast MAC forwarding:

```
DGS-1210-28P/ME:5# create multicast_fdb 1 00-00-00-01-02-03
Command: create multicast_fdb 1 00-00-00-01-02-03

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

**config multicast\_fdb**

Purpose	To configure the Switch's multicast MAC address forwarding database.
Syntax	<b>config multicast_fdb &lt;integer 1-4094&gt; &lt;macaddr&gt; [add   delete] &lt;portlist&gt;</b>
Description	The <b>config multicast_fdb</b> command configures the multicast MAC address forwarding table.
Parameters	<i>&lt;integer 1-4094&gt;</i> – The item of the VLAN on which the MAC address resides. The range is between 1 and 4094. <i>&lt;macaddr&gt;</i> – The MAC address to be configured to the forwarding table. <i>add</i> – Specifies that the MAC address is to be added to the forwarding table. Delete will remove the MAC address from the forwarding table. <i>delete</i> – Specifies that the MAC address is to be removed from the forwarding table. <i>&lt;portlist&gt;</i> – A port or range of ports to be configured.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To configure multicast MAC forwarding:

```
DGS-1210-28P/ME:5# config multicast_fdb 1 00-00-00-01-02-03
Command: config multicast_fdb 1 00-00-00-01-02-03
```

Success.

```
DGS-1210-28P/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-1210-28P/ME:5# config fdb aging_time 300
Command: config fdb aging_time 300
```

Success.

```
DGS-1210-28P/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-1210-28P/ME:5# delete fdb default 00-00-00-00-01-02
Command: delete fdb default 00-00-00-00-01-02
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# enable flood_fdb
Command: enable flood_fdb
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# disable flood_fdb
Command: disable flood_fdb
```

**Success.**

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# clear flood_fdb
Command: clear flood_fdb

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

**show multicast\_fdb**

Purpose	To display the contents of the Switch's multicast forwarding database.
Syntax	<b>show multicast_fdb {vlan &lt;vlan_name 32&gt;   mac_address &lt;macaddr&gt;}</b>
Description	The <b>show multicast_fdb</b> command displays the current contents of the Switch's multicast MAC address forwarding database.
Parameters	<i>vlan &lt;vlan_name 32&gt;</i> – The name of the VLAN on which the MAC address resides. <i>mac_address &lt;macaddr&gt;</i> – The MAC address that will be added to the forwarding table.

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

**Example usage:**

To display multicast MAC address table:

```
DGS-1210-28P/ME:5# show multicast_fdb
Command: show multicast_fdb

Static Multicast Table
-----

Total Mac Addresses displayed: 0

DGS-1210-28P/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;   vlandid &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;   vlandid &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-1210-28P/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-1210-28P/ME:5#
```

To display the aging time:

```
DGS-1210-28P/ME:5# show fdb aging_time
Command: show fdb aging_time
```

**Unicast MAC Address Aging Time = 300 (seconds)**

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

## config multicast filter

Purpose	To configure multicast filtering.
Syntax	<b>config multicast filter [all   vlan] [filter   forward]</b>
Description	The <b>config multicast filtering_mode</b> command enables filtering of multicast addresses.
Parameters	<i>all   vlan</i> - A vlan or all ports to be configured. <i>forward</i> - Forwards unregistered multicast packets. <i>filter</i> - Filter unregistered multicast packets.
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To configure multicast filtering for all:

**DGS-1210-28P/ME:5# config multicast filter all forward**

**Command: config multicast filter all forward**

**Success.**

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

## show multicast filter port\_mode

Purpose	To display multicast filtering settings on the Switch.
Syntax	<b>show multicast filter port_mode</b>
Description	The <b>show multicast filter port_mode</b> command displays the multicast filtering settings.
Parameters	None.
Restrictions	None.

### Example usage:

To show multicast filtering settings:

**DGS-1210-28P/ME:5# show multicast filter port\_mode**

**Command: show multicast filter port\_mode**

```

Port      Multicast Filtering Mode
-----  -
1  Forward Unregistered Groups
2  Forward Unregistered Groups
3  Forward Unregistered Groups
4  Forward Unregistered Groups
5  Forward Unregistered Groups

```

```

6 Forward Unregistered Groups
7 Forward Unregistered Groups
8 Forward Unregistered Groups
9 Forward Unregistered Groups
10 Forward Unregistered Groups
11 Forward Unregistered Groups
12 Forward Unregistered Groups
13 Forward Unregistered Groups
14 Forward Unregistered Groups
15 Forward Unregistered Groups
16 Forward Unregistered Groups
17 Forward Unregistered Groups
18 Forward Unregistered Groups
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a ALL

```

## create auto\_fdb

Purpose	To create a static entry in the auto forwarding table (database).
Syntax	<b>create auto_fdb &lt;ipaddr&gt;</b>
Description	The <b>create auto_fdb</b> command creates a static entry in the multicast MAC address forwarding table (database).
Parameters	<ipaddr> – The IP address to be added to the auto forwarding table.
Restrictions	None.

### Example usage:

To create auto forwarding table:

```

DGS-1210-28P/ME:5# create auto_fdb 172.21.47.13
Command: create auto_fdb 172.21.47.13

Success.
DGS-1210-28P/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-1210-28P/ME:5# delete auto_fdb 172.21.47.13
Command: delete auto_fdb 172.21.47.13

```

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

<b>show auto_fdb</b>	
Purpose	To display a static entry in the auto forwarding table (database).
Syntax	<b>show auto_fdb {&lt;ipaddr&gt;}</b>
Description	The <b>show auto_fdb</b> command displays a static entry in the multicast MAC address forwarding table (database).
Parameters	<i>&lt;ipaddr&gt;</i> - The IP address to be display from the auto forwarding table.
Restrictions	None.

**Example usage:**

To display auto forwarding table:

```

DGS-1210-28P/ME:5# show auto_fdb
Command: show auto_fdb

IP Address      VLAN ID MAC Address      Port Time Stamp
-----

```

**Success.**  
**DGS-1210-28P/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] {[action [drop   shutdown]   countdown [0   <minutes 5-30>]   broadcast   multicast   unicast   threshold <value 0- 1024000>   time_interval <time_interval 5-30>]} [enable   disable]
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] {[ <b>action</b> [drop   shutdown]   <b>countdown</b> [0   <minutes 5-30>]   <b>broadcast</b>   <b>multicast</b>   <b>unicast</b>   <b>threshold</b> <value 0 - 1024000>   <b>time_interval</b> <time_interval 5-30>]} [ <b>enable</b>   <b>disable</b> ]
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> [drop   shutdown] - 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>countdown</i> [0   &lt;minutes 5-30&gt;] - Specifies the countdown time of traffic control.</p> <p><i>storm_type</i> - The type of broadcast storm for which to configure the traffic control. The options are:</p> <ul style="list-style-type: none"> <li>• <i>broadcast</i> - Enables broadcast storm control only.</li> <li>• <i>multicast</i> - Enables broadcast and multicast storm control.</li> <li>• <i>unicast</i> - Enables broadcast and unicast storm control.</li> </ul> <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.</p> <p>&lt;time_interval 5-30&gt; - Specifies the time interval of traffic control.</p> <p>[enable   disable] - Enables or disables the specified storm type.</p>
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To configure traffic control and enable broadcast storm control system wide:

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

<b>show traffic control</b>	
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-1210-28P/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-1210-28P/ME:5#
```

<b>config traffic trap</b>	
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	<i>storm_cleared</i> – A notification will be generated when a storm event

	<p>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-1210-28P/ME:5# config traffic trap storm_cleared
Command: config traffic trap storm_cleared

Success.

DGS-1210-28P/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 cos mac_mapping	destination_addr <macaddr> class <class_id 0-3>
show cos mac_mapping	{destination_addr <macaddr>}
delete cos mac_mapping	destination_addr <macaddr>
config cos ip_mapping	destination_ip <ipaddr> class <class_id 0-3>
show cos ip_mapping	{destination_ip <ipaddr>}
delete cos ip_mapping	destination_ip <ipaddr>
config cos ipv6_mapping	destination_ipv6 <ipv6addr> class <class_id 0-3>
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 0-3>
delete 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_mapping	protocol <ip_protocol 1-255> class <class_id 0-3>
show cos protocol_mapping	{protocol <ip_protocol 1-255>}
delete cos protocol_mapping	protocol <ip_protocol 1-255>
config cos	vid <vlanid 1-4094> class <class_id 0-3>

Command	Parameter
vlanid_mapping	
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]
show scheduling_mechanism	
config dscp mode	
config dscp_mapping	dscp_value <value 0-63> class <priority 0-7>
show dscp_mapping	{dscp_value <value 0-63>}

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	The <b>config scheduling</b> command configures traffic scheduling for

	<p>each of the Switch's QoS queues.</p> <p>The Switch contains four hardware classes of service. Incoming packets must be mapped to one of these four hardware queues. This command is used to specify the rotation by which these four hardware queues are emptied.</p> <p>The Switch's default (if the <b>config scheduling</b> command is not used) is to empty the hardware queues in order – from the highest priority queue (hardware class 3) 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 lowest hardware priority queue has finished transmitting all of its packets, the highest hardware priority queue can again transmit any packets it may have received.</p> <p>The <code>max_packets</code> parameter allows the user to specify the maximum number of packets a given hardware priority queue can transmit before allowing the next lowest hardware priority queue to begin transmitting its packets. A value between 0 and 15 can be specified. For example, if a value of 3 is specified for all the queues, then the highest hardware priority queue (number 3) will be allowed to transmit 3 packets – then the next lowest hardware priority queue (number 2) will be allowed to transmit 3 packets, and so on, until all of the queues have transmitted 3 packets. The process will then repeat.</p>
Parameters	<p><code>&lt;class_id 0-7&gt;</code> – The hardware classes of service to which the config scheduling command is to be applied. The four hardware classes of service are identified by number (from 0 to 7) with class 7 having the highest priority.</p> <p><code>weight &lt;value 1-55&gt;</code> – 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 0 and 55.</p>
Restrictions	<p>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 (<code>config scheduling_mechanism</code>)</p>

**Example usage:**

To configure traffic scheduling:

```
DGS-1210-28P/ME:5# config scheduling 1 weight 10
Command: config scheduling 1 weight 10

Success.
DGS-1210-28P/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 ( <code>max_packet</code> ) 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 3) to the lowest priority (class 0).
Parameters	None.

Restrictions	None.
--------------	-------

**Example usage:**

To display the current scheduling configuration:

**DGS-1210-28P/ME:5# show scheduling****Command: show scheduling****QOS Output Scheduling**

Class ID	Weight
-----	-----

Class-0 strict

Class-1 strict

Class-2 strict

Class-3 strict

Class-4 strict

Class-5 strict

Class-6 strict

Class-7 strict

**DGS-1210-28P/ME:5#****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> <li><i>&lt;value 63-1000000&gt;</i> – 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-1210-28P/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-1210-28P/ME:5#****show bandwidth\_control**

Purpose	To display bandwidth control settings on the Switch.
Syntax	<b>show bandwidth control</b> {[<portlist>   all]}
Description	The <b>show bandwidth_control</b> command displays bandwidth control.
Parameters	<portlist> – A port or range of ports to be configured. all – 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-1210-28P/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-1210-28P/ME:5#

```

**config cos mac\_mapping**

Purpose	To configure the CoS MAC mapping method.
Syntax	<b>config cos mac_mapping destination_addr</b> <macaddr> <b>class</b> <class_id 0-3>
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 0-3> - 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show cos mac_mapping
Command: show cos mac_mapping

MAC ADDRESS          Class
-----
00-01-C2-11-22-33   2

DGS-1210-28P/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-1210-28P/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-1210-28P/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&gt;</b>

<b>0-3&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 0-3> - 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show cos ip_mapping
Command: show cos ip_mapping

IP ADDRESS          Class
-----
10.0.0.56           1

DGS-1210-28P/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-1210-28P/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-1210-28P/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 0-3&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 0-3> - 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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# delete cos ipv6\_mapping destination\_ipv6 3000::1**  
**Command: delete cos ipv6\_mapping destination\_ipv6 3000::1**

**Success.**

**DGS-1210-28P/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 0-3&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 0-3&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-1210-28P/ME:5# config cos ipv6\_tc\_mapping trafficclass 1 class 2**  
**Command: config cos ipv6\_tc\_mapping trafficclass 1 class 2**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# delete cos ipv6_tc_mapping trafficclass 1
Command: delete cos ipv6_tc_mapping trafficclass 1
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# config cos mapping port all 802.1p
Command: config cos mapping port all 802.1p
```

**Success.**

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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 0-3&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 0-3> - 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-1210-28P/ME:5# config cos protocol_mapping protocol 10 class 1
Command: config cos protocol_mapping protocol 10 class 1

Success.
DGS-1210-28P/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-1210-28P/ME:5# show cos protocol_mapping
Command: show cos protocol_mapping

IP Protocol      Class
-----
10                1

DGS-1210-28P/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-1210-28P/ME:5# delete cos protocol_mapping protocol 10
Command: delete cos protocol_mapping protocol 10

Success.
DGS-1210-28P/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 0-3&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 0-3> - 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-1210-28P/ME:5# config cos vlanid_mapping vid 100 class 2
Command: config cos vlanid_mapping vid 100 class 2
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# show cos vlanid_mapping
Command: show cos vlanid_mapping
```

```

VLAN ID          Class
-----
100              2
```

```
DGS-1210-28P/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-1210-28P/ME:5# delete cos vlanid_mapping vid 100
Command: delete cos vlanid_mapping vid 100

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

<b>config cos tos value</b>	
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-1210-28P/ME:5# config cos tos value 1 class 1
Command: config cos tos value 1 class 1

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

<b>show cos tos</b>	
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-1210-28P/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-1210-28P/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 0-3&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 0-3> - 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show cos tcp_port_mapping  
Command: show cos tcp_port_mapping
```

TCP Port	Class
500	1

DGS-1210-28P/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-1210-28P/ME:5# delete cos tcp_port_mapping destination_port 500
Command: delete cos tcp_port_mapping destination_port 500

Success.

