D-Link
Building Networks for People

DGS-1100/ME SERIES

CLI Reference Guide
Metro Ethernet Managed Switch

Ver. 1.01

FCC Warning

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

March, 2015

Table of Contents

1

INTRODUCTION

The DGS-1100-16/ME consists of 16-ports 10/100/1000Mbps.

The DGS-1100-18/ME consists of 16-ports 10/100/1000Mbps ports + 2-ports 1000Mbps SFP

The DGS-1100-24/ME consists of 24-ports 10/100/1000Mbps.

The DGS-1100-24P/ME consists of 12-ports 10/100/1000Mbps PoE + 12-ports 10/100/1000Mbps.

The DGS-1100-26/ME consists of 24-ports 10/100/1000Mbps + 2-ports 1000Mbps SFP.

The Switch can be managed through the Telnet management agent. The Command Line Interface (CLI) can be used to configure and manage the Switch via the Telnet interfaces.

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

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.

The Switch's MAC address can also be found in the Telnet interfaces by entering **show switch**.
The IP address for the Switch must be set before it can be managed with the Telnet interfaces. 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.

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 management agent.

```
DGS-1100-24/ME:admin#config ipif System ipaddress 10.90.90.91/8
Command : config ipif System ipaddress 10.90.90.91/8

 Success.

DGS-1100-24/ME:admin#
```

Figure 1–1 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 using the above IP address to connect to the Switch.

2

PRODUCT INTRODUCTION

Thank you and congratulations on your purchase of D-Link DGS-1100/ME Series Switch Products.

D-Link's next generation DGS-1100 Series switches blend plug-and-play simplicity with exceptional value and reliability for small and medium-sized business (SMB) networking. All models are housed in a new style rack-mount metal case with easy-to-view front panel diagnostic LEDs.

The brand-new DGS-1100/ME series are green by design with IEEE 802.3az Energy Efficient Ethernet compliant (abbreviated as EEE) and D-Link Green Technologies. This allows significant power saving during periods of low data activity. In most environments, switches are idle 90% or more of the time. If there has been no network traffic over a short period of time, ports on DGS-1100 switch will change to power saving mode automatically. Once a packet is received, the switch wakes and works immediately, returning to normal funcationality. By using EEE compliant devices, such as PCs and servers, the network can save energy without compromising any performance. Even when connecting to legacy devices which do not support IEEE 802.3az, D-Link Green Technologies can reduce power consumption by changing the power state of the link.

DGS-1100-16/ME

16-Port 10/100/1000Mpbs Switch

Front Panel

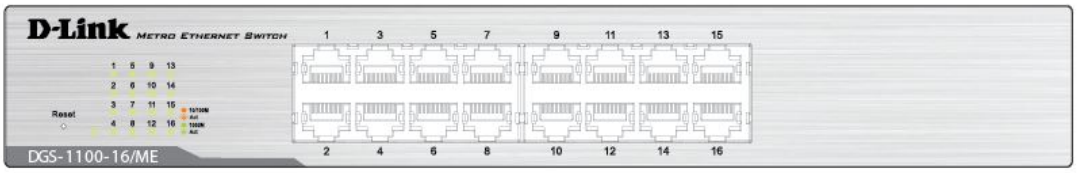

Figure 2-1 - DGS-1100-16/ME Front Panel

Power LED: The Power LED lights up when the Switch is connected to a power source.

Link/Act/Speed LED (Ports 1-16):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the Switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the Switch will change back to the default configuration and all changes will be lost.

Rear Panel

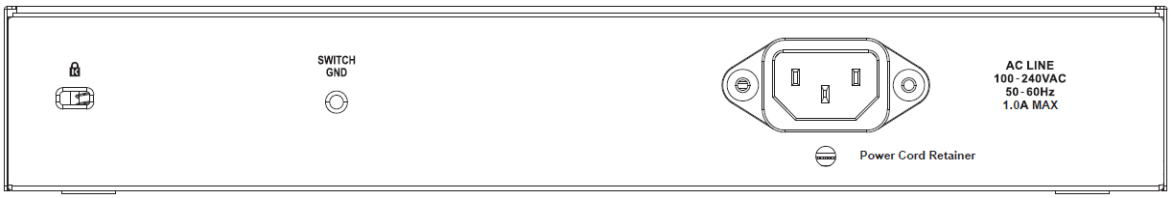

Figure 2-2 – DGS-1100-16/ME Rear Panel

Power: The power port is where to connect the AC power cord.

DGS-1100-18/ME

16-Port 10/100/1000Mpbs + 2 Port SFP 1000 Mbps Switch

Front Panel

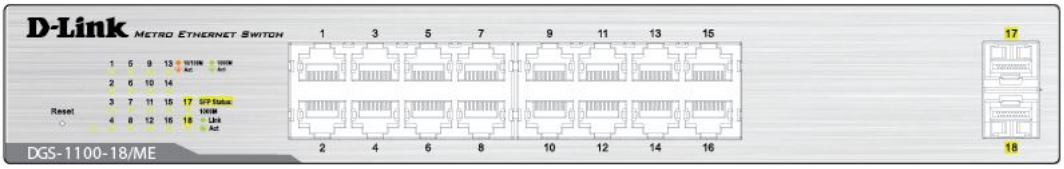

Figure 2-3 - DGS-1100-18/ME Front Panel

Power LED: The Power LED lights up when the Switch is connected to a power source.

Link/Act/Speed LED (Ports 1-16):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the Switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

Link/Act/Speed LED (Ports 17-18):

Solid Green: There is a secure 1000Mbps connection at the port.

Blinking Green: There is reception or transmission occurring at the port.

Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the Switch will change back to the default configuration and all changes will be lost.

NOTE: The MiniGBIC ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc

Rear Panel

Figure 2-4 – DGS-1100-18/ME Rear Panel

Power: The power port is where to connect the AC power cord.

DGS-1100-24/ME

24-Port 10/100/1000Mpbs Switch

Front Panel

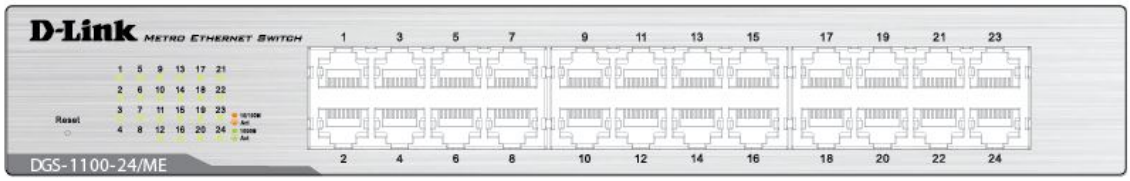

Figure 2-5 – DGS-1100-24/ME Front Panel

Power LED: The Power LED lights up when the Switch is connected to a power source.

Link/Act/Speed LED (Ports 1-24):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the Switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100 Mbps.

Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the Switch will change back to the default configuration and all changes will be lost.

Rear Panel

Figure 2-6 – DGS-1100-24/ME Rear Panel

Power: Connect the supplied AC power cable to this port.

DGS-1100-24P/ME

12-Port 10/100/1000Mpbs PoE + 12-Port 10/100/1000Mpbs Switch

Front Panel

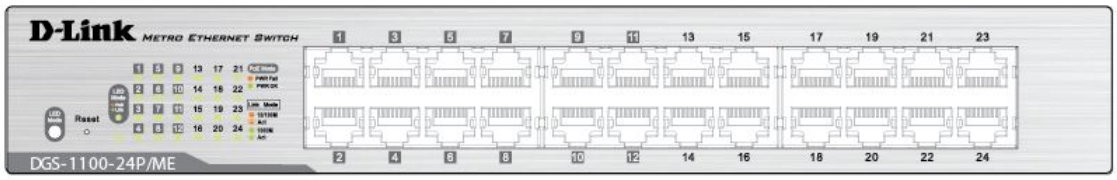

Figure 2-7 – DGS-1100-24P/ME Front Panel

Power LED: The Power LED lights up when the Switch is connected to a power source.
Link/Act/Speed LED (Ports 1-24):
Solid Green: When there is a secure 1000Mbps connection at the port.
Blinking Green or Amber: Indicates that the Switch is either sending or receiving data to the port.
Solid Amber: Indicates that the port is running at 10/100Mbps.
Light off: No link.
PoE Mode (Ports 1-12):
Green: Indicates that PoE mode is active.
Amber: Indicates that there is an issue with the PoE mode activating properly.
Light off: Indicates that PoE mode is not active.