DGS-1210-28P/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 0-3&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 0-3> - 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show cos udp _port_mapping
Command: show cos udp _port_mapping

UDP Port      Class
-----
500           2

DGS-1210-28P/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-1210-28P/ME:5# delete cos udp _port_mapping destination_port 500
Command: delete cos udp _port_mapping destination_port 500

Success.
DGS-1210-28P/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	<p>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:</p> <table border="1"> <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	<p><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.</p> <p><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.</p>																											
Restrictions	Only administrator or operator level users can issue this command.																											

**Example usage:**

To configure 802.1p user priority on the Switch:

```
DGS-1210-28P/ME:5# config 802.1p user_priority 2 0
Command: config 802.1p user_priority 2 0

Success.
DGS-1210-28P/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-1210-28P/ME:5# show 802.1p user_priority
Command: show 802.1p user_priority
```

**QOS Class of Traffic****Priority-0 -> <Class-1>****Priority-1 -> <Class-2>****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-1210-28P/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 [&lt;portlist&gt;   all] &lt;priority 0-7&gt;</b>
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><i>&lt;portlist&gt;</i> – A port or range of ports to be configured.</p> <p><i>all</i> – Specifies that the config 802.1p default_priority command applies to all ports on the Switch.</p> <p><i>&lt;priority 0-7&gt;</i> – 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-1210-28P/ME:5# config 802.1p default\_priority all 4****Command: config 802.1p default\_priority all 4****Success.****DGS-1210-28P/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 {&lt;portlist&gt;}</b>
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	<i>&lt;portlist&gt;</i> – 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-1210-28P/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-1210-28P/ME:5#
```

## config scheduling\_mechanism

Purpose	To configure the scheduling mechanism for the QoS function.
Syntax	<b>config scheduling_mechanism [strict   wrr]</b>
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 3) 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	<p><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> <p><i>wrr</i> – Specifies that the priority classes of service are to empty packets in a weighted roundrobin (WRR) order.</p>
Restrictions	Only administrator or operator level users can issue this command.

### Example usage:

To configure the traffic scheduling mechanism for each COS queue:

```
DGS-1210-28P/ME:5# config scheduling_mechanism strict
Command: config scheduling_mechanism strict

Success.

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

## show scheduling\_mechanism

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:

```
DGS-1210-28P/ME:5# show scheduling_mechanism
Command: show scheduling_mechanism

QOS Scheduling_mechanism

scheduling_mechanism : Strict Priority

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

## config dscp mode

Purpose	To enable setting the DSCP User Priority
Syntax	<b>config dscp mode</b>
Description	The <b>config dscp mode</b> command enables the DSCP mode on the Switch.
Parameters	None.
Restrictions	None.

### Example usage:

To enable the DSCP mode:

```
DGS-1210-28P/ME:5# config dscp mode
Command: config dscp mode

DSCP mode success.

Success.

DGS-1210-28P/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	<p>&lt;value 0-63&gt; –The selected value of priority. The value may be between 0 and 63.</p> <p>&lt;priority 0-7&gt; – The class_id (queue) mapped to the priority. The value may be between 0 and 3</p>
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-1210-28P/ME:5# config dscp_mapping dscp_value 10 class 1
Command: config dscp_mapping dscp_value 10 class 1
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# show dscp_mapping dscp_value 10
Command: show dscp_mapping dscp_value 10
```

```
DSCP  Priority
-----
10    1
```

```
DGS-1210-28P/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-1210-28P/ME:5# enable rmon
```

```
Command: enable rmon
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable rmon
```

```
Command: disable rmon
```

```
Success.
```

```
DGS-1210-28P/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>&lt;alarm_index&gt; – Specifies the alarm number.</p> <p>&lt;OID_variable 255&gt; – Specifies the MIB variable value.</p> <p>&lt;interval 1-2147482647&gt; – Specifies the alarm interval time in seconds.</p> <p>[absolute   delta] – 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# delete rmon alarm 100
Command: delete rmon alarm 100

Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# create rmon collection stats 100 port 2 owner dlink
Command: create rmon collection stats 100 port 2 owner dlink

Success.
DGS-1210-28P/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-1210-28P/ME:5# delete rmon collection stats 2
```

```
Command: delete rmon collection stats 2
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# create rmon collection history 120 port 2 buckets 25
```

```
Command: create rmon collection history 120 port 2 buckets 25
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# delete rmon collection history 2
Command: delete rmon collection history 2

Success.
DGS-1210-28P/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-1210-28P/ME:5# create rmon event 125 description linkrmon
owner dlink
Command: create rmon event 125 description linkrmon owner dlink

Success.
DGS-1210-28P/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-1210-28P/ME:5# delete rmon event 2
Command: delete rmon event 2

Success.
DGS-1210-28P/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-1210-28P/ME:5# show rmon
Command: show rmon

RMON is enabled

Success.
DGS-1210-28P/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-1210-28P/ME:5# show rmon statistics  
Command: show rmon statistics  
  
RMON is enabled  
Ethernet Statistics table is empty  
  
Success.  
DGS-1210-28P/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]
delete mirror	target <port> source <port>
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-1210-28P/ME:5# enable mirror
Command: enable mirror

Success.

DGS-1210-28P/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-1210-28P/ME:5# disable mirror
Command: disable mirror

Success.

DGS-1210-28P/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-1210-28P/ME:5# config mirror target 3 add source ports 2 both
Command: config mirror target 3 add source ports 2 both

Success.

DGS-1210-28P/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-1210-28P/ME:5# show mirror
```

```
Command: show mirror
```

```
Port Mirror is enabled
```

```
Target Port : 3
```

```
Source Port : 2
```

```
Direction : Both
```

```
DGS-1210-28P/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	[<string 32>   vlanid <vidlist>] tag <int 2-4094> type_1q_vlan_advertisement
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 gvrp	[state [enable   disable]   ingress_checking [enable   disable]   acceptable_frame [Tagged_Only   All_Frames]   pvid <vlanid 1-4094>]
config pvid	<int 1-4094> ports <portlist>
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 0x0-0sfff>   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>}
show gvrp	{<portlist>}
show gvrp timer	
enable vlan_trunk	
disable vlan_trunk	
show vlan_trunk	
config vlan_trunk ports	[<portlist>   all] state [enable   disable]
enable asymmetric_vlan	
disable asymmetric_vlan	
show asymmetric_vlan	

Command	Parameter
enable pvid auto_assign	
disable pvid auto_assign	
show pvid auto_assign	

Each command is listed in detail, as follows:

create vlan	
Purpose	To create a VLAN on the Switch.
Syntax	<b>create vlan [&lt;string 32&gt;   vlanid &lt;vidlist&gt;] tag &lt;int 2-4094&gt; type_1q_vlan_advertisement</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 allowed values range from 2 to 4094.</p> <p><i>type_1q_vlan_advertisement</i> – Specifies the 1q vlan advertisement 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 or operator-level users can issue this command.</p>

#### Example usage:

To create a VLAN v1, tag 3:

```
DGS-1210-28P/ME:5# create vlan v1 tag 3
Command: create vlan v1 tag 3
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# delete vlan vlanid 2
```

```
Command: delete vlan vlanid 2
```

```
Success.
```

```
DGS-1210-28P/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> [ <i>&lt;vlan_name 32&gt;</i>   <i>vlanid &lt;vidlist&gt;</i> ] [[ <i>add</i> [ <i>tagged</i>   <i>untagged</i>   <i>forbidden</i> ]   <i>delete</i> ] [ <i>&lt;portlist&gt;</i>   <i>name &lt;vlan_name 32&gt;</i> ] { <i>advertisement</i> [ <i>enable</i>   <i>disable</i> ]}]
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</i> [<i>enable</i>   <i>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-1210-28P/ME:5# config vlan vlanid 3 add tagged 4-8
```

```
Command: config vlan vlanid 3 add tagged 4-8
```

```
Success .
```

```
DGS-1210-28P/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> [<portlist>   all] [state [enable   disable]   ingress_checking [enable   disable]   acceptable_frame [Tagged_Only   All_Frames]   pvid <vlanid 1-4094>]
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	<p>&lt;portlist&gt; – A port or range of ports for which to configure GVRP.</p> <p>all – configure GVRP on ports.</p> <p>state [enable   disable] - enable and disable GVRP</p> <p>ingress_checking [enable   disable] – Enables or disables ingress checking for the specified port list.</p> <p>acceptable_frame [tagged_only   admit_all] – Defines the type of frame accepted. Acceptable frames can be limited to tagged frames only (tagged_only) or can accept tagged and untagged (admit_all).</p> <p>pvid &lt;vlanid 1-4094&gt; – Specifies the default VLAN associated with the port, by VLAN ID.</p>
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To set the ingress checking status:

```
DGS-1210-28P/ME:5# config gvrp all ingress_checking enable
Command: config gvrp all ingress_checking enable

Success.

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

**config gvrp timer**

Purpose	To configure GVRP timer on the Switch.
Syntax	<b>config gvrp timer</b> [join_timer <sec 100-100000>   leave_timer <sec 100-100000>   leave-all_timer <sec 100-100000>]
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	<p>join_timer &lt;sec 100-100000&gt; – Specifies the join time for the GVRP on the Switch. The time range is from 100 to 100000 seconds.</p> <p>leave_timer &lt;sec 100-100000&gt; – Specifies the leave time for the GVRP on the Switch. The time range is from 100 to 100000 seconds.</p> <p>leave-all_timer &lt;sec 100-100000&gt; – Specifies the leave all time for the GVRP on the Switch. The time range is from 100 to 100000 seconds.</p>
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To set the GVRP packet join time:

```
DGS-1210-28P/ME:5# config gvrp timer join_timer 100
Command: config gvrp timer join_timer 100
```

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# enable gvrp**

**Command: enable gvrp**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# disable gvrp**

**Command: disable gvrp**

**Success.**

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

**config dot1v\_protocol\_group**

Purpose	To add/delete a protocol to/from a protocol group.
Syntax	<b>config dot1v_protocol_group</b> [group_id <id 1-6>   group_name <name 32>] [add   delete] protocol [ethernet_2 <hex 0x0-0sfff>   ieee802.3_snap <hex 0x0-0xffff>]
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</i> <id 1-6> – The ID of protocol group which is used to identify a set of protocols. <i>group_name</i> <name 32> – The name of the protocol group. The maximum length is 32 chars. <hex 0x0-0xffff> – The protocol vlaue 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-1210-28P/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-1210-28P/ME:5#
```

**delete dot1v\_protocol\_group**

Purpose	To delete a protocol group.
Syntax	<b>delete dot1v_protocol_group</b> [group_id <id 1-16>   group_name <name 32>   all]
Description	The <b>delete dot1v_protocol_group</b> command deletes a protocol group.
Parameters	<i>group_id</i> <id 1-16> – Specifies the group ID to be deleted. <i>group_name</i> <name 32> – 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-1210-28P/ME:5# delete dot1v_protocol_group all
Command: delete dot1v_protocol_group all

Success.
```



DGS-1210-28P/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 ID 1:

```
DGS-1210-28P/ME:5# show dot1v_protocol_group
Command: show dot1v_protocol_group

Group ID Protocol Group Name      Frame Type  Protocol Value
-----
Total Entries: 0
DGS-1210-28P/ME:5#
```

**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	<i>&lt;portlist&gt;</i> – 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-1210-28P/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
```

<b>8</b>	<b>1</b>	<b>Enable</b>	<b>Enable</b>	<b>All Frames</b>
----------	----------	---------------	---------------	-------------------

**Total Entries : 4**

**DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5#enable vlan_trunk
```

```
Command: enable vlan_trunk
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable vlan_trunk
Command: disable vlan_trunk

Success.
DGS-1210-28P/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-1210-28P/ME:5# show vlan_trunk
Command: show vlan_trunk

VLAN Trunk Status   :Enable
Member Ports        :None

DGS-1210-28P/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-1210-28P/ME:5# config vlan_trunk ports all state enable
Command: config vlan_trunk ports all state enable

Success.
DGS-1210-28P/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 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-1210-28P/ME:5# enable asymmetric_vlan
Command: enable asymmetric_vlan

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable asymmetric_vlan
Command: disable asymmetric_vlan

Success.
DGS-1210-28P/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-1210-28P/ME:5# show asymmetric_vlan
Command: show asymmetric_vlan

Asymmetric VLAN : Enable
DGS-1210-28P/ME:5#
```

**enable pvid auto\_assign**

Purpose	To 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-1210-28P/ME:5# enable pvid auto_assign
Command: enable pvid auto_assign

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

**disalbe pvid auto\_assign**

Purpose	To 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-1210-28P/ME:5# disable pvid auto_assign
Command: disable pvid auto_assign

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

## show pvid auto\_assign

Purpose	To 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-1210-28P/ME:5# show pvid auto_assign
Command: show pvid auto_assign

PVID Auto-assignment: Enabled
DGS-1210-28P/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]]
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-1210-28P/ME:5# enable qinq
```

```
Command: enable qinq
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable qinq
Command: disable qinq
```

```
Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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</b> <portlist> [add   replace] cvid <vidlist> svid <vlanid 1-4094> {priority <priority 0-7>}
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>ports &lt;portlist&gt; - A range of ports to be configure.</p> <p>cvid – 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-1210-28P/ME:5# create vlan_translation add cvid 2 svid 2
Command: create vlan_translation add cvid 2 svid 2

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

<b>show vlan_translation</b>	
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-1210-28P/ME:5# show vlan_translation cvid 1
Command: show vlan_translation cvid 1

Port  CVID  SPVID  Action  Priority
-----
-----

Total Entries: 0

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

<b>delete vlan_translation cvid</b>	
Purpose	To delete VLAN translation rules.
Syntax	<b>delete vlan_translation ports [&lt;portlist&gt;   all] {cvid [&lt;vidlist&gt;   all]}</b>
Description	The <b>delete vlan_translation cvid</b> command is used to delete VLAN translation rules.
Parameters	<p><i>ports &lt;portlist&gt;</i> - A range of ports to be deleted.</p> <p><i>&lt;vidlist&gt;</i> - Specifies C-VID rules in VLAN translation.</p> <p><i>all</i> – Specifies all C-VID rules to be deleted.</p>
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To delete all C-VID VLAN translation rules:

```
DGS-1210-28P/ME:5# delete vlan_translation cvid all  
Command: delete vlan_translation cvid all
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# create link_aggregation group_id
1
Command: create link_aggregation group_id 1

Success.

DGS-1210-28P/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</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.
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To delete link aggregation group:

```
DGS-1210-28P/ME:5# delete link_aggregation group_id 1
Command: delete link_aggregation group_id 1

LA channel 1 delete successful
DGS-1210-28P/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	<p>&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>master_port</i> &lt;port 1-28&gt; – 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.</p> <p><i>ports</i> &lt;portlist&gt; – Specifies a list of ports to belong to the link aggregation group.</p>

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-1210-28P/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-1210-28P/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-1210-28P/ME:5# config link_aggregation algorithm ip_source
Command: config link_aggregation algorithm ip_source
```

Success.