LED Mode Button: Pressing this button will change the LED behavior from Link mode, and PoE Mode

Reset: By pressing the Reset button until the power LED turns amber, the Switch will change back to the default configuration and all changes will be lost.

Note: The LED behavior for ports 1-12 will switch between Link mode and PoE mode when the PoE mode is active.

NOTE: This equipment can be connected only to PoE networks without routing to the outside plant.

Rear Panel

Figure 2-8 – DGS-1100-24P/ME Rear Panel

Power: Connect the supplied AC power cable to this port.

DGS-1100-26/ME

24-Port 10/100/1000Mpbs + 2-Port SFP 1000 Mbps Switch

Front Panel

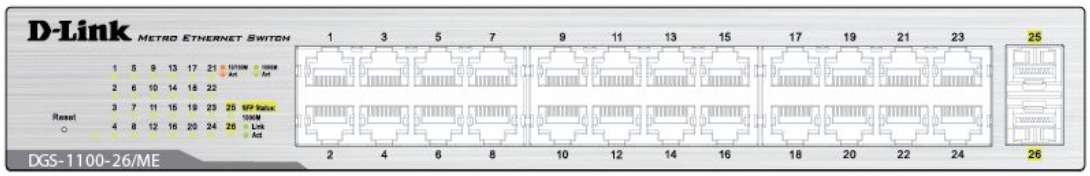

Figure 2-9 – DGS-1100-26/ME Front Panel

Power LED: The Power LED lights up when the Switch is connected to a power source.

Link/Act/Speed LED (Ports 1-24):

Solid Green: When there is a secure 1000Mbps connection at the port.

Blinking Green or Amber: Indicates that the Switch is either sending or receiving data to the port.

Solid Amber: Indicates that the port is running at 10/100Mbps.

Light off: No link.

Link/Act/Speed LED (Ports 25-26):

Solid Green: There is a secure 1000Mbps connection at the port.

Blinking Green: There is reception or transmission occurring at the port.

Light off: No link.

Reset: By pressing the Reset button until the power LED turns amber, the Switch will change back to the default configuration and all changes will be lost.

NOTE: The MiniGBIC ports should use UL listed Optical Transceiver product, Rated Laser Class I. 3.3Vdc

Rear Panel

Figure 2-10 – DGS-1100-26/ME Rear Panel

Power: Connect the supplied AC power cable to this port.

3

HARDWARE INSTALLATION

This chapter provides unpacking and installation information for the D-Link Switch.

Step 1: Unpacking

Open the shipping carton and carefully unpack its contents. Please consult the packing list located in the User Manual to make sure all items are present and undamaged. If any item is missing or damaged, please contact your local D-Link reseller for replacement.

Packing contents of DGS-1100/ME

- One D-Link DGS-1100/ME Series Switch
- One AC power cord
- Four rubber feet
- Screws and two mounting brackets
- One Multi-lingual Getting Started Guide
- One CD with User Manual

If any item are found missing or damaged, please contact the local reseller for replacement.

Step 2: Switch Installation

For safe switch installation and operation, it is recommended that you:

- Visually inspect the power cord to see that it is secured fully to the AC power connector.
- Make sure that there is proper heat dissipation and adequate ventilation around the switch.
- Do not place heavy objects on the switch.

Desktop or Shelf Installation

When installing the switch on a desktop or shelf, the rubber feet included with the device must be attached on the bottom, at each corner of the device's base. Allow enough ventilation space between the device and the objects around it.

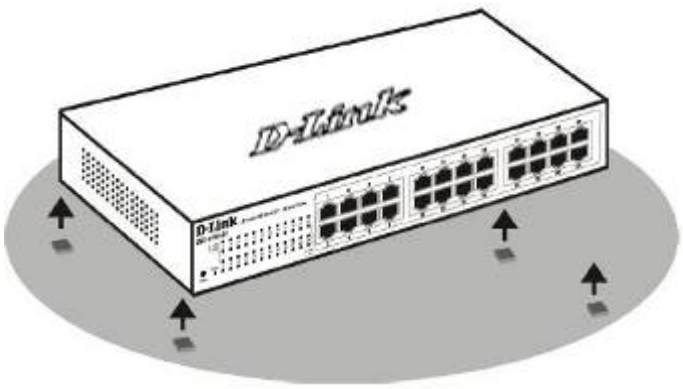

Figure 3-1 – Attach the adhesive rubber pads to the bottom

Rack Installation

The switch can be mounted in an EIA standard size 11-inch rack, which can be placed in a wiring closet with other equipment. To install, attach the mounting brackets to the switch's side panels (one on each side) and secure them with the screws provided (please note that these brackets are not designed for palm size switches).

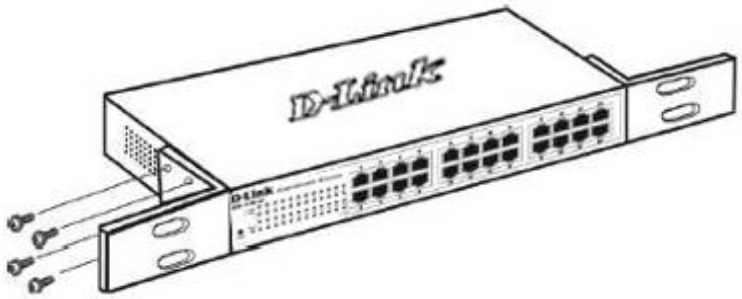

Figure 3-2 – Attach the mounting brackets to the Switch

Then, use the screws provided with the equipment rack to mount the switch in the rack.

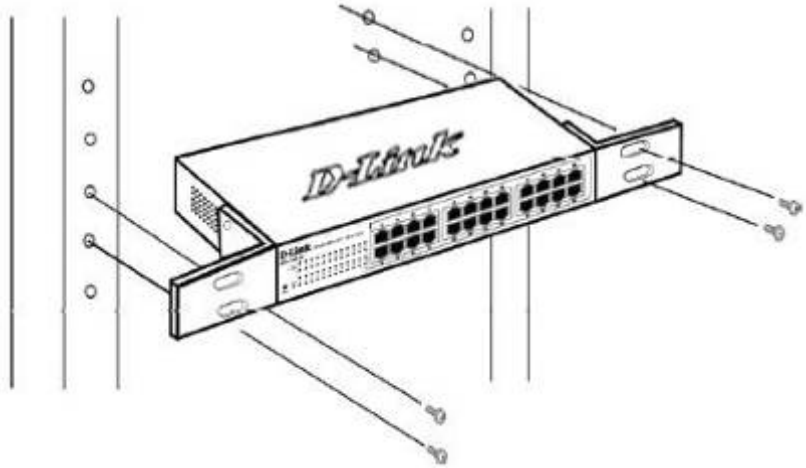

Figure 3-3 – Mount the Switch in the rack or chassis

Please be aware of following safety Instructions when installing:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Step 3 – Plugging in the AC Power Cord

Users may now connect the AC power cord into the rear of the switch and to an electrical outlet (preferably one that is grounded and surge protected).

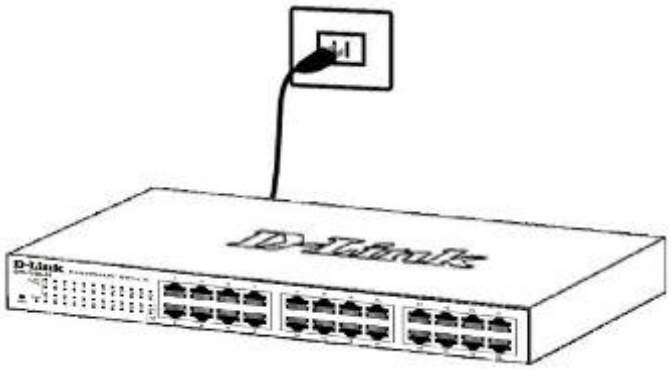

Figure 3-4 – Plugging the switch into an outlet

Power Failure

As a precaution, the switch should be unplugged in case of power failure. When power is resumed, plug the switch back in.

Grounding the Switch

This section describes how to connect the DGS-1100/ME Series Switch to ground. You must complete this procedure before powering your switch.

Required Tools and Equipment

- Ground screws (included in the accessory kit): One M4 x 6 mm (metric) pan-head screw
- Ground cable (not included in the accessory kit): The grounding cable should be sized according to local and national installation requirements. Depending on the power supply and system, a 12 to 6 AWG copper conductor is required for U.S installation. Commercially available 6 AWG wire is recommended. The length of the cable depends on the proximity of the switch to proper grounding facilities.
- A screwdriver (not included in the accessory kit)

The following steps let you connect the switch to a protective ground:

Step 1: Verify if the system power is off.