```
DGS-1210-28P/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-1210-28P/ME:5# config link_aggregation state enable
Command: config link_aggregation state enable

LA Module has been enable
DGS-1210-28P/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-1210-28P/ME:5# show link_aggregation algorithm
Command: show link_aggregation algorithm

Link Aggregation Algorithm = MAC_source

DGS-1210-28P/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
config ipif system	[dhcp   dhcp_option12 {clear_hostname   hostname <hostname 63> state [enable   disable] }   ipaddress [<network_address> gateway <ipaddr>]   [ipv6 ipv6address <ipv6networkaddr>]   [dhcpv6_client [enable   disable]] ]
show ipif	

Each command is listed in detail, as follows:

config ipif System	
Purpose	To configure the DHCPv6 client state for the interface.
Syntax	<b>config ipif System [dhcp   dhcp_option12 {clear_hostname   hostname &lt;hostname 63&gt; state [enable   disable] }   ipaddress [&lt;network_address&gt; gateway &lt;ipaddr&gt;]   [ipv6 ipv6address &lt;ipv6networkaddr&gt;]   [dhcpv6_client [enable   disable]] ]</b>
Description	The <b>config ipif system</b> command is used to configure the DHCPv6 client state for one interface.
Parameters	<p><i>system</i> – 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 &lt;hostname 63&gt;</i> – Specifies the host name of DHCP.</p> <p><i>ipaddress &lt;network_address&gt;</i> – 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 &lt;ipaddr&gt;</i> – IP address of gateway to be created.</p> <p><i>state [enable   disable]</i> – Enables or disables the IP interface.</p> <p><i>ipv6 ipv6address &lt;ipv6networkaddr&gt;</i> – 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 [enable   disable]</i> – 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-1210-28P/ME:5# config ipif System dhcpv6_client enable
Command: config ipif System dhcpv6_client enable
```



**Success.**

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

## show ipif

Purpose	To display the configuration of an IP interface on the Switch.
Syntax	<b>show ipif</b>
Description	The <b>show ipif</b> command displays the configuration of an IP interface on the Switch.
Parameters	None.
Restrictions	None.

### Example usage:

To display IP interface settings:

```

DGS-1210-28P/ME:5# show ipif
Command: show ipif

IP Interface           : System
VLAN Name            : default
Interface Admin State : Enabled
IPv4 Address         : 10.90.90.90/8 (Manual)
IPv6 Link-Local Address :
IPv6 Global Unicast Address :
DHCPv6 Client State   : Disabled
DHCP Option12 State   : Disabled
DHCP Option12 Host Name : DGS-1210-28P/ME
IPv4 State           : Enabled
IPv6 State           : Enabled

DGS-1210-28P/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> <p>BPDU attack protection has a higher priority than BPDU tunnel port setting (i.e. config bpdu_tunnel ports command) when determining</p>

	<p>how to handle BPDU. That is, when BPDU tunneling is enabled on a port AND the BPDU attack protection function is enabled, then BPDU tunneling is effectively disabled on the port.</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 are included:</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-1210-28P/ME:5# config bpdu_protection ports 1 state enable mode drop
Command: config bpdu_protection ports 1 state enable mode drop
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# config bpdu_protection recovery_timer 120
Command: config bpdu_protection recovery_timer 120
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# config bpdu_protection trap both
Command: config bpdu_protection trap both
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# enable bpdu\_protection**

**Command: enable bpdu\_protection**

**Success.**

**DGS-1210-28P/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-1210-28P/ME:5# disable bpdu\_protection**

**Command: disable bpdu\_protection**

**Success.**

**DGS-1210-28P/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-1210-28P/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-1210-28P/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 [&lt;portlist&gt;   all] mode [active   passive] {received_remote_loopback [ignore   process]   remote_loopback [start   stop]   state [enable   disable]}</b>
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><i>&lt;portlist&gt;</i> – Specifies a port or range of ports to be configured.</p> <p><i>all</i> – Entering this command will set all ports on the system.</p> <p><i>mode</i> – Specifies to operate in either active mode or passive mode. The default mode is active.</p> <p><i>received_remote_loopback [ignore   process]</i> – Specifies the received remote loopback to be ignore or process.</p> <p><i>remote_loopback [start   stop]</i> – Specifies the remote loopback to be started or stopped.</p>

	<i>state</i> [ <i>enable</i>   <i>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-1210-28P/ME:5# config ethernet_oam ports 1-3 mode active
Command: config ethernet_oam ports 1-3 mode active

Success.
DGS-1210-28P/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> [ <b>critical_event</b>   <b>dying_gasp</b> ] <b>notify_state</b> [ <i>enable</i>   <i>disable</i> ]
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. <i>all</i> – Entering this command will set all ports on the system. <i>critical_link_event</i> [ <i>critical_event</i>   <i>dying_gasp</i> ] – Specifies the critical link event is critical event or dying GASP. <i>notify_state</i> [ <i>enable</i>   <i>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-1210-28P/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-1210-28P/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> [ <b>error_frame</b>   <b>error_frame_period</b>   <b>error_frame_seconds</b>   <b>error_symbol</b> ] <b>notify_state</b> [ <i>enable</i>   <i>disable</i> ] { <b>threshold</b> <integer 1-4294967295>   <b>window</b> <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.



*all* – Entering this command will set all ports on the system.  
*critical\_link\_event [critical\_event | dying\_gasp]* – Specifies the critical link event is critical event or dying GASP.  
*notify\_state [enable | disable]* – 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 link monitor of error symbol notify state to be disabled:

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

## show ethernet\_oam ports

**Purpose** Used to show primary controls and status information for Ethernet OAM.

**Syntax** **show ethernet\_oam ports [<portlist> | all] status**

**Description** The **show ethernet\_oam ports status** command is used to show primary controls and status information for Ethernet OAM on specified ports.

The information includes:

(1) OAM administration status: enabled or disabled

(2) OAM operation status. See below values:

**Disable:** OAM is disabled on this port

**LinkFault:** The link has detected a fault and is transmitting OAMPDUs with a link fault indication.

**PassiveWait:** The port is passive and is waiting to see if the peer device is OAM capable.

**ActiveSendLocal:** The port is active and is sending local information

**SendLocalAndRemote:** The local port has discovered the peer but has not yet accepted or rejected the configuration of the peer.

**SendLocalAndRemoteOk:** The local device agrees the OAM peer entity.

**PeeringLocallyRejected:** The local OAM entity rejects the remote peer OAM entity.

**PeeringRemotelyRejected:** The remote OAM entity rejects the local device.

**Operational:** The local OAM entity learns that both it and the remote OAM entity have accepted the peering.

**NonOperHalfDuplex:** Since Ethernet OAM functions are not DGSigned to work completely over half-duplex ports. This value indicates Ethernet OAM is enabled but the port is in half-duplex operation.

(3) OAM mode: passive or active

(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

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 DGScribed 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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5#

```

## show ethernet\_oam ports

Purpose	Used to display for Ethernet OAM statistics.
Syntax	<b>show ethernet_oam ports [<i>&lt;portlist&gt;</i>   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-1210-28P/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-1210-28P/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;</i>   <i>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-1210-28P/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:

```
DGS-1210-28P/ME:5# clear ethernet_oam ports 1 statistics
Command: clear ethernet_oam ports 1 statistics
```

```
Success.
```

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

## 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-1210-28P/ME:5# enable mac_notification
Command: enable mac_notification

Success.

DGS-1210-28P/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-1210-28P/ME:5# disable mac_notification
Command: disable mac_notification

Success.

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

**config mac\_notification**

Purpose	Used to configure MAC address notification.
Syntax	<b>config mac_notification</b> [ <i>interval</i> <int 1-2147483647>   <i>historysize</i> <int 1-500>]
Description	The <b>config mac_notification</b> command is used to monitor MAC addresses learned and entered into the FDB.
Parameters	<i>interval</i> <int 1-2147483647> – The time in seconds between notifications. The user may choose an interval between 1 and 2147483647 seconds. <i>historysize</i> <1-500> – 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-1210-28P/ME:5# config mac_notification interval 1
Command: config mac_notification interval 1

Success.

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

**config mac\_notification ports**

Purpose	Used to configure MAC address notification status settings.
Syntax	<b>config mac_notification ports</b> [<portlist>   all] [enable   disable]
Description	The <b>config mac_notification ports</b> command is used to monitor MAC addresses learned and entered into the FDB.
Parameters	<portlist> – Specifies a port or range of ports to be configured. all – Entering this command will set all ports on the system. [enable   disable] – 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-1210-28P/ME:5# config mac_notification ports 7 enable
Command: config mac_notification ports 7 enable

Success.

DGS-1210-28P/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-1210-28P/ME:5# show mac_notification
Command: show mac_notification

Global Mac Notification Settings

State          : Enabled
Interval       : 1
History Size   : 1
DGS-1210-28P/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-1210-28P/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-1210-28P/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>   leave_timer <sec 1-25>   fast_leave [enable   disable]     report_suppression [enable   disable]   state [enable   disable]]
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>}
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>   tag_member_port <portlist>] state [enable   disable] {replace_source_ip [none   <ipaddr>]}
delete igmp_snooping multicast_vlan	[all   <vlan_name 32>]
config igmp_snooping multicast_vlan_group	<vlan_name 32> [add   delete] ipv4_range <ipaddr> <ipaddr>
config igmp_snooping data_driven_learning	[all   vlan_name <string 32>   vlanid <vidlist>] {state [enable   disable] expiry_time <sec 130-153025> aged_out}
config igmp_snooping data_driven_learning	max_learned_entry <integer 1-256>
clear igmp_snooping data_driven_group	[all   vlan_name <vlan_name 32>   vlanid < vidlist >] [all   MCGroupAddr <ipaddr>]
config igmp_snooping max_response_time	<integer 10-25>
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>
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>}

Command	Parameter
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 router_port	{vlan <vlan_name 32>   vlanid <vidlist>   static   dynamic   forbidden}

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;   leave_timer &lt;sec 1-25&gt;   fast_leave [enable   disable]     report_suppression [enable   disable]   state [enable   disable]]</b>
Description	The <b>config igmp_snooping</b> command configures IGMP snooping on the Switch.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> - The name of the VLAN for which IGMP snooping is to be configured.</p> <p><i>vlanid &lt;vidlist&gt;</i> - 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>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>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.</p> <p><i>leave_timer &lt;sec 1-25&gt;</i> - Leave timer. The default is 10 seconds.</p> <p><i>fast_leave [enable   disable]</i> - Enables or disables the fast leave.</p> <p><i>state [enable   disable]</i> - Enables or disables IGMP snooping for the specified VLAN.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

#### Example usage:

To configure the igmp snooping:

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

## config igmp\_snooping querier

Purpose	To configure IGMP snooping querier on the Switch.
Syntax	<b>config igmp_snooping querier [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all] state [enable   disable] {querier_version [2   3]   last_member_query_interval &lt;sec 1-25&gt;   query_interval &lt;sec 60-600&gt;   robustness_variable &lt;value 2-255&gt;   max_response_time &lt;sec 10-25&gt;}</b>
Description	The <b>config igmp_snooping querier</b> command enables IGMP snooping querier on a specific VLAN.
Parameters	<p><i>vlan_name &lt;string 32&gt;</i> – The name of the VLAN for which IGMP snooping is to be configured. Up to 20 characters can be used.</p> <p><i>vlanid &lt;vidlist&gt;</i> – 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-1210-28P/ME:5# config igmp\_snooping querier vlanid 2 state enable**  
**Command: config igmp\_snooping querier vlanid 2 state enable**

**Success .**  
**DGS-1210-28P/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><i>&lt;vlan_name 32&gt;</i> – The name of the VLAN for which IGMP snooping is to be created. Up to 32 characters can be used.</p> <p><i>&lt;vlanid 2-4094&gt;</i> – 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-1210-28P/ME:5# create igmp_snooping multicast_vlan mvln2 5
Command: create igmp_snooping multicast_vlan mvln2 5
```

```
Success.
DGS-1210-28P/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   delete] [member_port &lt;portlist&gt;   source_port &lt;portlist&gt;   tag_member_port &lt;portlist&gt;] state [enable   disable] {replace_source_ip [none   &lt;ipaddr&gt;]}</b>
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>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>
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To configure the igmp snooping multicast VLAN:

```
DGS-1210-28P/ME:5# config igmp_snooping multicast_vlan default state enable
Command: config igmp_snooping multicast_vlan default state enable
```

```
Success.
DGS-1210-28P/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	<i>all</i> – Specify all vlans to be removed. <i>&lt;vlan_name 32&gt;</i> – Specify the multicast vlan name to be removed 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-1210-28P/ME:5# delete igmp_snooping multicast_vlan rd1
Command: delete igmp_snooping multicast_vlan rd1
```

```
Success.
DGS-1210-28P/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	<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. <i>[add   delete]</i> – Specify whether to add or delete ports defined in the following parameter <ipaddr>. <i>&lt;ipaddr&gt;</i> – Specify the IP address range to be configured with the IGMP snooping multicast VLAN group.
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To configure the igmp snooping multicast VLAN:

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

## config igmp\_snooping data\_driven\_learning

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 data driven learning on the Switch:

```
DGS-1210-28P/ME:5# config igmp_snooping data_driven_learning all state disable
Command: config igmp_snooping data_driven_learning all state disable
```

```
Success.DGS-1210-28P/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 [all   vlan_name &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;] [all   MCGroupAddr &lt;ipaddr&gt;]</b>
Description	<p>The <b>clear igmp_snooping data_driven_group</b> command is used to delete the IGMP snooping group learned by data drive.</p> <p>Note that this commands is currently only for layer 2 switches.</p>
Parameters	<p>all – Delete all data driven entries.</p> <p>vlan_name &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>vlanid &lt;vidlist&gt; – Specify the vlan id of the IGMP snooping data driven group on the Switch.</p> <p>&lt;ipaddr&gt; - Specifies the IP address.</p>
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-1210-28P/ME:5# clear igmp_snooping data_driven_group all
Command: clear igmp_snooping data_driven_group all
```

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

## config router\_ports

Purpose	To configure ports as router ports.
Syntax	<b>config router_ports</b> [vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
Description	The <b>config router_ports</b> command designates 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-1210-28P/ME:5# config router_ports vlanid 1 add 1-5
Command: config router_ports vlanid 1 add 1-5
```

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

## config router\_ports\_forbidden

Purpose	To deny ports becoming router ports.
Syntax	<b>config router_ports_forbidden</b> [vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
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><i> &lt;portlist&gt;</i> – A port or range of ports that will be denied access as</p>



	router ports.
Restrictions	Only administrator or operator-level users can issue this command.

**Example usage:**

To deny router ports:

```
DGS-1210-28P/ME:5# config router_ports_forbidden vlanid 2 add 10-12
Command: config router_ports_forbidden vlanid 2 add 10-12

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

## 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><i>&lt;portlist&gt;</i> – 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:

```
DGS-1210-28P/ME:5# config igmp access_authentication ports all state enable
Command: config igmp access_authentication ports all state enable

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

## 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	<p><i>all</i> – Specifies all ports to be displayed.</p> <p><i>&lt;portlist&gt;</i> – A port or range of ports to be displayed on the Switch.</p>
Restrictions	Only administrator, operator or power user-level users can issue this

```
command.
```

**Example usage:**

To display the IGMP access authentication:

```
DGS-1210-28P/ME:5# show igmp access_authentication ports 1-5
Command: show igmp access_authentication ports 1-5

Port  Authentication State
-----
1      Disabled
2      Disabled
3      Disabled
4      Disabled
5      Disabled

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

**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:

```
DGS-1210-28P/ME:5# enable igmp_snooping
Command: enable igmp_snooping

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

**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-1210-28P/ME:5# disable igmp_snooping
Command: disable igmp_snooping
```

```
Success.
DGS-1210-28P/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-1210-28P/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
```

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

## 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> –</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-1210-28P/ME:5# show igmp_snooping group vlan default
Command: show igmp_snooping group vlan default
```

```
Total Entries : 0
```

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show igmp_snooping host
Command: show igmp_snooping host

VLAN ID   Group                Port No   IGMP Host
-----   -
Total Entries : 0

DGS-1210-28P/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	<p><i>vlan</i> &lt;<i>vlan_name</i> 32&gt; – The name of the VLAN on which the router port resides. Up to 32 characters can be used.</p> <p><i>vlanid</i> &lt;<i>vidlist</i>&gt; – The ID of the VLAN on which the router port resides.</p> <p><i>static</i> – Displays router ports that have been statically configured.</p> <p><i>dynamic</i> – Displays router ports that have been dynamically learned.</p> <p><i>forbidden</i> – Displays router ports that have been forbidden configured.</p>
Restrictions	None.

**Example usage:**

To display the router ports.

```

DGS-1210-28P/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-1210-28P/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 130-1530255>   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_port_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 1-256>   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]
show mld_snooping host	[vlan_name <string 32>   vlanid <vidlist>   all   ports <portlist>   group <ipv6_addr>]

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_mcrouter_only}</b>
Description	The <b>enable mld snooping</b> command enables MLD snooping on the Switch.
Parameters	<i>{multicast_vlan   forward_mcrouter_only}</i> – Enables the multicast VLAN or forward mcrouter 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-1210-28P/ME:5# enable mld_snooping
Command: enable mld_snooping

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

### disable mld\_snooping

Purpose	To disable MLD snooping on the Switch.
Syntax	<b>disable mld snooping {multicast_vlan   forward_mcrouter_only}</b>
Description	The <b>disable mld snooping</b> command disables MLD snooping on the Switch.
Parameters	<i>{multicast_vlan   forward_mcrouter_only}</i> – Disables the multicast VLAN or forward mcrouter 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-1210-28P/ME:5# disable mld_snooping
Command: disable mld_snooping

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



**config mld\_snooping**

Purpose	To configure mld snooping.
Syntax	<b>config mld_snooping</b> [vlan_name < string 32>   vlanid <vidlist>   all] {fast_done [enable   disable]   host_timeout <sec 130-1530255>   leave_timer <sec 1-25>   report_suppression [enable   disable]   router_timeout <sec 60-600>   state [enable   disable]}
Description	The <b>config mld_snooping</b> command defines mld snooping on the VLAN.
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 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</i> [enable   disable] – Specifies the fast down to be enabled or disabled.</p> <p><i>host_timeout</i> &lt;sec 130-1530255&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>leave_timer</i> &lt;sec 1-25&gt; – 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</i> [enable   disable] – Specifies the report suppression to be enabled or disabled.</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 done timer. The default is 300 seconds.</p> <p><i>state</i> [enable   disable]– 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-1210-28P/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-1210-28P/ME:5#
```

**create mld\_snooping multicast\_vlan**

Purpose	To create an MLD multicast VLAN.
Syntax	<b>create mld_snooping multicast_vlan</b> <vlan_name 32> <vlanid 2-4094>

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-1210-28P/ME:5# create mld_snooping multicast_vlan mv1 2
Command: create mld_snooping multicast_vlan mv1 2
```

Success.

```
DGS-1210-28P/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. <i>untag_source_port</i> – 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. <i>tag_member_port</i> – Specifies the tagged member port of the MLD

	<p>multicast VLAN.</p> <p><i>state</i> – enable or disable multicast VLAN for the chosen VLAN.</p> <p><i>replace_source_ipv6 &lt;ipv6addr&gt;</i> – 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.</p> <p><i>remap_priority</i> – Associates the remap priority value (0 to 7) with the data traffic and is forwarded on the multicast VLAN. If <i>none</i> is specified, the packet's original priority will be used. The default setting is <i>none</i>.</p>
Restrictions	Only administrator, operator or power user-level users can issue this command.

**Example usage:**

To config MLD multicast VLAN mv1:

```
DGS-1210-28P/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-1210-28P/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	<i>&lt;vlan_name 32&gt;</i> – specifies that the mld snooping applies only to this previously created VLAN.
Restrictions	None.

**Example usage:**

To show MLD multicast VLAN:

```
DGS-1210-28P/ME:5# show mld_snooping multicast_vlan mv1
Command: show mld_snooping multicast_vlan mv1

Multicast VLAN Global State : Enabled
DGS-1210-28P/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:

```
DGS-1210-28P/ME:5# delete mld_snooping multicast_vlan mv1
Command: delete mld_snooping multicast_vlan mv1

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

**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:

```
DGS-1210-28P/ME:5# config mld_snooping multicast_vlan_group mv2 add
ipv6_range 3000::1 3000::3
Command: config mld_snooping multicast_vlan_group mv2 add ipv6_range
3000::1 3000::3

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

**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	<i>&lt;vlan_name 32&gt;</i> - Specifies the name of multicast VLAN to be displayed.
Restrictions	None.

**Example usage:**

To display mld snooping multicast VLAN group:

```
DGS-1210-28P/ME:5# show mld_snooping multicast_vlan_group
Command: show mld_snooping multicast_vlan_group

VID Vlan Name          IP Range
-----
DGS-1210-28P/ME:5#
```

**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:

```
DGS-1210-28P/ME:5# config mld_snooping mrouter_ports vlanid 1 add 1-3
Command: config mld_snooping mrouter_ports vlanid 1 add 1-3

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

**config mld\_snooping mrouter\_port\_forbidden**

Purpose	To define mld mrouter ports forbidden on the Switch.
Syntax	<b>config mld_snooping mrouter_port_forbidden</b> [vlan_name <string 32>   vlanid <vidlist>   all] [add   delete] <portlist>
Description	The <b>config mld_snooping mrouter_port_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-1210-28P/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-1210-28P/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 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-1210-28P/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-1210-28P/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> [ <b>max_learned_entry</b> <value 1-256>  <b>vlan_name</b> <string 32>   <b>vlanid</b> <vidlist>   <b>all</b> ] [ <b>age_out</b> [ <i>disable</i>   <i>enable</i> ]   <b>expiry_time</b> <sec 130-1530255>   <b>state</b> [ <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>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 lifetime, in seconds. The value is between 130 and 1530255.</p> <p><i>state</i> [<i>enable</i>   <i>disable</i>] –Specify to enable or disable the data driven learning of MLD snooping groups.</p>
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-1210-28P/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	<p><i>vlan_name</i> &lt;string 32&gt; – Clear that the mld snooping applies only to this previously created VLAN.</p> <p><i>vlanid</i> &lt;vidlist&gt; – Clear that the mld snooping applies only to this previously created VLAN id.</p> <p><i>all</i> – Clear that MLD snooping is to be configured for all VLANs on the Switch.</p> <p>{&lt;ipv6_addr&gt;   all} – Specifies the IPv6 address or all of mld snooping data driven group to be removed.</p>
Restrictions	Only administrator-level users can issue this command.

### Example usage:

To clear MLD snooping data driven group:

```
DGS-1210-28P/ME:5# clear mld_snooping data_driven_group vlan_name rd1
```

```
Command: clear mld_snooping data_driven_group vlan_name rd1
```

```
Success.
```

```
DGS-1210-28P/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</p>



	the Switch.
Restrictions	None.

**Example usage:**

To show the MLD snooping:

```
DGS-1210-28P/ME:5# show mld_snooping vlan_name default
Command: show mld_snooping vlan_name default
```

```
MLD Snooping Global State      : Enable
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 Select                 : Enable
Querier IP                    :
Querier Expiry Time           : 0
State                         : Disable
Fast Leave                    : Disable
Version                       : 2
Data Driven Learning Aged Out : Disable
```

```
Total Entries : 1
```

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

## show mld\_snooping forwarding

Purpose	To display mld snooping settings on the Switch.
Syntax	<b>show mld_snooping forwarding [vlan_name &lt;string 32&gt;   vlanid &lt;vidlist&gt;   all]</b>
Description	The <b>show mld_snooping forwarding</b> command displays the current MLD snooping forwarding table entries currently configured on the Switch.
Parameters	<i>vlan_name</i> <string 32> – Displays that the mld snooping applies only to this previously created VLAN. <i>vlanid</i> <vidlist> – Displays that the mld snooping applies only to this previously created VLAN id. <i>all</i> – Displays that all MLD snooping which configured for all VLANs on the Switch.
Restrictions	None.

**Example usage:**

To display the MLD snooping forwarding:

```
DGS-1210-28P/ME:5# show mld_snooping forwarding all
Command: show mld_snooping forwarding all
```

```
Total Entries : 0
DGS-1210-28P/ME:5#
```

## show mld\_snooping group

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:

```
DGS-1210-28P/ME:5# show mld_snooping group all
Command: show mld_snooping group all
```

```
Total Entries : 0
```

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

## show mld\_snooping mrouter\_ports

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;   vlanid &lt;vidlist&gt;   all ] [dynamic   static]</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</i> &lt;string 32&gt; – Specifies on which VLAN mld snooping groups should be shown.</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>

	<i>static</i> – Displays statically configured MLD router ports.
	<i>dynamic</i> – Displays dynamically configured MLD router ports.
Restrictions	None.

**Example usage:**

To show the MLD\_snooping mrouterport:

```
DGS-1210-28P/ME:5# show mld_snooping mrouter_ports vlanid 1 static
Command: show mld_snooping mrouter_ports vlanid 1 static

VLAN Name      : default
Static router port : 1-3

Total Entries : 1DGS-1210-28P/ME:5#
```

## 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:

```
DGS-1210-28P/ME:5# show mld_snooping host vlan_name default
Command: show mld_snooping host vlan_name default

Total Entries : 0
DGS-1210-28P/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 32> [[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 1-256>
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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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 32&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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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.

*profile\_id* [*all* | *<integer 1-24>*] – The profile id of the VLAN on which the multicast forwarding filtering database resides.

*profile\_name* *<string 20>* – 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-1210-28P/ME:5# delete mcast_filter_profile ipv4 profile_name rd3
Command: delete mcast_filter_profile ipv4 profile_name rd3
```

Success.

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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 1-256&gt;</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	<i>&lt;portlist&gt;</i> – A range of ports to configure the maximum multicast group. <i>[ipv4   ipv6]</i> – Specify the IPv4 or IPv6 to be configured. <i>max_group &lt;integer 1-256&gt;</i> – Specifies the maximum number of multicast groups. The range is from 1 to 256.
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:

```
DGS-1210-28P/ME:5# config max_mcast_group ports 1,3 ipv4 max_group 100
Command: config max_mcast_group ports 1,3 ipv4 max_group 100
```

```
Success.
```

```
DGS-1210-28P/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	<i>&lt;portlist&gt;</i> - Specify a port or range of ports to be displayed. <i>{[ipv4   ipv6]}</i> – Specify the IPv4 or IPv6 to be displayed.
Restrictions	None.

### Example usage:

To show IPv6 maximum multicast group port 1 and 3 settings:

```
DGS-1210-28P/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
```

<b>3 (v6) 256</b> <b>DGS-1210-28P/ME:5#</b>
--

## 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:

```
DGS-1210-28P/ME:5# enable 802.1x
Command: enable 802.1x

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

<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:

```
DGS-1210-28P/ME:5# disable 802.1x
Command: disable 802.1x
```

```
Success.
DGS-1210-28P/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-1210-28P/ME:5# show 802.1x
Command: show 802.1x

802.1X           : Enable
Authentication Mode : Port_base
Authentication Method : Local

Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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.

*AdminCrDir*: 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.

*OpenCrDir*: 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</i> <portlist> – Specifies a port or range of ports to be viewed.
Restrictions	None.