Step 2: Use the ground cable to place the #8 terminal lug ring on top of the ground-screw opening, as seen in the figure below.

Step 3: Insert the ground screw into the ground-screw opening.

Step 4: Using a screwdriver, tighten the ground screw to secure the ground cable to the switch.

Step 5: Attach the terminal lug ring at the other end of the grounding cable to an appropriate grounding stud or bolt on rack where the switch is installed.

Step 6: Verify if the connections at the ground connector on the switch and the rack are securely attached.

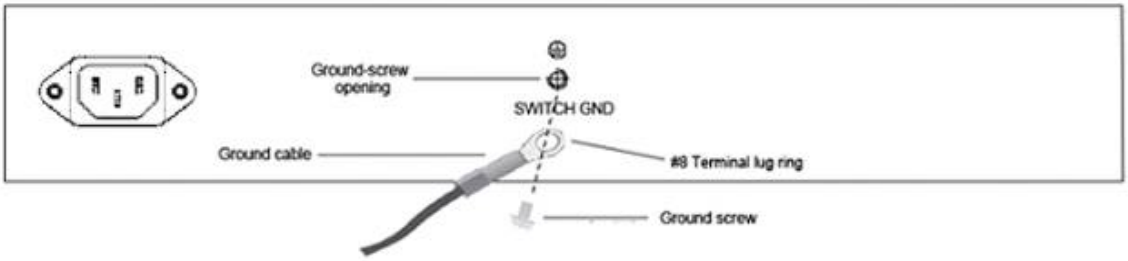

Figure 3-5 – Ground cable, screw and #8 terminal lug rings

4

USING THE COMMAND LINE INTERFACE

The Switch allows a computer or terminal to perform some basic monitoring and configuration tasks by using the Command Line Interface (CLI) via TELNET protocol.

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.

The command line functions are 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.

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

```
                DGS-1100-24/ME Gigabit Ethernet Switch
                        Command Line Interface

                        Firmware: Build 1.00.L005
          Copyright(C) 2014 D-Link Corporation. All rights reserved.

UserName:
```

Figure 4–1 Initial Console Screen after Logging In

Commands are entered at the command prompt, DGS-1100-24P/ME:admin#

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

```
DGS-1100-24/ME:admin#?
Command : ?

Next possible completions:
  cable      Cable diagnostic command.
  clear      Clear command.
  config     Config command.
  create     Create command.
  delete     Delete command.
  disable    Disable command.
  download   Download command.
  enable     Enable command.
  login      Login command.
  logout     Logout command.
  ping       Used to send ICMP echo messages to a remote IP address.
  reboot     Used to restart the switch.
  reset      Used to reset switch parameters to the factory defaults.
  save       Used to save the current configuration.
  show       Show command.
  upload     Upload command.
```

Figure 4–2 The ? Command

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

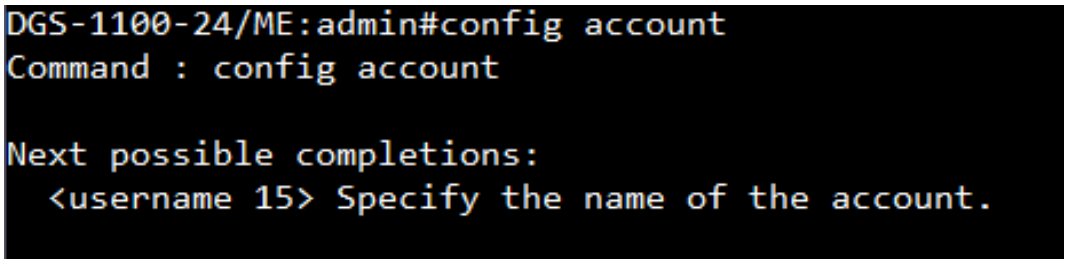

Figure 4–3 Example Command Parameter Help

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.

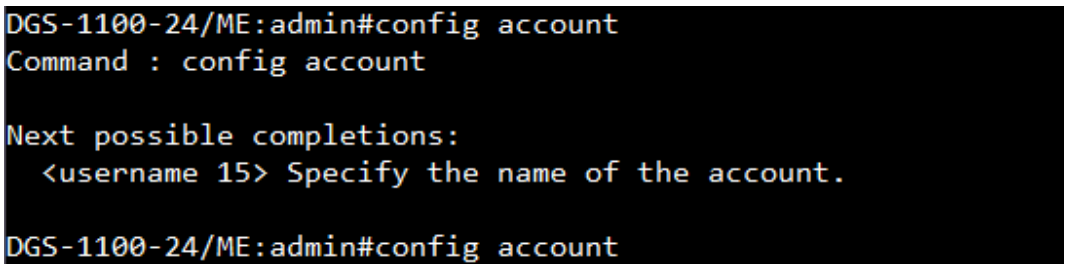

Figure 4–4 Using the Up Arrow to Re-enter a Command

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-1100-24/ME:admin#coo
Command : coo

Next possible completions:
  cable      Cable diagnostic command.
  clear      Clear command.
  config     Config command.
  create     Create command.
  delete     Delete command.
  disable    Disable command.
  download   Download command.
  enable     Enable command.
  login      Login command.
  logout     Logout command.
  ping       Used to send ICMP echo messages to a remote IP address.
  reboot     Used to restart the switch.
  reset      Used to reset switch parameters to the factory defaults.
  save       Used to save the current configuration.
  show       Show command.
  upload     Upload command.

DGS-1100-24/ME:admin#
```

Figure 4–5 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.

```
DGS-1100-24/ME:admin#show
Command : show

Next possible completions:
  802.1p               Display the 802.1p configuration.
  account              Show account.
  asymmetric_vlan      Used to display the asymmetric VLAN.
  bandwidth_control    Display the port bandwidth control table.
  config               Used to display configuration information.
  ddp                  Used to display information about the DDP.
  dos_prevention       Display Dos prevention information.
  eee                  Used to show the eee function state on special port(s).
  error                Used to display error statistics for a range of ports.
  fdb                  Displays the current unicast MAC address forwarding database.
  firmware             Used to display firmware information.
  igmp_snooping        Show the current IGMP snooping configuration on the switch.
  ipif                 Used to show IP interface's information.
  jumbo_frame          Used to display Jumbo Frames.
  lacp                 Used to display per-port LACP mode.
  loopdetect           Used to display the LBD global configuration.
  link_aggregation     Used to display the current link aggregation configuration.
  lldp                 Used to display LLDP.
  log                  Used to display the switch history log.
  mirror               Used to display per-port LACP mode.
```

Figure 4–6 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.

5

COMMAND SYNTAX

The following symbols are used to describe how command entries are made and values and arguments are specified in this manual. The online help contained in the CLI and available through the Telnet 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	**create account [admin | oper |user] <username 15>**
Description	In the above syntax example, supply a username in the <username> space. Do not type the angle brackets.
Example Command	**create account admin newadmin1**

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

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

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

{braces}	
Purpose	Encloses an optional value or set of optional arguments.
Syntax	**reboot {force_agree}**
Description	In the above syntax example, simply to execute “reboot” to reboot the switch with confirmation. Or, to excute “reboot force_agree” to reboot the switch without confirmation.
Example command	**reboot** Are you sure you want to proceed with the system reboot?(y/n)

Line Editing Key Usage	
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	Toggle on and off. When toggled on, inserts text and rewrite the previous text.
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	To fill in the keyword if the input is recognizable.

Multiple Page Display Control Keys	
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.

6

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
clear screen	
create account	[admin | user] <username 15>
delete account	<username 15>
config account	<username 15>
show account	
show session	
show switch	
show config	current_config
config jumbo_frame	ports <portlist> state [enable | disable]
show jumbo_frame	
save	
reboot	{force_agree}
reset	[config | system | default] {force_agree}
login	
logout	
ping	<ipaddr> {times <value 1-255> | timeout <sec 1-99>}
create time_range	<string 8> [daily start_time < time hh:mm > end_time<time hh:mm > | weekly start_weekday <weekday> start_time <time hh:mm > end_weekday <weekday> end_time <time hh:mm>]
delete time_range	<string 8>
show time_range	
config telnet auto_logout	[2_minutes | 5_minutes | 10_minutes | 15_minutes]
show telnet	
config firmware	image <1,2> boot_up
show firmware	information
create iproute	default <ipaddr>
delete iproute	default
config command_prompt	config command_prompt [user_define <string 16> | username | default]

Each command is listed in detail, as follows:

clear screen	
Purpose	To clear screen.
Syntax	**clear screen**
Description	The **clear screen** command clears the terminal screen.
Parameters	None.
Restrictions	None.

Example usage:

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

```
DGS-1100-24P/ME:admin#clear screen
Command : clear screen



DGS-1100-24P/ME:admin#
```

create account	
Purpose	To create a user account.
Syntax	**create account [admin | user] <username 15>**
Description	The **create account** command creates user accounts with different priority. After resetting to factory reset, users can press anything to login the administrator-level user of the Switch. Users must create an admin-level account before creating user-level account.
Parameters	*admin* – To create a admin-level user account. *user* − To create a user-level user account. <*username 15*> − the account username.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an admin-level user account named 'dlink':

```
DGS-1100-24P/ME:admin#create account admin dlink
Command : create account admin dlink

Success.