**Example usage:**

To display the 802.1x configurations of port 2:

```
DGS-1210-28P/ME:5# show 802.1x auth_configuration ports 2
```

```
Command: show 802.1x auth_configuration ports 2
```

```
Authentication Mode   : Port_base
```

```
Port number          : 2
```

```
Capability            : none
```

```
AdminCrIDir          : Both
```

```
OpenCrIDir           : Both
```

```
Port Control         : ForceAuthorized
```

```
QuietPeriod          : 60 sec
```

```
TxPeriod             : 30 sec
```

```
SuppTimeout          : 30 sec
```

```
ServerTimeout        : 30 sec
```

```
MaxReq               : 2 times
```

```
ReAuthPeriod         : 3600 sec
```

```
ReAuthenticate       : Disable
```

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

## 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</b> [<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]]]
<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>[&lt;portlist&gt;   all] – A port, range of ports or all ports to be configured.</p> <p>all – Specifies all of the ports on the Switch.</p> <p>default – Returns all of the ports in the specified range to their 802.1x default settings.</p> <p>port_control – Configures the administrative control over the authentication process for the range of ports. The options are:</p> <ul style="list-style-type: none"> <li>force_auth – 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-1210-28P/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-1210-28P/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	<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. <i>ports</i> <portlist> – A port or range of ports to be configured.



	<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 initialize the authentication state machine of all ports:

```
DGS-1210-28P/ME:5# config 802.1x init port_based ports all
Command: config 802.1x init port_based ports all

Success.
DGS-1210-28P/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-1210-28P/ME:5# config 802.1x auth_protocol local
Command: config 802.1x auth_protocol local

Success.
DGS-1210-28P/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-1210-28P/ME:5# config 802.1x reauth port_based ports 1-18
Command: config 802.1x reauth port_based ports 1-18

Success.
DGS-1210-28P/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>] {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 – 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-1210-28P/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-1210-28P/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-1210-28P/ME:5# config radius delete 1
```

```
Command: config radius delete 1
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# config radius 1 ipaddress 10.48.47.11
Command: config radius 1 ipaddress 10.48.47.11
```

Success.

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# config 802.1x fwd_pdu system enable
Command: config 802.1x fwd_pdu system enable
```

Success.

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# config 802.1x auth_mode port_based
Command: config 802.1x auth_mode port_based
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# create 802.1x guest_vlan default
Command: create 802.1x guest_vlan default
```

**Success.**

```
DGS-1210-28P/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-1210-28P/ME:5# delete 802.1x guest_vlan default
Command: delete 802.1x guest_vlan default
```

```
Success.
```

```
DGS-1210-28P/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	<i>&lt;portlist&gt;</i> – A port or range of ports to be configured to the Guest VLAN. <i>All</i> – Indicates all ports to be configured to the guest vlan. <i>state [enable   disable]</i> – Specifies the guest vlan port is enabled or disabled of the switch.
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To configure ports to the Guest VLAN

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show 802.1x user
```

```
Command: show 802.1x user
```

```
Index      Username
-----
```

```
1         dlink
```

```
Total Entries: 1
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# delete 802.1x user dlink
```

```
Command: delete 802.1x user dlink
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# config 802.1x capability ports all authenticator  
Command: config 802.1x capability ports all authenticator
```

```
Success.
```

```
DGS-1210-28P/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 0-64>   lock_address_mode [Permanent   DeleteOnTimeout   DeleteOnReset]
show port_security	{ports <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 0-64>   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 0-64&gt; - Specify the max learning address. The range is 0 to 64.</p> <p>1-64 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 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.</li> </ul>

<b>Restrictions</b>	Only administrator or operator-level users can issue this command
---------------------	---

**Example usage:**

To configure port security:

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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>}
show sntp	
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	<p><i>primary</i> [&lt;ipaddr&gt;   &lt;ipv6addr&gt;] – Specifies the IPv4 or IPv6 address of the primary SNTP server.</p> <p><i>secondary</i> [&lt;ipaddr&gt;   &lt;ipv6addr&gt;] – Specifies the IPv4 or IPv6 address of the secondary SNTP server.</p> <p><i>poll-interval</i> &lt;sec 30-99999&gt; – The interval between requests for updated SNTP information. The polling interval ranges from 60 seconds (1 minute) to 86,400 seconds (1 day).</p>
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-1210-28P/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-1210-28P/ME:5#
```

## show sntp

Purpose	To display the SNTP information.
Syntax	<b>show sntp</b>
Description	The <b>show sntp</b> command displays SNTP settings information, including the source IP address, time source and poll interval.
Parameters	None.
Restrictions	None.

### Example usage:

To display SNTP configuration information:

```
DGS-1210-28P/ME:5# show sntp
```

```
Command: show sntp
```

#### SNTP Information

```
-----
Current Time Source      : Local
SNTP                     : Disabled
SNTP Primary Server     : 0.0.0.0
SNTP Secondary Server   : 0.0.0.0
SNTP Poll Interval      : 30 sec
```

```
DGS-1210-28P/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-1210-28P/ME:5# enable sntp
Command: enable sntp

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable sntp
Command: disable sntp

Success.
DGS-1210-28P/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	<b>&lt;date&gt;</b> – 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. <b>&lt;systemtime &gt;</b> – 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.
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-1210-28P/ME:5# config time 09jan2012 15:50:50
Command: config time 09jan2012 15:50:50

Success.

DGS-1210-28P/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-1210-28P/ME:5# config time_zone operator + hour 2 minute 30
Command: config time_zone operator + hour 2 minute 30

Success.

DGS-1210-28P/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>



- *s\_date* <start\_date 1-31> - The day of the month to begin DST, expressed numerically.
- *s\_mth* <start\_mth 1-12> - The month of the year to begin DST, expressed numerically.
- *s\_time* <start\_time> - The time of day to begin DST in hours and minutes, expressed using a 24-hour clock.
- *end\_date* <int 1-31> - The day of the month to end DST, expressed numerically.
- *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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show time**

**Command: show time**

**Time information**

---

<b>Current Time Source</b>	<b>: Local</b>
<b>Current Time</b>	<b>: 01 Jan 2014 15:56:02</b>
<b>GMT Time Zone offset</b>	<b>: GMT +02:30</b>
<b>Daylight Saving Time Status</b>	<b>: Disabled</b>
<b>Offset in Minutes</b>	<b>: 60</b>
<b>Annual From</b>	<b>: 01 Jan 00:00</b>
<b>To</b>	<b>: 01 Jan 00:00</b>

**DGS-1210-28P/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
create ArpSpoofing	ip_address <ipaddr> mac_address <macaddr> [<portlist>   all]
show ArpSpoofing	
delete ArpSpoofing	ip_address <ipaddr>
config arp_aging time	<value 0-65535 >
clear arptable	
show arprentary	{information   interface_name {system}   ip_address <ipaddr>   mac_address <macaddr>   summary}
show arprentary aging_time	

Each command is listed in detail, as follows:

create ArpSpoofing	
Purpose	To create the on the Switch.
Syntax	<b>create ArpSpoofing ip_address &lt;ipaddr&gt; mac_address &lt;macaddr&gt; [&lt;portlist&gt;   all]</b>
Description	The <b>create ArpSpoofing</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	<i>ip_address &lt;ipaddr&gt;</i> – Specifies the IP address of the end node or station. <i>mac_address&lt;macaddr&gt;</i> – Specifies the MAC address corresponding to the IP address above. <i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be configured for the ARP snooping.
Restrictions	Only Administrator-level users can issue this command.

**Example usage:**

To create an ARP Spoofing IP address on the Switch:

```
DGS-1210-28P/ME:5# create ArpSpoofing ip_address 10.2.1.1
mac_address 00-00-00-01-01-2 all
Command: create ArpSpoofing ip_address 10.2.1.1 mac_address 00-
00-00-01-01-2 all

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

## show ArpSpoofing

Purpose	To display the ARP Spoofing information on the Switch.
Syntax	<b>show ArpSpoofing</b>
Description	The <b>show ArpSpoofing</b> displays the information, including DGS IP address, MAC address and Port list information on the Switch.
Parameters	None.
Restrictions	None.

### Example usage:

To display the ARP Spoofing information on the Switch:

```
DGS-1210-28P/ME:5# show ArpSpoofing
Command: show ArpSpoofing

IP Address      MAC Address      PortList
10.2.1.1        00:00:00:01:01:02  1-28

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

## delete ArpSpoofing

Purpose	To delete an IP address and the corresponding MAC address into the Switch's ARP table.
Syntax	<b>delete ArpSpoofing ip_address &lt;ipaddr&gt;</b>
Description	The <b>delete ArpSpoofing</b> command deletes an IP address and the corresponding MAC address into the Switch's ARP table.
Parameters	<i>ip_address &lt;ipaddr&gt;</i> – The IP address of the end node or station.
Restrictions	Only Administrator-level users can issue this command.

### Example usage:

To delete the ARP spoofing configuration:

```
DGS-1210-28P/ME:5# create ArpSpoofing ip_address 10.2.1.1
Command: create ArpSpoofing ip_address 10.2.1.1

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

### config arp\_aging time

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-1210-28P/ME:5# config arp_aging time 30
Command: config arp_aging time 30

Success.

DGS-1210-28P/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-1210-28P/ME:5# clear arptable
Command: clear arptable

Success.

DGS-1210-28P/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}</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.
Restrictions	None.

### Example usage:

To display all ARP entries information on the Switch:

```
DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# show arpentry aging_time
```

```
Command: show arpentry aging_time
```

```
ARP Aging Time = 30 (minutes)
```

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

## ROUTING TABLE COMMANDS

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

Command	Parameter
create iproute	default <ipaddr> {<value 1-254>}
delete iproute	{default}
show iproute	{<ipaddr>   static}

Each command is listed in detail, as follows:

<b>create iproute</b>	
Purpose	Used to create IP route entries to the Switch's IP routing table.
Syntax	<b>create iproute default &lt;ipaddr&gt; {&lt;value 1-254&gt;}</b>
Description	The <b>create iproute</b> command is used to create a default static IP route entry to the Switch's IP routing table.
Parameters	<p><i>default</i> – Specifies to create a default IP route entry.</p> <p><i>&lt;ipaddr&gt;</i> – The gateway IP address for the next hop router.</p> <p><i>&lt;value 1-254&gt;</i> – Allows the entry of a routing protocol metric entry, representing the number of routers between the Switch and the IP address above. The default setting is 1.</p>
Restrictions	Only Administrator, operator and power user-level users can issue this command.

### Example usage:

To add the default static address 10.90.90.92 to the routing table:

```
DGS-1210-28P/ME:5# create iproute default 10.90.90.92
Command: create iproute default 10.90.90.92

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



**delete iproute**

Purpose	Used to delete an IP route entry from the Switch's IP routing table.
Syntax	<b>delete iproute {default}</b>
Description	The <b>delete iproute</b> command will delete an existing IP route entry from the Switch's IP routing table.
Parameters	<i>{default}</i> – Specifies to delete a default IP route entry.
Restrictions	Only Administrator, operator and power user-level users can issue this command.

**Example usage:**

To delete the default Gateway from the routing table:

```
DGS-1210-28P/ME:5# delete iproute
Command: delete iproute

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

**show iproute**

Purpose	Used to display the Switch's current IP routing table.
Syntax	<b>show iproute {&lt;ipaddr&gt;   static}</b>
Description	The <b>show iproute</b> command will display the Switch's current IP routing table.
Parameters	<i>&lt;ipaddr&gt;</i> - Enter the IP address used here. <i>static</i> – Specifies to display all the static routes.
Restrictions	None.

**Example usage:**

To display the contents of the IP routing table:

```
DGS-1210-28P/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-1210-28P/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}

Each command is listed in detail, as follows:

config duld ports	
Purpose	To configure unidirectional link detection on ports.
Syntax	<b>config duld ports [&lt;portlist&gt;   all] {state [enable   disable]   mode [shutdown   normal]   discovery_time &lt;sec 5-65535&gt;}</b>
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><i>[&lt;portlist&gt;   all]</i> – Specifies a port, a range of ports or all ports to be configured.</p> <p><i>state [enable   disable]</i> – Specifies the unidirectional link detection status to be enabled or disabled.</p> <p><i>mode [shutdown   normal]</i> – 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><i>discovery_time &lt;sec 5-65535&gt;</i> – 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-1210-28P/ME:5# config duld ports 1 state enable
Command: config duld ports 1 state enable
```

```
Success.
DGS-1210-28P/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-1210-28P/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-1210-28P/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 System <ipv6_addr> <mac_addr>
delete ipv6 neighbor_cache	[ipif system   all] [<ipv6_addr>   static   dynamic   all]
show ipv6 neighbor_cache	[<ipif_name 12>   all] [ipv6address <ipv6_addr>   static   dynamic   all]
config ipv6 nd ns ipif System	retrans_time <integer 1-3600>
create ipv6route default	<ipv6addr>
delete ipv6route default	
show ipv6route	
enable ipif_ipv6_link_local_auto System	
disable ipif_ipv6_link_local_auto System	

Each command is listed in detail, as follows:

create ipv6 neighbor_cache	
Purpose	Used to add a static neighbor on an IPv6 interface.
Syntax	<b>create ipv6 neighbor_cache ipif System &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	<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-1210-28P/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-1210-28P/ME:5#
```

## delete ipv6 neighbor\_cache

Purpose	Used to remove a static neighbor on an IPv6 interface.
Syntax	<b>delete ipv6 neighbor_cache [ipif system   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>&lt;ipv6_addr&gt; –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-1210-28P/ME:5# delete ipv6 neighbor_cache 3ffc::1
```

```
Command: delete ipv6 neighbor_cache 3ffc::1
```

Success.