DGS-1100-24P/ME:admin#
```

delete account	
Purpose	To delete an existing user account.

Syntax	**delete account <username 15>**
Description	The **delete account** command deletes an existing user account. Users must delete a user-level account before deleting an admin-level account.
Parameters	<*username 15*> − the account username.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete an account named 'dlink':

```
DGS-1100-24P/ME:admin#delete account dlink
Command : delete account dlink

Success.

DGS-1100-24P/ME:admin#
```

config account

Purpose	To change the password for an existing user account.
Syntax	**config account <username 15>**
Description	The **config account** command changes the password for a user account that has been created using the **create account** 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 'admin' account:

```
DGS-1100-24P/ME:admin#config account admin
Command : config account admin

Enter an old password:***
Enter a case-sensitive new password:****
Enter the new password again for confirmation:****
Success.

DGS-1100-24P/ME:admin#
```

show account

Purpose	To display information about all user accounts on the Switch.
Syntax	**show account**
Description	The **show account** command displays all account usernames and

	their access levels created on the Switch. Up to 2 user accounts can exist on the Switch at one time.
Parameters	None.
Restrictions	None.

Example usage:

To display the account that has been created:

```
DGS-1100-24P/ME:admin#show account
Command : show account

Current Accounts:
Username       Access Level
------------------  -------------------
user              User
admin             Admin

DGS-1100-24P/ME:admin#
```

show session	
Purpose	To display information about currently logged-in users.
Syntax	**show session**
Description	The **show session** command displays a list of all the users that are logged-in at the time the command is issued. The information includes the user's IP address, the user's access Level (user or admin), and the account name on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the session information:

```
DGS-1100-24P/ME:admin#show session
Command : show session

Live Time   From                              Level      Name
--------------  ----------------------------------  -----------  ----------
00:00:08    10.90.90.100                      admin     admin

DGS-1100-24P/ME:admin#
```

show switch	
Purpose	To display information about the Switch.
Syntax	**show switch**

Description	The **show switch** 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-1100-24P/ME:admin#show switch
Command: show switch

Device Type          : DGS-1100-24/ME Gigabit Metro Access Switch
MAC Address          : ec-22-80-40-08-f1
IP Address           : 10.90.90.90 (Manual)
VLAN Name            : VLAN0001
Subnet Mask          : 255.0.0.0
Default Gateway      : 0.0.0.0
Boot PROM Version    : Build 1.00.002
Firmware Version     : Build 1.00.L001
Hardware Version     : B1
System Name          : SWITCH
System Location      :
System Contact       :
Spanning Tree        : Disabled
IGMP Snooping        : Disabled
MLD Snooping         : Disabled
TELNET               : Enabled (TCP 23)
SNMP                 : Disabled
SNTP                 : Disabled

DGS-1100-24P/ME:admin#
```

show config

Purpose	To display the current configuration settings of the Switch.
Syntax	**show config current_config**
Description	The **show config** command is used to list the current status of the configuration settings of the Switch.
Parameters	*current_config* − Display system configuration from the software database, i.e. the current system setting.
Restrictions	None.

Example usage:

To display the configuration:

```
DGS-1100-24P/ME:admin#show config current_config
Command : show config current_config

#               DGS-1100-24P/ME Gigabit Ethernet Switch
#                       Configuration
#
#                    Firmware: Build 1.00.L001
#         Copyright(C) 2014 D-Link Corporation. All rights reserved.

#BLOCK_UNKNOWN_MULTICAST#

disable block_unknown_multicast

#MIRROR#

disable mirror

#MULTICAST FILTER#


#VOICE VLAN#

config voice_vlan priority 5
config voice_vlan aging_time 720
config voice_vlan ports list 1-24 mode autountagged

#SURVEILLANCE_VLAN VLAN#
```

config jumbo_frame

Purpose	To configure jumbo frames on the device.
Syntax	**config jumbo_frame ports <portlist> state [enable | disable]**
Description	The **config jumbo_frame** command can enable or disable jumbo frames on the device by ports.
Parameters	*<portlist>* - A port or range of ports to be configured. *state* – Allows the user to enable or disable jumbo frame function for the by ports.
Restrictions	Only administrator-level users can issue this command. Jumbo frames will be enabled after saving and restarting the system.

Example usage:

To enable jumbo frames:

```
DGS-1100-24P/ME:admin#config jumbo_frame ports 1-5 state
enable
```

```
Command: config jumbo_frame ports 1-5 state enable

Success.

DGS-1100-24P/ME:admin#
```

show jumbo_frame

Purpose	To display the jumbo frame configuration.
Syntax	**show jumbo_frame**
Description	The **show jumbo_frame** command displays the jumbo frame configuration.
Parameters	None.
Restrictions	None.

Example usage:

To show the jumbo_frames configuration status on the device:

```
DGS-1100-24P/ME:admin#show jumbo_frame
Command : show jumbo_frame

Maximum Jumbo Frame Size : 9216

Port     Jumbo Frame State
------   -------------------------------
1        Disabled
2        Disabled
3        Disabled
4        Disabled
5        Disabled
6        Disabled
7        Disabled
8        Disabled
9        Disabled
10       Disabled
11       Disabled
12       Disabled
13       Disabled
14       Disabled
15       Disabled
16       Disabled
17       Disabled
18       Disabled
19       Disabled
20       Disabled
21       Disabled
```

```
22      Disabled
23      Disabled
24      Disabled

DGS-1100-24P/ME:admin#
```

save	
Purpose	To save changes in the Switch's configuration to non-volatile RAM.
Syntax	**save**
Description	The **save** 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	None
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS-1100-24P/ME:admin#save
Command : save

Success.

DGS-1100-24P/ME:admin#
```

reboot	
Purpose	To reboot the Switch.
Syntax	**reboot {force_agree}**
Description	The **reboot** command restarts the Switch.
Parameters	*force_agree* –When force_agree is specified, the reboot command will be executed immediately without further confirmation.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To restart the Switch:

```
DGS-1100-24P/ME:admin#reboot
Command : reboot

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

reset	
Purpose	To reset the Switch to the factory default settings.
Syntax	**reset [config | system | default] {force_agree}**
Description	The **reset system** command restores the Switch's configuration to the factory default settings. Rebooting will clear all entries in the Forwarding Data Base.
Parameters	*config* − Specify this keyword and all parameters are reset to default settings. However, the device will neither save nor reboot. *system* − Specify this keyword and all parameters are reset to default settings. Then the switch will do a factory reset, save, and reboot. *default* − Specify this keyword and all parameters are reset to default settings except the IP address. *force_agree* - When force_agree is specified, the reset command will be executed immediately without further confirmation.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS-1100-24P/ME:admin#reset system
Command : reset system

Are you sure you to proceed with system reset, save and reboot?(y/n) y
Please wait, the switch is rebooting...
```

login	
Purpose	To log in a user from the Switch.
Syntax	**login**
Description	The **login** command terminates the current user's session on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To terminate the current user's Telnet session:

```
DGS-1100-24P/ME:admin#login
Command : login

Success.