```
DGS-1210-28P/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>&lt;ipif_name 12&gt; –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-1210-28P/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-1210-28P/ME:5#
```

### config ipv6 nd ns ipif System

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 System retrans_time &lt;integer 1-3600&gt;</b>
Description	This <b>show ipv6 neighbor_cache</b> command is used to configures the retransmit time of IPv6 ND neighbor solicitation
Parameters	<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-1210-28P/ME:5# config ipv6 nd ns ipif System retrans_time 100
Command: config ipv6 nd ns ipif System retrans_time 100

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

### create ipv6route default

Purpose	Used to create IPv6 route entries to the Switch’s IP routing table.
Syntax	<b>create ipv6route default &lt;ipv6addr&gt;</b>
Description	This <b>create ipv6route default</b> command is used to create a primary and backup IP route entry to the Switch’s IP routing table.
Parameters	<i>&lt;ipv6addr&gt;</i> – Specify the IPv6 address to be creted.
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To add a single static IPv6 entry in IPv6 format:

```
DGS-1210-28P/ME:5# create ipv6route default 3ffc::1
Command: create ipv6route default 3ffc::1

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

## delete ipv6route default

Purpose	Used to delete a static IPv6 route entry from the Switch's IP routing table.
Syntax	<b>delete ipv6route default</b>
Description	This <b>delete ipv6route default</b> command will delete an existing static IPv6 entry from the Switch's IP routing table.
Parameters	None.
Restrictions	Only Administrator or operator-level users can issue this command.

### Example usage:

To o delete a static IPv6 entry from the routing table:

```
DGS-1210-28P/ME:5# delete ipv6route default
Command: delete ipv6route default

Success.
DGS-1210-28P/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>
Description	This <b>delete ipv6route</b> command will display an existing static IPv6 entry from the Switch's IP routing table.
Parameters	None.
Restrictions	None.

### Example usage:

To o show a static IPv6 entry from the routing table:

```

DGS-1210-28P/ME:5# show ipv6route
Command: show ipv6route

IPv6 Prefix: ::/0                Protocol: Static Metric: 1
Next Hop  : 3ffc::1              IPIF   : System

Total Entries: 1 DGS-1210-28P/ME:5#

```

## enable ipif\_ipv6\_link\_local\_auto System

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 System</b>
Description	This <b>enable ipif_ipv6_link_local_auto System</b> command will automatically create an IPv6 link local address for the Switch if no IPv6 address has previously been configured.
Parameters	None.
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-1210-28P/ME:5# enable ipif_ipv6_link_local_auto System
Command: enable ipif_ipv6_link_local_auto System

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

```

## disable ipif\_ipv6\_link\_local\_auto System

Purpose	Used to disable the autoconfiguration of the IPv6 link local address.
Syntax	<b>disable ipif_ipv6_link_local_auto System</b>
Description	This <b>disable ipif_ipv6_link_local_auto System</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	None.
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-1210-28P/ME:5# disable ipif_ipv6_link_local_auto System  
Command: disable ipif_ipv6_link_local_auto System
```

```
Success.
```

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

## BANNER COMMANDS

The Banner 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 <value 1-500> - <value 1-500>   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-1210-28P/ME:5# config log_save_timing time_interval 30
Command: config log_save_timing time_interval 30

Success.

DGS-1210-28P/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 login banner:

```
DGS-1210-28P/ME:5# show log_save_timing
Command: show log_save_timing

Saving log method: time_interval
Interval : 100

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

**show log**

Purpose	Used to show the log.
Syntax	<b>show log {index &lt;value 1-500&gt; - &lt;value 1-500&gt;   module &lt;string 32&gt;   severity [warning   all   informational]}</b>
Description	This command allows display the log.
Parameters	<i>index &lt;value 1-500&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 on the Switch:

```
DGS-1210-28P/ME:5# show log
Command: show log

Index Time          Log Text
-----
  2   Jan 1 00:00:24 :CLI-6:Successful login through console port( User:
Anonymous )
  1   Jan 1 00:00:10 :SYSTEM-2:System started up
DGS-1210-28P/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-1210-28P/ME:5# ?

Command: ?

?
cable diagnostic port
clear arptable
clear counters
clear dos_prevention counters
clear flood_fdb
clear igmp_snooping data_driven_group
clear log
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 feap
config 802.1x guest_vlan ports
config 802.1x init port_based ports
config 802.1x reauth port_based ports
config access_profile ip
config access_profile profile_id
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-1210-28P/ME:5# show command_history

Command: show command_history

?
show log
show log_save_timing
show log_save_timing

```

```
DGS-1210-28P/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-1210-28P/ME:5# dir
Available commands:
?          cable      clear      config
create     delete     disable    download
enable     logout     ping       reboot
reset      save       show       smtp
upload
DGS-1210-28P/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	[3DGS   MD5   RSA   SHA1] [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 1-4>   rekey [10min   30min   60min   never]]
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-1210-28P/ME:5# enable ssh
```

```
Command: enable ssh
```

```
Success.
```

```
The SSH server is enabled.
```

```
DGS-1210-28P/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-1210-28P/ME:5# disable ssh
```

```
Command: disable ssh
```

```
Success.
```

```
The SSH server is disable.
```

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

## config ssh algorithm

Purpose	To configure the SSH algorithm.
Syntax	<b>config ssh algorithm [3DES   MD5   RSA   SHA1] [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>▪ <i>3DES</i> – Triple Data Encryption Standard encryption algorithm with Cipher Block Chaining.</li> <li>▪ <i>MD5</i> – Hash for Message Authentication Code (HMAC) MD5 Message Digest (MD5) mechanism.</li> <li>▪ <i>RSA</i> – Hash for Message Authentication Code (HMAC) mechanism utilizing the RSA encryption algorithm.</li> <li>▪ <i>SHA1</i> – Hash for Message Authentication Code (HMAC) Secure Hash Algorithm (SHA) mechanism.</li> </ul> <p><i>[disable   enable]</i> – Enables or Disables the SSH algorithm on the Switch.</p>
Restrictions	Only administrator or operator-level users can issue this command.



**Example usage:**

To configure SSH algorithm:

```
DGS-1210-28P/ME:5# config ssh algorithm 3DES enable
Command: config ssh algorithm 3DES enable

Success.

DGS-1210-28P/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</i> [enable   disable] – 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-1210-28P/ME:5# config ssh authmode password enable
Command: config ssh authmode password enable

Success.

DGS-1210-28P/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-1210-28P/ME:5# show ssh authmode
```

```
Command: show ssh authmode
```

```
The SSH Authmode :
```

```
-----
```

```
Password : Enabled
```

```
Publickey : Enabled
```

```
Hostbased : Disabled
```

```
Success.
```

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

## config ssh server

Purpose	To configure the SSH server.
Syntax	<b>config ssh server [authfail &lt;int 2-20&gt;   contimeout &lt;sec 120-600&gt;   maxsession &lt;int 1-4&gt;   rekey [10min   30min   60min   never]]</b>
Description	The <b>config ssh server</b> command configures the SSH server.
Parameters	<p><i>authfail &lt;int 2-20&gt;</i> - Specifies the authfail times. The value may be between 2 and 20 times.</p> <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 600 seconds.</p> <p><i>maxsession &lt;int 1-4&gt;</i> – Specifies the maxseeion of ssh server.</p> <p><i>rekey [10min   30min   60min   never]</i> – Specifies the rekey time. The possible values are 10min, 30min, 60min and never.</p>
Restrictions	Only administrator or operator-level users can issue this command.

### Example usage:

To configure the SSH server:

```
DGS-1210-28P/ME:5# config ssh server authfail 20 maxsession 1
```

```
Command: config ssh server authfail 20 maxsession 1
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/ME:5# show ssh server
```

```
Command: show ssh server
```

```
The SSH Server Configuration :
```

```
Max Session           : 1
Connection Timeout    : 120
Authfail Attempts     : 20
Rekey Timeout         : never
Success.
```

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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</b>

	<b>&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>hostabsed 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>[hostabsed   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-1210-28P/ME:5# config ssh user dlink authmode publickey
Command: config ssh user dlink authmode publickey

Success.

DGS-1210-28P/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-1210-28P/ME:5# show ssh user authmode
Command: show ssh user authmode

Account is empty!
Total Entries: 0

Success.

DGS-1210-28P/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 [DH-RSA-3DES-SHA1   DH-RSA-DES-SHA1   RSA-3DES-SHA1   RSA-DES-SHA1   RSA-EXP1024-DES-SHA1   RSA-NULL-MD5   RSA-NULL-SHA1]}
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 [DH-RSA-3DES-SHA1   DH-RSA-DES-SHA1   RSA-3DES-SHA1   RSA-DES-SHA1   RSA-EXP1024-DES-SHA1   RSA-NULL-MD5   RSA-NULL-SHA1]}</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>● DH-RSA-3DES-SHA1</li> <li>● DH-RSA-DES-SHA1</li> <li>● RSA-3DES-SHA1</li> <li>● RSA-DES-SHA1</li> <li>● RSA-EXP1024-DES-SHA1</li> <li>● RSA-NULL-MD5</li> <li>● RSA-NULL-SHA1</li> </ul> <p>The ciphersuites are enabled by default on the Switch, yet the SSL status is disabled by default. Enabling SSL with a ciphersuite will not enable the SSL status on the Switch.</p>
Restrictions	Only administrator-level users can issue this command.

### Example usage:

To enable SSL on the Switch for all ciphersuites:

```
DGS-1210-28P/ME:5# enable ssl
```

```
Command: enable ssl
```

**Note:** HTTP will be disabled if SSL is enabled.

**Success.**

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

## disable ssl

Purpose	To disable the SSL function on the Switch.
Syntax	<b>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]}</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>● DH-RSA-3DES-SHA1</li> <li>● DH-RSA-DES-SHA1</li> <li>● RSA-3DES-SHA1</li> <li>● RSA-DES-SHA1</li> <li>● RSA-EXP1024-DES-SHA1</li> <li>● RSA-NULL-MD5</li> <li>● RSA-NULL-SHA1</li> </ul>
Restrictions	Only administrator-level users can issue this command.

### Example usage:

To disable the SSL status on the Switch:

```
DGS-1210-28P/ME:5# disable ssl
```

```
Command: disable ssl
```

**Success.**

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

## download ssl certificate

Purpose	To download ssl certificate file on the Switch.
Syntax	<b>download ssl certificate</b> [ <i>&lt;ipaddr&gt;</i>   <i>&lt;ip6_addr&gt;</i> ] <b>certfilename</b> <b>&lt;path_filename 64&gt;</b>
Description	The <b>download ssl certificate</b> command downloads the SSL file on the Switch.
Parameters	<i>&lt;ipaddr&gt;</i> – Specifies the IPv4 address of SSL file. <i>&lt;ip6_addr&gt;</i> – Specifies the IPv6 address of SSL file. <i>&lt;path_filename 64&gt;</i> –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-1210-28P/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-1210-28P/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+] {port <int 1-65535>   key [<string 254>   none]   timeout <int 1-255>   retransmit <int 1-255>}
config authen server_host	[<ipaddr>   ipv6address <ipv6addr>] protocol [tacacs+   radius] {port <int 1-65535>   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>



Command	Parameter
config authn server_group	[<string 15>   radius   tacacs+] [add   delete] server_host [<ipaddr>   ipv6address <ipv6addr>] protocol [radius   tacacs+]
delete authn server_group	<string 15>
show authn server_group	{<string 15>}
enable admin	
config admin local_enable	

Each command is listed in detail, as follows:

<b>create authn_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 authn_login method_list_name &lt;string 15&gt;</b>
Description	The <b>create authn_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-1210-28P/ME:5# create authn_login method_list_name Trinity
Command: create authn_login method_list_name Trinity

Success.

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

<b>config authn_login</b>	
Purpose	To configure a user-defined or default <i>method list</i> of authentication methods for user login.
Syntax	<b>config authn_login [default   method_list_name &lt;string 15&gt;] method [tacacs+   radius   local   server_group &lt;string 15&gt;   none]</b>
Description	The <b>config authn_login</b> command configures a user-defined or

	<p>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><i>enable admin</i></b> part of this section for more detailed information, concerning the <b><i>enable admin</i></b> command.)</p> <p><b>Parameters</b></p> <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 <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 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 using the <i>TACACS+</i> protocol from a remote <i>TACACS+</i> server.</li> <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> <p><b>Restrictions</b></p> <p>Only Administrator-level users can issue this command.</p>
--	---

**Example usage:**

To configure the user defined method list ‘Trinity’ with authentication methods TACACS+, RADIUS and local, in that order.

```
DGS-1210-28P/ME:5# config authen_login method_list_name Trinity method tacacs+ radius local
```

```
Command: config authen_login method_list_name Trinity method tacacs+ radius local
```

Success.

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

## delete authen\_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 authen_login method_list_name &lt;string 15&gt;</b>
Description	The <b>delete authen_login method_list_name</b> command deletes a list of authentication methods for user login.
Parameters	<i>&lt;string 15&gt;</i> - 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-1210-28P/ME:5# delete authen_login method_list_name Trinity
```

```
Command: delete authen_login method_list_name Trinity
```

Success.

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

## show authen\_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-1210-28P/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-1210-28P/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-1210-28P/ME:5# show authen_policy
Command: show authen_policy

Authentication Policy : Disabled

DGS-1210-28P/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-1210-28P/ME:5# create authen_enable method_list_name Permit
Command: create authen_enable method_list_name Permit

Success.

DGS-1210-28P/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	<p>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> <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 TACACS+ host in the server group. If no verification is found, the Switch sends an authentication request to the second TACACS+ 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 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> </ul>

- *server\_group* <string 15> – Specifies the server group name for authentication.
- *none* – Specifies that no authentication is required to access the Switch.

*method\_list\_name* <string 15> – Specifies a previously created *authen\_enable method\_list\_name*. The user may add one or more of the following authentication methods to this method list:

- *tacacs+* – Specifies that the user is to be authenticated using the *TACACS+* protocol from a remote *TACACS+* server.
- *radius* - Specifies that the user is to be authenticated using the *RADIUS* protocol from a remote *RADIUS* server.
- *local* - Specifies that the user is to be authenticated using the local *user account* database on the Switch. The local enable password of the device can be configured using the '**config admin local\_password**' command.
- *server\_group* <string 15> – Specifies that the user is to be authenticated using the server group account database on the Switch.
- *none* – Specifies that no authentication is required to access the Switch.

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-1210-28P/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-1210-28P/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	<string 15> - 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-1210-28P/ME:5# delete authen_enable method_list_name Permit
Command: delete authen_enable method_list_name Permit
```

```
Success.
```

```
DGS-1210-28P/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 deletes 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 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 display all method lists for promoting user level privileges to administrator level privileges.