UserName:
```

logout	
Purpose	To log out a user from the Switch.
Syntax	**logout**
Description	The **logout** command terminates the current user's session on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To terminate the current user's Telnet session:

```
DGS-1100-24P/ME:admin#logout
```

ping	
Purpose	To test the connectivity between network devices.
Syntax	**ping <ipaddr> {times <value 0-255> | timeout <sec 1-99> }**
Description	The **ping** 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	*<ipaddr>* - The IP address of the host. *times <value 0-255>* - The number of individual ICMP echo messages to be sent. The maximum value is 255. The default is 4. *timeout <sec 1-99>* - 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.
Restrictions	None.

Example usage:

To ping the IP address 10.90.90.100 three times:

```
DGS-1100-24P/ME:admin#ping 10.90.90.100 times 3 timeout 3
Command : ping 10.90.90.100 times 3 timeout 3

Reply from 10.90.90.100, time=3ms
Reply from 10.90.90.100, time=3ms
Reply from 10.90.90.100, time=2ms
Ping Statistics for 10.90.90.100
Packets: Sent =3, Received =3, Lost =0

DGS-1100-24P/ME:admin#
```

create time_range	
Purpose	To configure the time range on the Switch.

Syntax	**create time_range <string 8> [daily start_time < time hh:mm > end_time<time hh:mm > | weekly start_weekday <weekday> start_time <time hh:mm > end_weekday <weekday> end_time <time hh:mm>]**
Description	The **create time_range** command defines time ranges for access lists.
Parameters	*daily* – Specifies the time range will be active on all the days. *weekly* – Specifies the time range that will be active from start weekday to end weekday. <*string 8*> – Specifies the time range name. The range of characters is 1 - 8. *start_time* <*time hh:mm*> – defines the time on which the time range will start to be active. *end_time* < *time hh:mm* >– defines the time on which the time range will stop to be active. *start_weekday* <*weekday*> – defines the days of the week on which the time range will start to be active.. *end_weekday* <*weekday*> – defines the days of the week on which the time range will stop to being active..
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a time range dlink on the Switch:

```
DGS-1100-24P/ME:admin#create time_range dlink daily start_time 10:10
end_time 12:10
Command : create time_range dlink daily start_time 10:10 end_time 12:10

   Success.

DGS-1100-24P/ME:admin#
```

delete time_range

Purpose	To remove a time range configuration on the Switch.
Syntax	**delete time_range <string 8>**
Description	The **delete time_range** command removes a time range configuration.
Parameters	<*string 8*> – Specifies the time range name. The range of characters is 1 - 8.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove a time range setting on the Switch:

```
DGS-1100-24P/ME:admin#delete time_range dlink
Command : delete time_range dlink

   Success.

DGS-1100-24P/ME:admin#
```

show time_range

Purpose	To display the currently configured access profiles on the Switch.
Syntax	**show time_range**
Description	The **show time_range** command displays the time range configuration.
Parameters	None.
Restrictions	None.

Example usage:

To display time range settings on the Switch:

```
DGS-1100-24P/ME:admin#show time_range

   Time Range Information
   ----------------------------------------
   Range Name    : dlink
   Weekdays      : Daily
   Start Time    : 10:10:00
   End Time      : 12:10:00

   Total Entries :1

DGS-1100-24P/ME:admin#
```

config telnet auto_logout

Purpose	To configure the auto log out time on the Switch.
Syntax	**config telnet auto_logout [2_minutes | 5_minutes | 10_minutes | 15_minutes]**
Description	This command is used to configure the auto logout time for idle connections.
Parameters	*2_minutes* - Two minutes to set the automatic logout time *5_minutes* - Five minutes to set the automatic logout time *10_minutes* - Ten minutes to set the automatic logout time *15_minutes* - Fifteen minutes to set the automatic logout time
Restrictions	Only administrator-level users can issue this command.

Example usage:

Two minutes to set the automatic logout time:

```
DGS-1100-24P/ME:admin#config telnet auto_logout 2_minutes
Command : config telnet auto_logout 2_minutes
```

```
Success

DGS-1100-24P/ME:admin#
```

show telnet	
Purpose	To display information about auto-logout time on the Switch.
Syntax	**show telnet**
Description	The **show telnet** command displays auto-logout time on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the auto-logout time information:

```
DGS-1100-24P/ME:admin#show telnet
Command : show telnet

Auto-Logout  : 5 mins

DGS-1100-24P/ME:admin#
```

config firmware	
Purpose	To configure the firmware image boot up.
Syntax	**config firmware image <1,2> boot_up.**
Description	This command is used to configure the firmware image boot up.
Parameters	*<1,2>* - Image firmware 1 or firmware 2 for boot up.
Restrictions	Only administrator-level users can issue this command.

Example usage:

Two minutes to set the automatic logout time:

```
DGS-1100-24P/ME:admin#config config firmware image 1 boot_up
Command : config firmware image 1 boot_up

Success.

DGS-1100-24P/ME:admin#
```

show firmware	
Purpose	Used to display the firmware section information.
Syntax	**show firmware information**

Description	The **show firmware information** command is used to display the firmware section information.
Parameters	*information* – To display the firmware information.
Restrictions	None.

Example usage:

To display firmware information on the Switch:

```
DGS-1100-24P/ME:admin# admin#show firmware information
Command : show firmware information

Image ID    : 1 (Current) (Next boot up)
Version     : 1.00.L005
Size        : 1507556 Bytes
Update Time : 2000-01-01 00:54:21

Image ID    : 2
Version     : 1.00.L004
Size        : 1507620 Bytes
Update Time : 2000-01-01 00:06:11

DGS-1100-24P/ME:admin#
```

create iproute

Purpose	Used to create IP route entries to the Switch's IP routing table.
Syntax	**create iproute default <ipaddr>**
Description	The **create iproute** command is used to create a default gateway.
Parameters	*default* – Specifies to create a default gateway. <*ipaddr*> − The gateway IP address for the next hop router.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS-1100-24P/ME:admin# create iproute default 10.90.90.92
Command : create iproute default 10.90.90.92

Success.

DGS-1100-24P/ME:admin#
```

delete iproute

Purpose	Used to delete an IP route entry from the Switch's IP routing table.
Syntax	**delete iproute default**

Description	The **delete iproute** command will delete an existing IP route entry from the Switch's IP routing table.
Parameters	*default* – Specifies to delete a default IP route entry.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the default Gateway from the routing table:

```
DGS-1100-24P/ME:admin# delete iproute default
Command : delete iproute default

Success.

DGS-1100-24P/ME:admin#
```

config command_prompt

Purpose	Used to configure the command prompt.
Syntax	**config command_prompt [user_define <string 16> | username | default]**
Description	The **config command_prompt** command will modify the setting of command prompt. The current command prompt consists of four parts: "product name" + ":" + "user level" + "#" (e.g. "DGS-1100-24P/ME:admin#"). This command is used to modify the first part (1. "product name") with a string consisting of a maximum of 16 characters, or to be replaced with the users' login user name. When users issue the "reset" command, the current command prompt will remain in tact. Yet, issuing the "reset system" will return the command prompt to its original factory default value.
Parameters	*<string 16>* – Enter the new command prompt string of no more than 16 characters. *username* – Enter this command to set the login username as the command prompt. *default* – Enter this command to return the command prompt to its original factory default value.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To modify the command prompt to abc:

```
DGS-1100-24P/ME:admin#config command_prompt user_define
abc
Command : config command_prompt user_define abc

Success.

abc:admin#
```

7

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	<portlist> [mdix [normal | cross | auto] | description [add <desc 8> | clear_description] | flow_control [enable | disable] | learning [enable | disable] | state [enable | disable] | speed [auto | 100_full | 100_half | 10_full | 10_half]]
show ports	<portlist>

Each command is listed in detail, as follows:

config ports

Purpose	To configure the Switch's Ethernet port settings.
Syntax	**config ports <portlist> [mdix [normal | cross | auto] | description [add <desc 8> | clear_description] | flow_control [enable | disable] | learning [enable | disable] | state [enable | disable] | speed [auto | 100_full | 100_half | 10_full | 10_half]]**
Description	The **config ports** command configures the Switch's Ethernet port settings. Only the ports listed in the <portlist> are affected.
Parameters	<*portlist*> − A port or range of ports to be configured. *mdix [normal* | *cross* | *auto]* − Specifies the MDIX setting of the port. The MDIX setting can be auto, normal or cross. 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. *description <desc 8>* − Enter and alphanumeric string of no more that 8 characters to describe a selected port interface. *clear_description* – Clear the description for the specified ports. *flow_control [enable|disable]* – Enables or disables flow control for the specified ports. *state [enable* | *disable]* − Enables or disables the specified range of ports. *speed* – Sets the speed of a port or range of ports, with the addition of one of the following: • *auto* − Enables auto-negotiation for the specified range of ports. • *[10* | *100]* − Configures the speed in Mbps for the specified range of ports. • *[half* | *full]* − Configures the specified range of ports as either full or half-duplex.

Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the speed of ports 1-3 to be 100 Mbps, full duplex:

```
DGS-1100-24P/ME:admin#config ports 1-3 speed 100_full
Command : config ports 1-3 speed 100_full

Success.

DGS-1100-24P/ME:admin#
```

show ports

Purpose	To display the current configuration of a range of ports.
Syntax	**show ports <portlist>**
Description	The **show ports** command displays the current configuration of a port or range of ports.
Parameters	<*portlist*> − A port or range of ports whose settings are to be displayed..
Restrictions	None.

Example usage:

To display the configuration of port 5 on the Switch:

```
DGS-1100-24P/ME:admin#show ports 5
Command : show ports 5

Port   State/     Settings                  Connection    Address
       MDI        Speed/Duplex/FlowCtrl     Link Status   Learning
-------  --------   ----------------------------------  -------------------   ---------
5      Enabled    Auto/Auto/Disabled        Link Up       Enabled
       Auto
       Description:

DGS-1100-24P/ME:admin#
```

8

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	{ interval_time <value 1-32767> | lbd_recover_time <0, sec 60-1000000> | trap [none | loop_detected] | ports[port_list <portlist> | all] state [enable | disable]}(1)
show loopdetect	[global | ports [portlist <portlist> | all]]

Each command is listed in detail, as follows:

enable loopdetect	
Purpose	To enable the loop back detection on the Switch.
Syntax	**enable loopdetect**
Description	The **enable loopdetect** command enables the loop back detection on the Switch. **Note**: If Spanning Tree protocol is used, loopback detection will not be available. If Loopback Detection is enabled, the Spanning Tree protocol will not be available.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the loopback detection feature on the Switch:

```
DGS-1100-24P/ME:admin#enable loopdetect
Command: enable loopdetect

Success.

DGS-1100-24P/ME:admin#
```

disable loopdetect	
Purpose	To disable the loop back detection on the Switch.
Syntax	**disable loopdetect**
Description	The **disable loopdetect** 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-1100-24P/ME:admin#disable loopdetect
Command: disable loopdetect

Success.

DGS-1100-24P/ME:admin#
```

config loopdetect

Purpose	To configure the loop back settings on the Switch.
Syntax	**config loopdetect { interval_time <value 1-32767> | lbd_recover_time <0, sec 60-1000000>] | trap [none | loop_detected] | ports[port_list <portlist> | all] state [enable | disable]}(1)**
Description	The **config loopdetect** command configures the loop back detection to be enabled or disabled for the specific ports on the Switch and configures the loop back detection interval time, recover time and trap on the Switch..
Parameters	*interval_time <value 1-32767>* − Specifies the interval time of loop back detection. The range is between 1 and 32767 seconds. *lbd_recover_time <0,sec 60-10000>* − Specifies the recover time of loop back detection on the switch. The range is between 60 and 10000 seconds. *trap [none | loop_detected]* − Specifies the loop back detection trap is enabled or disabled on the Switch. *port_list <portlist>* − A port or range of ports to be configured. *all* − All ports settings are to be configured. *[enabled | disabled]* − 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 loop back detection on the Switch:

```
DGS-1100-24P/ME:admin#config loopdetect ports all state enable
Command: config loopdetect ports all state enable

Success.

DGS-1100-24P/ME:admin#
```

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

```
DGS-1100-24P/ME:admin#config loopdetect interval_time 500
Command: config loopdetect interval_time 500

Success.

DGS-1100-24P/ME:admin#
```

show loopdetect

Purpose	To display the loop back detection information on the Switch.
Syntax	**show loopdetect [global | ports [portlist <portlist> | all]]**
Description	The **show loopdetect** command displays the loop back detection information on the Switch.
Parameters	*global* – Display the global setting of loop back detection. *portlist* <*portlist*> − A port or range of ports to be displayed. *all* − All ports settings are to be displayed.
Restrictions	None.

Example usage:

To display the loop back detection information on the Switch:

```
DGS-1100-24P/ME:admin#show loopdetect global
Command: show loopdetect global

LBD Global Settings
---------------------------------------------------
Status                      : Disabled
Interval                    : 500 sec
Recover Time                : 60 sec
Loopback Detection Trap : Disabled

DGS-1100-24P/ME:admin#
```

9

NETWORK MANAGEMENT (SNMP) COMMANDS

The Switch supports the Simple Network Management Protocol (SNMP) versions 1 and 2c. Users can specify which version of the SNMP host wants to use to get the trap from the Switch. 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**

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 community	<string 16> [read_only | read_write]
delete snmp community	<string 16>
show snmp community	
create snmp host	<ipaddr> [v1 | v2c] <string 16>
delete snmp host	<ipaddr>
show snmp host	
enable snmp traps	
disable snmp traps	
show snmp traps	
enable snmp authenticate_traps	
disable snmp authenticate_traps	
config snmp system_location	<string 16>
config snmp system_name	<string 32>
config snmp system_contact	<string 32>
config snmp linkup_traps	[enable | disable]
config snmp linkdown_traps	[enable | disable]

Command	Parameter
config snmp coldstart_traps	[enable | disable]
config snmp warmstart_traps	[enable | disable]
enable snmp	
disable snmp	
show snmp	global state

Each command is listed in detail, as follows:

create snmp community	
Purpose	To create an SNMP community string to define the relationship between the SNMP manager and an SNMP agent.
Syntax	**create snmp community <string 16> [read_only | read_write]**
Description	The **create snmp community** 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: 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. A MIB view that defines the subset of all MIB objects to be accessible to the SNMP community. Read/write or read-only level permission for the MIB objects accessible to the SNMP community.
Parameters	*<string 16>* − A string of up to 16 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. *[read_only | read_write]* –Specify whether the above community string will have read only or read and write access to the switch's SNMP agent.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create the SNMP community string 'dlink:'

```
DGS-1100-24P/ME:admin#create snmp community dlink read_only
Command : create snmp community dlink read_only

Success.

DGS-1100-24P/ME:admin#
```

delete snmp community

Purpose	To remove a specific SNMP community string from the Switch.
Syntax	**delete snmp community <string 16>**
Description	The **delete snmp community** command removes a previously defined SNMP community string from the Switch.
Parameters	*<string 16>* − A string of up to 16 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-level users can issue this command.

Example usage:

To delete the SNMP community string 'dlink':

```
DGS-1100-24P/ME:admin#delete snmp community dlink
Command : delete snmp community dlink

Success.

DGS-1100-24P/ME:admin#
```

show snmp community

Purpose	To display SNMP community strings configured on the Switch.
Syntax	**show snmp community**
Description	The **show snmp community** command displays SNMP community strings that are configured on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the currently entered SNMP community strings:

```
DGS-1100-24P/ME:admin#show snmp community
Command : show snmp community

SNMP Community Table
Access Right    Community Name
----------------------   -------------------------
read_only       public
read_write      private

Total Entries: 2

DGS-1100-24P/ME:admin#
```

create snmp host	
Purpose	To create a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**create snmp host <ipaddr> [v1 | v2c] <string 16>**
Description	The **create snmp host** command creates a recipient of SNMP traps generated by the Switch's SNMP agent.
Parameters	<*ipaddr*> − The IP address of the remote management station to serve as the SNMP host for the Switch. *v1* – 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. *v2c* – 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. <*string 16*> − A string of up to 16 alphanumeric characters that identifies the 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.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a SNMP host to receive SNMP messages:

```
DGS-1100-24P/ME:admin#create snmp host 10.90.90.22 v1 dlink
Command : create snmp host 10.90.90.22 v1 dlink

Success.

DGS-1100-24P/ME:admin#
```

delete snmp host	
Purpose	To remove a recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**delete snmp host <ipaddr>**
Description	The **delete snmp host** 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 a SNMP host entry:

```
DGS-1100-24P/ME:admin#delete snmp host 10.90.90.22
Command : delete snmp host 10.90.90.22
```

```
Success.

DGS-1100-24P/ME:admin#
```

show snmp host

Purpose	To display the recipient of SNMP traps generated by the Switch's SNMP agent.
Syntax	**show snmp host**
Description	The **show snmp host** command is used to display the IP addresses and configuration information of remote SNMP managers that are designated as recipients of SNMP traps generated by the Switch's SNMP agent.
Parameters	None.
Restrictions	None.

Example usage:

To display the currently configured SNMP hosts on the Switch:

```
DGS-1100-24P/ME:admin#show snmp host
Command : show snmp host

SNMP Host Table
Host IP Address  SNMP Version   Community Name
---------------------- ---------------------- ----------------
10.90.90.22         v2c                 private

Total Entries : 1

DGS-1100-24P/ME:admin#
```

enable snmp traps

Purpose	To enable SNMP trap support.
Syntax	**enable snmp traps**
Description	The **enable snmp traps** command enables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable SNMP trap support on the Switch:

```
DGS-1100-24P/ME:admin#enable snmp traps
Command : enable snmp traps
```

```
Success.