```
DGS-1210-28P/ME:5# show authen_enable all
Command: show authen_enable all
```

Method List Name	Priority	Method Name	Comment
default	1	local	Keyword

```
DGS-1210-28P/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-1210-28P/ME:5# enable authen_policy
Command: enable authen_policy

Success.
DGS-1210-28P/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-1210-28P/ME:5# disable authen_policy
Command: disable authen_policy

Success.
DGS-1210-28P/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>



*login* – Configures an application for normal login on the user level, using a previously configured method list.

*enable* – Configures an application for upgrading a normal user level to administrator privileges, using a previously configured method list.

*default* – Configures an application for user authentication using the default method list.

*method\_list\_name* <string 15> – Configures an application for user authentication using a previously configured *method\_list\_name*.

Restrictions Only Administrator-level users can issue this command.

#### Example usage:

To configure the default method list for the command line interface:

```
DGS-1210-28P/ME:5# config authn application http login default
Command: config authn application http login default
```

Success.

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

## show authn application

Purpose	To display authentication methods for the various applications on the Switch.
Syntax	<b>show authn application</b>
Description	The <b>show authn 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:

```
DGS-1210-28P/ME:5# show authn application
Command: show authn application
```

Application	Login Method List	Enable Method List
Console	default	default
Telnet	default	default
SSH	default	default
HTTP	default	default

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

**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:

```
DGS-1210-28P/ME:5# config authen parameter attempt 10
Command: config authen parameter attempt 10

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

**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-1210-28P/ME:5# show authen parameter
Command: show authen parameter

Response Timeout : 30 seconds
User Attempts   : 3
DGS-1210-28P/ME:5#
```

**create authen server\_host**

Purpose	To create an authentication server host.
Syntax	<b>create authen server_host [&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;]</b>

Description	<p><b>protocol [radius   tacacs+] {port &lt;int 1-65535&gt;   key [&lt;string 254&gt;   none]   timeout &lt;int 1-255&gt;   retransmit &lt;int 1-255&gt;}</b></p> <p>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.</p>
Parameters	<p><i>[&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;]</i> – The IPv4 or IPv6 address of the remote server host to add.</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> <li>• <i>radius</i> – Specifies that the server host utilizes the RADIUS protocol.</li> </ul> <p><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.</p> <p><i>key [&lt;string 254&gt;   none]</i> – 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 <i>none</i>.</p> <p><i>timeout &lt;int 1-255&gt;</i> – The time in seconds the Switch waits for the server host to reply to an authentication request. The default value is 5 seconds.</p> <p><i>retransmit &lt;int 1-255&gt;</i> – 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.</p>
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-1210-28P/ME:5# create authen server_host 10.1.1.121 protocol tacacs+ port
1234 timeout 10 retransmit 5
Command: create authen 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-1210-28P/ME:5#
```

**config authen server\_host**

Purpose	To configure a user-defined authentication server host.
Syntax	<b>config authen server_host</b> [ <i>&lt;ipaddr&gt;</i>   <i>ipv6address &lt;ipv6addr&gt;</i> ] <b>protocol</b> [ <i>tacacs+</i>   <i>radius</i> ] { <i>port &lt;int 1-65535&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>config authen 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>[<i>&lt;ipaddr&gt;</i>   <i>ipv6address &lt;ipv6addr&gt;</i>] – 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> <li>• <i>radius</i> – Specifies that the server host utilizes the RADIUS protocol.</li> </ul> <p><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.</p> <p><i>key [&lt;string 254&gt;</i>   <i>none</i>] – 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 <i>none</i>.</p> <p><i>timeout &lt;int 1-255&gt;</i> – The time in seconds the Switch waits for the server host to reply to an authentication request. The default value is 5 seconds.</p> <p><i>retransmit &lt;int 1-255&gt;</i> – 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.</p>
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-1210-28P/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-1210-28P/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	<p><i>server_host</i> [&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;] - The IPv4 or IPv6 address of the remote server host to be deleted.</p> <p><i>protocol</i> - The protocol used by the server host the user wishes to delete. The options are:</p> <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-1210-28P/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-1210-28P/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>IP Address - The IP address of the authentication server host.</p> <p>Protocol - The protocol used by the server host. Possible results include TACACS+ or RADIUS.</p> <p>Port - The virtual port number on the server host. The default value</p>

	is 49.
	Timeout - The time in seconds the Switch waits for the server host to reply to an authentication request.
	Retransmit - 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.
	Key - Authentication key to be shared with a configured TACACS+ server only.
Parameters	None.
Restrictions	Only Administrator-level users can issue this command.

**Example usage:**

To view authentication server hosts currently set on the Switch:

```
DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# create authen server_group dlinkgroup
Command: create authen server_group dlinkgroup

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

**config authen server\_group**

Purpose	To configure a user-defined authentication server host.
Syntax	<b>config authen server_group</b> [<string 15>   radius   tacacs+] [add   delete] server_host [<ipaddr>   ipv6address <ipv6addr>] protocol [radius   tacacs+]
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>&lt;string 15&gt; – Defines the authentication group name as a string of up to 15 alphanumeric characters.</p> <p>server_host [&lt;ipaddr&gt;   ipv6address &lt;ipv6addr&gt;] – The IPv4 or IPv6 address of the remote server group the user wishes to alter.</p> <p>[add   delete] – Specifies the authentication server host will be add or deleted of the server group.</p> <p>protocol – The protocol used by the server host. The options are:</p> <ul style="list-style-type: none"> <li>• tacacs+ – Specifies that the server host utilizes the TACACS+ protocol.</li> <li>• radius – 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-1210-28P/ME:5# config authen server_group dlinkgroup add server_host
10.1.1.121 protocol radius
Command: config authen server_group dlinkgroup add server_host 10.1.1.121
protocol radius

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

**delete authen server\_group**

Purpose	To delete a user-defined authentication server host.
Syntax	<b>delete authen server_group</b> <string 15>
Description	The <b>delete authen server_group</b> command deletes a user-defined authentication server group previously created on the Switch.
Parameters	<string 15> – 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-1210-28P/ME:5# delete authen server_group dlinkgroup
Command: delete authen server_group dlinkgroup
```

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

## show authen server\_host

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-1210-28P/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-1210-28P/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-1210-28P/ME:5# enable admin
```

```
Command: enable admin
```

```
Success.
```

```
DGS-1210-28P/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-1210-28P/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-1210-28P/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:

### config lacp port\_priority

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-1210-28P/ME:5# config lacp port_priority 1-3 100 timeout long
Command: config lacp port_priority 1-3 100 timeout long
```

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

### show lacp

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	<i>&lt;portlist&gt;</i> - 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:

```
DGS-1210-28P/ME:5# show lacp 1-3
Command: show lacp 1-3

Port Priority Activity Timeout
-----
1 100 Active Long (90 sec)
2 100 Active Long (90 sec)
3 100 Active Long (90 sec)
DGS-1210-28P/ME:5#
```

**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	<i>&lt;portlist&gt;</i> – Specifies a port or range of ports to be configured. <i>mode</i> – Select the mode to determine if LACP ports will process LACP control frames. <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-1210-28P/ME:5# config lacp_ports 1 mode active  
Command: config lacp_ports 1 mode active
```

```
Success.
```

```
DGS-1210-28P/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 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>  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]
show lldp mgt_addr	{ipv4 <ipaddr>   ipv6 <ipv6addr>}
show lldp statistics	{ports <portlist>}

Each command is listed in detail, as follows:

**enable lldp**

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:

```
DGS-1210-28P/ME:5# enable lldp
Command: enable lldp

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

**disable lldp**

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:

```
DGS-1210-28P/ME:5# disable lldp
Command: disable lldp

Success.
DGS-1210-28P/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-1210-28P/ME:5# config lldp message_tx_interval 10
Command: config lldp message_tx_interval 10

Success.

DGS-1210-28P/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-1210-28P/ME:5# config lldp message_tx_hold_multiplier 2
Command: config lldp message_tx_hold_multiplier 2

Success.

DGS-1210-28P/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-1210-28P/ME:5# config lldp reinit_delay 1
Command: config lldp reinit_delay 1

Success.

DGS-1210-28P/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-1210-28P/ME:5# config lldp tx_delay 1
Command: config lldp tx_delay 1

Success.

DGS-1210-28P/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-1210-28P/ME:5# config lldp notification_interval 10
Command: config lldp notification_interval 10

Success.

DGS-1210-28P/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-1210-28P/ME:5# show lldp
Command: show lldp

LLDP System Information
  Chassis Id Subtype   : MAC Address
  Chassis Id          : 9C-D6-43-60-4F-A4
  System Name         : 2
  System Description  : DGS-1210-28P/ME      6.10.B020
  System Capabilities : Bridge

LLDP Configurations
  LLDP Status          : Enable
  Message Tx Interval : 10
  Message Tx Hold Multiplier: 2
  Reinit Delay        : 1
  Tx Delay             : 1
  Notification Interval : 5

DGS-1210-28P/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 {&lt;portlist&gt;}</b>
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-1210-28P/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-1210-28P/ME:5#

```

## show lldp local\_ports

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-1210-28P/ME:5# show lldp local_ports 1 mode brief
Command: show lldp local_ports 1 mode brief
Port ID : 1
-----
Port ID Subtype       : Interface Alias
Port ID               : Slot0/1
Port ID Description   : D-Link DGS-1210-28P/ME Rev.A1/6.10.B020 Port 1
DGS-1210-28P/ME:5#

```

**show lldp remote\_ports**

Purpose	To display information regarding the neighboring devices discovered using LLDP.
Syntax	<b>show lldp remote_ports {&lt;portlist&gt;} {mode[brief   normal   detailed]}</b>
Description	The <b>show lldp remote_ports command</b> displays the information regarding neighboring devices.
Parameters	<i>&lt;portlist&gt;</i> – A port or range of ports to be displayed. <i>[mode[brief   normal   detailed]]</i> – 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-1210-28P/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-1210-28P/ME:5#
```

**config lldp ports**

Purpose	To enable LLDP notification on a port or ports.
Syntax	<b>config lldp ports [&lt;portlist&gt;   all] notification [enable   disable]</b>
Description	The <b>config lldp ports notification command</b> defines lldp notification per port on the switch.
Parameters	<i>ports [&lt;portlist&gt;   all]</i> – Specify a port or ports to be configured. <i>notification [enable   disable]</i> – defines is notification is enabled or disabled.
Restrictions	None.

**Example usage:**

To configure LLDP notification:

```
DGS-1210-28P/ME:5# config lldp ports 1-3 notification enable
Command: config lldp ports 1-3 notification enable

Success.

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

**config lldp ports**

Purpose	To define LLDP admin status on a port or ports.
Syntax	<b>config lldp ports [&lt;portlist&gt;   all] admin_status [tx_only   rx_only   tx_and_rx   disable]</b>

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-1210-28P/ME:5# config lldp ports 2 admin_status disable
Command: config lldp ports 2 admin_status disable
```

```
Success.
```

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

**config lldp ports**

Purpose	To define LLDP management address advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [ <i>&lt;portlist&gt;</i>   <i>all</i> ] <i>mgt_addr</i> [ <i>ipv4 &lt;ipaddr&gt;</i>   <i>ipv6 &lt;ipv6addr&gt;</i> ] [ <i>enable</i>   <i>disable</i> ]
Description	The <b>config lldp ports</b> <i>mgt_addr</i> 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> [ <i>ipv4 &lt;ipaddr&gt;</i>   <i>ipv6 &lt;ipv6addr&gt;</i> ] – defines whether the management address (IPv4 or IPv6 address) advertisement will be enabled or disabled
Restrictions	Only Administrator or operator-level users can issue this command.

**Example usage:**

To configure LLDP management address advertisement:

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

**config lldp ports**

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports</b> [ <i>&lt;portlist&gt;</i>   <i>all</i> ] <i>basic_tlvs</i> [ <i>all</i>   <i>{port_description   system_name   system_description}</i> ]

	<b>system_capabilities}] [enable   disable]</b>
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-1210-28P/ME:5# config lldp ports 1 basic_tlvs all enable
Command: config lldp ports 1 basic_tlvs all enable
```

Success.

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

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports [&lt;portlist&gt; all] dot3_tlvs [all   link aggregation   mac_phy_configuration_status   maximum_frame_size   power_via_mdi] [enable   disable]</b>
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-1210-28P/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-1210-28P/ME:5#
```

## config lldp ports

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
---------	--

Syntax	<b>config lldp ports [&lt;portlist&gt; all] dot1_tlv_pvid [disable   enable]</b>
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-1210-28P/ME:5# config lldp ports all dot1_tlv_pvid disable
Command: config lldp ports all dot1_tlv_pvid disable
```

Success.

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

**config lldp ports**

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports [&lt;portlist&gt; all] dot1_tlv_protocol_identity [all   eapol   gvrp   lacp   stp][disable   enable]</b>
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-1210-28P/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-1210-28P/ME:5#
```

**config lldp ports**

Purpose	To define LLDP management basic TLVs advertisement on a port or ports.
Syntax	<b>config lldp ports [&lt;portlist&gt; all] dot1_tlv_vlan_name [vlan &lt;vlan_name 32&gt;   vlanid &lt;vidlist&gt;] [disable   enable]</b>
Description	The <b>config lldp ports</b> dot1 TLVs command defines lldp admin status per port on the switch.
Parameters	[<portlist>   all] – Specify a port or ports to be configured. vlan <vlan_name 32> –The name of the VLAN to be configured. dot1_tlv_vlan_name – Defines if the advertisement is enabled or disabled. vlanid <vidlist> –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-1210-28P/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-1210-28P/ME:5#
```

## 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-1210-28P/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-1210-28P/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-1210-28P/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-1210-28P/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 (1-250)>] [ 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)>}]   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 (1-250)>]
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)>}]

Command	Parameter
	ipv6 {class   source_ipv6 <ipv6addr>   destination_ipv6 <ipv6addr>} [port [<portlist>   all] [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>}

Each command is listed in detail, as follows:

create 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 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&gt; ]}   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-FFFFFFFFFFFFFF.</li> <li>• <i>destination_mac &lt;macmask&gt;</i> – Specifies a MAC address mask for the destination MAC address in the following format: 000000000000-FFFFFFFFFFFFFF.</li> <li>• <i>802.1p</i> – Specifies that the Switch examine the 802.1p priority value in the frame's header.</li> <li>• <i>ethernet_type</i> – Specifies that the Switch examine the Ethernet type value in each frame's header.</li> </ul>

*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 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.