DGS-1100-24P/ME:admin#
```

disable snmp traps

Purpose	To disable SNMP trap support on the Switch.
Syntax	**disable snmp traps**
Description	The **disable snmp traps** command disables SNMP trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To prevent SNMP traps from being sent from the Switch:

```
DGS-1100-24P/ME:admin#disable snmp traps
Command : disable snmp traps

Success.

DGS-1100-24P/ME:admin#
```

show snmp traps

Purpose	To display SNMP trap support status on the Switch.
Syntax	**show snmp traps**
Description	The **show snmp traps** 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-1100-24P/ME:admin#show snmp traps
Command : show snmp traps

Trap Global State      : Disabled
Link Up Trap           : Disabled
Link Down Trap         : Disabled
Coldstart Trap         : Disabled
Warmstart Trap         : Disabled
Authentication Trap    : Disabled
```

```
DGS-1100-24P/ME:admin#
```

enable snmp authenticate_traps

Purpose	To enable SNMP authentication trap support.
Syntax	**enable snmp authenticate_traps**
Description	The **enable snmp authenticate_traps** command enables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP authentication trap support:

```
DGS-1100-24P/ME:admin#enable snmp authenticate_traps
Command : enable snmp authenticate_traps

Success.

DGS-1100-24P/ME:admin#
```

disable snmp authenticate_traps

Purpose	To disable SNMP authentication trap support.
Syntax	**disable snmp authenticate_traps**
Description	The **disable snmp authenticate_traps** command disables SNMP authentication trap support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the SNMP authentication trap support:

```
DGS-1100-24P/ME:admin#disable snmp authenticate_traps
Command : disable snmp authenticate_traps

Success.

DGS-1100-24P/ME:admin#
```

config snmp system_location

Purpose	To enter a description of the location of the Switch.
Syntax	**config snmp system_location <string 16>**

Description	The **config snmp system_location** command enters a description of the location of the Switch. A maximum of 16 characters can be used.
Parameters	<*string 16*> - A maximum of 16 characters are allowed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch location for 'HQ5F':

```
DGS-1100-24P/ME:admin#config snmp system_location
HQ5F
Command : config snmp system_location HQ5F

Success.

DGS-1100-24P/ME:admin#
```

config snmp system_name

Purpose	To define the name for the Switch.
Syntax	**config snmp system_name <string 32>**
Description	The **config sysname** command defines the name of the Switch.
Parameters	<*string 32*> - A maximum of 32 characters is allowed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch name as '10ME':

```
DGS-1100-24P/ME:admin#config snmp system_name
10ME
Command : config snmp system_name 10ME

Success.

DGS-1100-24P/ME:admin#
```

config snmp system_contact

Purpose	To enter the contact information of the Switch.
Syntax	**config snmp system_contact <string 32>**
Description	The **config snmp system_contact** command enters the contact information of the Switch.
Parameters	<*string 32*> - A maximum of 32 characters is allowed.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the Switch name as '10ME':

```
DGS-1100-24P/ME:admin#config snmp system_name
10ME
Command : config snmp system_name 10ME

Success.

DGS-1100-24P/ME:admin#
```

config snmp linkup_traps

Purpose	To configure SNMP link up trap support.
Syntax	**config snmp linkup_traps [enable | disable]**
Description	The **config snmp linkup_traps** command configures SNMP link up trap support on the Switch.
Parameters	*[enable* | *disable]* – Set the trap support state of the switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP link up trap support:

```
DGS-1100-24P/ME:admin#config snmp linkup_traps enable
Command : config snmp linkup_traps enable

Success.

DGS-1100-24P/ME:admin#
```

config snmp linkdown_traps

Purpose	To configure SNMP link down trap support.
Syntax	**config snmp linkdown_traps [enable | disable]**
Description	The **config snmp linkdown_traps** command configures SNMP link down trap support on the Switch.
Parameters	*[enable* | *disable]* – Set the trap support state of the switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP link down trap support:

```
DGS-1100-24P/ME:admin#config snmp linkdown_traps enable
Command : config snmp linkdown_traps enable

Success.
```

```
DGS-1100-24P/ME:admin#
```

config snmp coldstart_traps

Purpose	To configure SNMP cold start trap support.
Syntax	**config snmp coldstart_traps [enable | disable]**
Description	The **config snmp coldstart_traps** command configures SNMP cold start trap support on the Switch.
Parameters	*[enable* | *disable]* – Set the trap support state of the switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP cold start trap support:

```
DGS-1100-24P/ME:admin#config snmp coldstart_traps enable
Command : config snmp coldstart _traps enable

Success.

DGS-1100-24P/ME:admin#
```

config snmp warmstart_traps

Purpose	To configure SNMP warm start trap support.
Syntax	**config snmp warmstart_traps [enable | disable]**
Description	The **config snmp warmstart_traps** command configures SNMP warm start trap support on the Switch.
Parameters	*[enable* | *disable]* – Set the trap support state of the switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To turn on SNMP warm start trap support:

```
DGS-1100-24P/ME:admin#config snmp warmstart_traps enable
Command : config snmp warmstart_traps enable

Success.

DGS-1100-24P/ME:admin#
```

enable snmp

Purpose	To enable SNMP support.
Syntax	**enable snmp**
Description	The **enable snmp** command enables SNMP support on the Switch.

Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable SNMP support on the Switch:

```
DGS-1100-24P/ME:admin#enable snmp
Command : enable snmp

Success.

DGS-1100-24P/ME:admin#
```

disable snmp

Purpose	To disable SNMP support.
Syntax	**disable snmp**
Description	The **disable snmp** command enables SNMP support on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable SNMP support on the Switch:

```
DGS-1100-24P/ME:admin#disable snmp
Command : disable snmp

Success.

DGS-1100-24P/ME:admin#
```

show snmp

Purpose	To dispaly SNMP global state.
Syntax	**show snmp global state**
Description	The **show snmp** command displays the global state of the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To view the SNMP global state of the Switch:

```
DGS-1100-24P/ME:admin#show snmp global state
Command : disable snmp global state
```

```
SNMP State    : Disabled
SNMP Trap     : Disabled

DGS-1100-24P/ME:admin#
```

10

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	{ firmware_fromTFTP <ipaddr> <path_filename (64)> image_id <value (1-2)> | cfg_fromTFTP <ipaddr> <path_filename (64)> [running_cfg | starup_cfg] }(1)
upload	{ firmware_toTFTP <ipaddr> <path_filename (64)> image_id <1,2> | cfg_toTFTP <ipaddr> <path_filename (64)> [include_password | exclude_password] }(1)

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	**download { firmware_fromTFTP <ipaddr> <path_filename (64)> image_id <value (1-2)> | cfg_fromTFTP <ipaddr> <path_filename (64)> [running_cfg | starup_cfg] }(1)**
Description	The **download** command downloads a firmware, boot, log or switch configuration file from a TFTP server.
Parameters	*firmware_fromTFTP* − Downloads and installs firmware on the Switch from a TFTP server. *<ipaddr>* − The IPv4 address of the TFTP server. *<path_filename 64>* − The DOS path and filename of the switch configuration file, up to 64 characters, on the TFTP server. For example, C:\31xx.had. *image_id <value (1-2)>* - The firmware file installs on the image 1 or 2. *cfg_fromTFTP* − Downloads a switch configuration file from a TFTP server. *running_cfg* - Indicates the Configuration file is to be downloaded to the running config. *starup_cfg* − Indicates the Configuration file is to be downloaded to the startup config.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To download a firmware file:

DGS-1100-24P/ME:admin#download firmware_formTFTP 10.90.90.45 DGS1100-fw_1.00.L001.flash image_id 1

Command : download firmware_formTFTP 10.90.90.45 DGS1100-fw_1.00.L001.flash image_id 1

```
Connecting to Server..... Done.
Download firmware..... Done.

DGS-1100-24P/ME:admin#
```