*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.

Restrictions

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

### Example usage:

To create an Ethernet access profile:

```
DGS-1210-28P/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-1210-28P/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 <b>config access_profile ethernet</b> command, below.
Syntax	<b>config access_profile profile_id</b> <value (1-50)> [ <b>add access_id</b> [ <b>auto_assign</b>   <value (1-250)>] [ <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>packet_content</b> [ <b>offset1</b> <hex (0x0-0xffffffff)>   <b>offset2</b> <hex (0x0-0xffffffff)>   <b>offset3</b> <hex (0x0-0xffffffff)>   <b>offset4</b> <hex (0x0-0xffffffff)>]   <b>ipv6</b> [ <b>class</b> <value 0-255>   <b>source_ipv6</b> <ipv6addr>   <b>destination_ipv6</b> <ipv6addr>   <b>tcp</b> [ <b>src_port</b> <value 0-65535>   <b>dst_port</b> <value 0-65535>]   <b>udp</b> [ <b>src_port</b> <value 0-65535>   <b>dst_port</b> <value 0-65535>]   <b>icmp</b> [ <b>type</b> <value 0-255>   <b>code</b> <value 0-255>] ] [ <b>port</b> [<portlist>   <b>all</b> ] [ <b>permit</b> { <b>replace_priority_with</b> <value (0-7)>   <b>replace_dscp_with</b> <value (0-63)>   <b>rx_rate</b> { <b>no_limit</b>   <value (64-1024000)>}}]   <b>mirror</b>   <b>deny</b> ]]   <b>delete access_id</b> <value (1-250)>]
Description	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.
Parameters	<i>profile_id</i> <value 1-50> – 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.

*[add | delete] access\_id <value 1-65535>* – 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.

- *auto\_assign* – Configures the Switch to automatically assign a numerical value (between 1 and 65535) for the rule being configured.

*ethernet* – 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:

- *vlan <vlanid 1-4094>* – Specifies that the access profile applies only to this previously created VLAN.
- *source\_mac <macaddr>* – 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.
- *destination\_mac <macaddr>* – 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
- *802.1p <value 0-7>* – Specifies that the access profile applies only to packets with this 802.1p priority value.
- *ethernet\_type <hex 0x05dd-0xffff>* – Specifies that the access profile applies only to packets with this hexadecimal 802.1Q Ethernet type value in the packet header.

*ports <portlist>* - The access profile for Ethernet may be defined for each port on 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.

*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 its 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 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-1210-28P/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-1210-28P/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 &lt;value 1-50&gt;</i> – 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-1210-28P/ME:5# delete access_profile profile_id 1
```

```
Command: delete access_profile profile_id 1
```

```
Success.
```

```
DGS-1210-28P/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 &lt;value 1-50&gt;</i> – 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-1210-28P/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-1210-28P/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 Type field.</li> <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</li> </ul>

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 the TCP port mask for the source port.
- *dst\_port\_mask* <hex 0x0-0xffff> – Specifies the TCP port mask for the destination port.
- *flag\_mask* - Specifies the appropriate flag.

*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* <0x0-0xffff> – Specifies the UDP port mask for the source port.
- *dst\_port\_mask* <0x0-0xffff> – Specifies the UDP port mask for the destination port mask.
- *protocol\_id\_mask* <0x0-0xffff> – Specifies the protocol id mask.
- *source\_ip\_mask* <netmask> – Specifies the source IPv4 mask.
- *destination\_ip\_mask* <netmask> – Specifies the destination IPv4 mask.

*dscp* – Specifies that the Switch examines the DiffServ Code Point (DSCP) field in each frame's 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\_mask* <ipv6mask> – Specifies the source IPv6 mask.
- *destination\_ipv6\_mask* < ipv6mask > – Specifies the destination IPv6 mask.

*profile\_id* <value 1-3> – Specifies the cpu access profile to be displayed.

Restrictions

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

### Example usage:

To create a CPU IP access profile:

```
DGS-1210-28P/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-1210-28P/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>

	<pre>&lt;macaddr&gt;   802.1p &lt;value (0-7)&gt;   ethernet_type &lt;hex (0x0-0xffff)&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;}   ipv6 {class   source_ipv6 &lt;ipv6addr&gt;   destination_ipv6 &lt;ipv6addr&gt;} [port [&lt;portlist&gt;   all] [permit   deny]] delete access_id &lt;value (1-5)&gt;]</pre>
Description	<p>The <b>config cpu_access_profile</b> command configures the settings of cpu access profiles.</p>
Parameters	<p><i>profile_id</i> &lt;value 1-3&gt; – Specifies the cpu access profile to be configured.</p> <p><i>[add   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> <p><i>source_ip</i> &lt;ip_addr&gt; –Specifies that the cpu access profile applies only to packets with this source IP address.</p> <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>dst_port</i> &lt;value 0-65535&gt; –Specifies that the cpu access</li> </ul>

<p>profile applies only to packets that have this TCP destination port in their header.</p> <ul style="list-style-type: none"> <li>• <i>flag</i> &lt;string&gt; – Specifies the appropriate flag parameter.</li> <li>• <i>src_port</i> &lt;value 0-65535&gt; – Specifies that the cpu access profile applies only to packets that have this TCP source port in their header.</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>dst_port</i> &lt;value 0-65535&gt; – Specifies that the CPU access profile applies only to packets that have this UDP destination port in their header.</li> </ul> <p><i>src_port</i> &lt;value 0-65535&gt; – Specifies that the CPU access profile applies only to packets that have this UDP source port in their 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</i> &lt;ipv6addr&gt; – Specifies the source IPv6 address.</li> <li>• <i>destination_ipv6</i> &lt;ipv6addr &gt; – Specifies the destination IPv6 address.</li> </ul> <p>Restrictions                      Only administrator or operate-level users can issue this command.</p>	<p>profile applies only to packets that have this TCP destination port in their header.</p> <ul style="list-style-type: none"> <li>• <i>flag</i> &lt;string&gt; – Specifies the appropriate flag parameter.</li> <li>• <i>src_port</i> &lt;value 0-65535&gt; – Specifies that the cpu access profile applies only to packets that have this TCP source port in their header.</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>dst_port</i> &lt;value 0-65535&gt; – Specifies that the CPU access profile applies only to packets that have this UDP destination port in their header.</li> </ul> <p><i>src_port</i> &lt;value 0-65535&gt; – Specifies that the CPU access profile applies only to packets that have this UDP source port in their 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</i> &lt;ipv6addr&gt; – Specifies the source IPv6 address.</li> <li>• <i>destination_ipv6</i> &lt;ipv6addr &gt; – Specifies the destination IPv6 address.</li> </ul> <p>Restrictions                      Only administrator or operate-level users can issue this command.</p>
---	---

**Example usage:**

To configure a rule for the CPU IP access profile:

```
DGS-1210-28P/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-1210-28P/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-1210-28P/ME:5# delete cpu_access_profile profile_id 1
Command: delete cpu_access_profile profile_id 1
```

Success.

```
DGS-1210-28P/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-1210-28P/ME:5# show cpu_access_profile
Command: show cpu_access_profile
```

#### Access Profile Table

```
Access Profile ID: 1      Type: Ethernet
-----
```

#### Mask Option:

```
VLAN
-----
```

```
DGS-1210-28P/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</b> <portlist> forward_list [null   <portlist>]
Description	The <b>config traffic_segmentation</b> command configures traffic segmentation on the Switch.
Parameters	<p>&lt;portlist&gt; – A port or a port channel for which the current traffic segmentation configuration on the Switch is to be displayed.</p> <p>forward_list – Specifies a port or a port channel to receive forwarded frames from the source ports specified in the portlist, above.</p>
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-1210-28P/ME:5# config traffic_segmentation 3-4 forward_list 4-5
Command: config traffic_segmentation 3-4 forward_list 4-5

Success.

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

show traffic_segmentation	
Purpose	To display the current traffic segmentation configuration on the Switch.
Syntax	<b>show traffic_segmentation</b> {<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-1210-28P/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-1210-28P/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:

### config safeguard\_engine

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-1210-28P/ME:5# config safeguard_engine state enable
Command: config safeguard_engine state enable

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

### show safeguard\_engine

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-1210-28P/ME:5# show safeguard_engine  
Command: show safeguard_engine
```

```
Safe Guard : Enabled  
DGS-1210-28P/ME:5#
```

## DEVICE SPECIFICATIONS

This appendix contains the device specifications, and contains the following topics:

- Technical Specifications
- Cable Lengths

### Technical Specifications

Performance	
<b>Transmission Method</b>	Store-and-forward
<b>Packet Buffer memory</b>	DGS-1210-20/ME: 1.5Byutes DGS-1210-28/ME: 1.5Byutes DGS-1210-28P/ME: 1.5Byutes DGS-1210-52/ME: 3.0Byutes
<b>64 Bytes Max. Packet Forwarding Rate</b>	Full-wire speed for all connections. DGS-1210-20/ME: 29.8Mpps DGS-1210-28/ME: 41.7Mpps DGS-1210-28P/ME: 41.7Mpps DGS-1210-52/ME: 77.4Mpps
<b>MAC Address Learning</b>	Automatic update. Supports 16K MAC address.
<b>Priority Queues</b>	8 Priority Queues per port.
<b>Forwarding Table Age Time</b>	Max age: 10–600 seconds. Default = 300.

Physical and Environmental	
<b>AC Inputs</b>	DGS-1210-20/ME: 20W AC Input: 100 – 240 VAC, 50-60 Hz DGS-1210-28/ME: 24W AC Input: 100 – 240 VAC, 50-60 Hz DGS-1210-28P/ME: 253W AC Input: 100 – 240 VAC, 50-60 Hz DGS-1210-52/ME : 54W AC Input: 100 – 240 VAC, 50-60 Hz
<b>Power Consumption</b>	DGS-1210-20/ME: Maximum power consumption: 16.09Watts Standby power consumption: 8.80Watts DGS-1210-28/ME: Maximum power consumption: 22.45Watts Standby power consumption: 17.65Watts DGS-1210-28P/ME: Maximum power consumption: 200.3Watts Standby power consumption: 14.83Watts DGS-1210-52/ME : Maximum power consumption: 38.27Watts Standby power consumption: 29.49Watts
<b>DC Fans</b>	DGS-1210-20/ME: Fanless DGS-1210-28/ME: Fanless

<b>Physical and Environmental</b>	
	DGS-1210-28P/ME: Smart fan DGS-1210-52/ME: 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 90% non-condensing
<b>Dimensions</b>	11-inch, 1U Rack-mount size: - DGS-1210-20/ME: 280 mm x 180 mm x 44 mm 19-inch, 1U Rack-mount size: - DGS-1210-28/ME: 440mm x 140mm x 44 mm - DGS-1210-28P/52/ME: 440mm x 210mm x 44 mm
<b>Weight</b>	DGS-1210-20/ME: 1.27 kg DGS-1210-28/ME: 1.66 kg DGS-1210-28P/ME: 2.53 kg DGS-1210-52/ME: 2.59 kg
<b>EMI</b>	CE, FCC, C-Tick, VCCI, BSMI, CCC
<b>Safety</b>	UL, LVD, CB

<b>General</b>	
<b>Standards</b>	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3z Gigabit Ethernet IEEE 802.1Q Tagged VLAN IEEE 802.1P Tagged Packets IEEE 802.3ab 1000BASE-T IEEE 802.3x Full-duplex Flow Control ANSI/IEEE 802.3 NWay auto-negotiation
<b>Protocols</b>	CSMA/CD
<b>Data Transfer Rates</b> <b>Ethernet:</b> <b>Fast Ethernet:</b> <b>Gigabit Ethernet:</b>	Half-duplex      Full-duplex 10 Mbps          20 Mbps 100 Mbps         200 Mbps 2000 Mbps (Full duplex only)
<b>Topology</b>	Star

<b>Network Cables</b>	
<b>10BASE-T:</b>	UTP Category 3, 4, 5 (100 meters max.) EIA/TIA- 568 150-ohm STP (100 meters max.)
<b>100BASE-TX:</b>	UTP Cat. 5 (100 meters max.) EIA/TIA-568 150-ohm STP (100 meters max.)
<b>1000BASE-T:</b>	UTP Cat. 5e (100 meters max.) UTP Cat. 5 (100 meters max.) EIA/TIA-568B 150-ohm STP (100 meters max.)
<b>Number of Ports:</b>	DGS-1210-20/ME: 16 x 10/100/1000 Mbps ports 4 x 1000Mbps SFP ports

<b>General</b>	
	<p>DGS-1210-28/ME:                      24 x 10/100 /1000Mbps ports                      4 x 1000Mbps SFP ports</p> <p>DGS-1210-28P/ME:                      24 x 10/100/1000 Mbps ports with PoE                      4 x 1000Mbps SFP ports</p> <p>DGS-1210-52/ME:                      48 x 10/100 /1000Mbps ports                      4 x 1000Mbps SFP ports</p>

## Supported Transceivers

### Supported SFP Transceivers:

Module	Description	Maximum Distance
<b>DEM-310GT</b>	SFP Transceiver for 1000BASE-LX, Single-mode fiber module	10km
<b>DEM-311GT</b>	SFP Transceiver for 1000BASE-SX, Multi-mode fiber module	550m
<b>DEM-312GT2</b>	SFP Transceiver for 1000BASE-SX, Multi-mode fiber module	2km
<b>DEM-314GT</b>	SFP Transceiver for 1000BASE-LHX, Single-mode fiber module	50km
<b>DEM-315GT</b>	SFP Transceiver for 1000BASE-ZX, Single-mode fiber module	80km

### Supported WDM Transceivers:

Module	Description	Maximum Distance
<b>DEM-330T/R</b>	WDM Transceiver for Gigabit WDM transceiver, Single-mode fiber module	10km
<b>DEM-331T/R</b>	WDM Transceiver for Gigabit WDM transceiver, Single-mode fiber module	40km