To download a configuration file:

```
DGS-1100-24P/ME:admin#download cfg_fromTFTP 10.90.90.45 cfg.bin running_cfg
Command : download cfg_fromTFTP 10.90.90.45 cfg.bin running_cfg

Connecting to Server..... Done.
Download configuration..... Done.

DGS-1100-24P/ME:admin#
```

upload

Purpose	To upload the current switch settings to a TFTP server.
Syntax	**upload { firmware_toTFTP <ipaddr> <path_filename (64)> image_id <1,2> | cfg_toTFTP <ipaddr> <path_filename (64)> [include_password | exclude_password] }(1)**
Description	The **upload** command uploads the Switch's current settings to a TFTP server. **Note:** When upgrading the firmware on the DGS-1100/ME Series switch, only the image not currently active can be upgraded. All DGS-1100/ME Series switches come with two images, however only one can be active at any time. (e.g. If image 1 is currently in use, only image 2 can be upgraded, and vice versa.)
Parameters	*firmware_fromTFTP* − Specifies that the Switch's current firmware are to be uploaded to the TFTP server. *<ipaddr>* − The IPv4 address of the TFTP server. The TFTP server must be on the same IP subnet as the Switch. *<path_filename 64>* − The location of the Switch configuration file on the TFTP server. *image_id <value (1-2)>* - Upload firmware image file ID 1 or 2. *cfg_fromTFTP* − Uploads a switch configuration file from a TFTP server. *include_password* - Upload configuration file includes passwords. *exclude_password* - Upload configuration file excludes passwords.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To upload a firmware file:

```
DGS-1100-24P/ME:admin#upload firmware_toTFTP 10.90.90.45 firmware.flash
image_id 1
Command : upload firmware_toTFTP 10.90.90.45 firmware.flash image_id 1

Connecting to Server..... Done.
```

```
Upload firmware..... Done.

DGS-1100-24P/ME:admin#
```

To upload a configuration file:

```
DGS-1100-24P/ME:admin#upload cfg_toTFTP 10.90.90.45 cfg.bin include_password
Command : upload cfg_toTFTP 10.90.90.45 cfg.cfg include_password

Connecting to Server..... Done.
Upload configuration..... Done.

DGS-1100-24P/ME:admin#
```

11

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>
clear counters	{ports <porlist>}
clear log	
show log	{index <value_list> | severity [all | informational | warning]}
enable syslog	
disable syslog	
show syslog	
config syslog host	[severity [informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | state [enable | disable] | udp_port <udp_port_number> | ipaddress <ipaddr>]
show syslog host	
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	**show packet ports <portlist>**
Description	The **show packet ports** 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 5:

```
DGS-1100-24P/ME:admin#show packet ports 5
Command : show packet ports 5

Port Number : 5
Frame Type       Total
---------------------    -----------
RX Frames        2416
TX Frames        4126

DGS-1100-24P/ME:admin#
```

show error ports

Purpose	To display the error statistics for a port or a range of ports.
Syntax	**show error ports <portlist>**
Description	The **show error ports** command displays all of the packet error statistics collected and logged by the Switch for a given port list.
Parameters	*<portlist>* − A port or range of ports whose error statistics are to be displayed.
Restrictions	None.

Example usage:

To display the errors of port 5:

```
DGS-1100-24P/ME:admin#show error ports 5
Command : show error ports 5

Port Number : 5
RX Frames                    TX Frames
-------------------------    ----------------------
Alignment Error       0      FCS Error             0
FCS Error             0      Jabber                0
False Carrier         0      Late Collision        0
Length Out of Range   0      Multiple Collision    0
Fragment              0      Total Collision       0
Jabber                0      Oversize Packet       0
MTU Check Error       0      Single Collision      0
Oversized             0      Excessive Collision   0
RUNT Byte             0
RUNT Frame            0

DGS-1100-24P/ME:admin#
```

clear counters

Purpose	To clear the Switch's statistics counters.

Syntax	**clear counters {ports <porlist>}**
Description	The **clear counters** command clears the counters used by the Switch to compile statistics.
Parameters	*<portlist>* – Specifies a range of ports to be cleared.
Restrictions	Only an administrator-level user can issue this command.

Example usage:

To clear the counters:

```
DGS-1100-24P/ME:admin#clear counters ports 5
Command : clear counters ports 5

Success.

DGS-1100-24P/ME:admin#
```

clear log

Purpose	To clear the Switch's history log.
Syntax	**clear log**
Description	The **clear log** command clears the Switch's history log.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear the log information:

```
DGS-1100-24P/ME:admin#clear log
Command : clear log

Success.

DGS-1100-24P/ME:admin#
```

show log

Purpose	To display the Switch history log.
Syntax	**show log {index <value_list> | severity [all | informational | warning]}**
Description	The **show log** command displays the contents of the Switch's history log.
Parameters	*index <value_list>* − The number of entries in the history log to display. *severity [all | informational | warning]* − Specifies the severity type to be displayed.

Restrictions	None.

Example usage:

To display the Switch history log:

```
DGS-1100-24P/ME:admin#show log index 1-2
Command : show log index 1-2

Index  Time          Level      Description
-------- ------------------ ------------  ----------------------------------------
2        17:55:34      INFO(6)    PORT: Giga eth5 link up
1        17:55:31      INFO(6)    PORT: Giga eth5 link down

DGS-1100-24P/ME:admin#
```

enable syslog

Purpose	To enable the system log to be sent to a remote host.
Syntax	**enable syslog**
Description	The **enable syslog** command enables the system log to be sent to a remote host.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the syslog function on the Switch:

```
DGS-1100-24P/ME:admin#enable syslog
Command: enable syslog

Success.

DGS-1100-24P/ME:admin#
```

disable syslog

Purpose	To disable the system log from being sent to a remote host.
Syntax	**disable syslog**
Description	The **disable syslog** command disables the system log from being sent to a remote host.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the syslog function on the Switch:

```
DGS-1100-24P/ME:admin#disable syslog
```

```
Command: disable syslog

Success.

DGS-1100-24P/ME:admin#
```

show syslog

Purpose	To display the system log global setting.
Syntax	**show syslog**
Description	The **show syslog** command used to display the syslog protocol global state.
Parameters	None.
Restrictions	None.

Example usage:

To display the syslog function on the Switch:

```
DGS-1100-24P/ME:admin#show syslog
Command : show syslog

Syslog Global State : Enabled

DGS-1100-24P/ME:admin#
```

config syslog host

Purpose	To configure the syslog protocol to send system log data to a remote host.
Syntax	**config syslog host [severity [informational | warning | all] | facility [local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7] | state [enable | disable] | udp_port [<udp_port_number>] | ipaddress <ipaddr>]]**
Description	The **config syslog host** command configures the syslog protocol to send system log information to a remote host.
Parameters	*severity* − The message severity level indicator. These are described in the following table (Bold font indicates that the corresponding severity level is currently supported on the Switch):

Numerical Code	Severity
0	Emergency: system is unusable
1	Alert: action must be taken immediately
2	Critical: critical conditions
3	Error: error conditions
4	**Warning: warning conditions**

5	Notice: normal but significant condition
6	**Informational: informational messages**
7	all: all-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 designated 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* <*udp_port_number*> − Specifies the UDP port number that the syslog protocol is to be used to send messages to the remote host. The range of udp port number is 514, 1024-65535. *ipaddress* <*ipaddr*> − Specifies the IPv4 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-level users can issue this command.

Example usage:

To configure a syslog host:

```
DGS-1100-24P/ME:admin#config syslog host severity all
Command : config syslog host severity all

Success.

DGS-1100-24P/ME:admin#
```

show syslog host

Purpose	To display the syslog hosts currently configured on the Switch.
Syntax	**show syslog host**
Description	The **show syslog host** command displays the syslog hosts that are currently configured on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To show Syslog host information:

```
DGS-1100-18/ME:admin#show syslog host
Command : show syslog host

Syslog Global State  : Enabled
```

```
IP Address           : 10.90.90.100
Severity             : All
Facility             : Local7
UDP port             : 514
Status               : Disabled

DGS-1100-18/ME:admin#
```

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	**cable diagnostic [port <portlist> | all]**
Description	The **cable diagnostic port** 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. **Note**: The Cable Diagnostics feature is only supported on the copper ports on all DGS-1100/ME Series switches.
Parameters	*port <portlist>* – A port or range of ports to be configured. *all* − Specifies all ports on the Switch are to be configured.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To determine the copper cables and position of port 11 on the Switch:

```
DGS-1100-24P/ME:admin#cable diagnostic port 11
Command : cable diagnostic port 11

Port   Type          Link Status    Test Result  Cable Length (M)
------ ------------------ -------------------- ----------------- --------------------------
11     1000Base_T   Link Up        Open               4

DGS-1100-24P/ME:admin#
```

12

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	[name <vlan_name 8> | vlanid <VIDlist 1-4094>] <macaddr> port <port>
create multicast_fdb	name <vlan_name 8> <macaddr>
config multicast_fdb	name <vlan_name 8> <macaddr> [add | delete] <portlist>
config fdb aging_time	<sec 10-10000000>
delete fdb	<vlan_name 8> <macaddr>
show multicast_fdb	{vlan <vlan_name 8> | vlanid <vidlist 1-4094> | mac_address <macaddr>}
show fdb	{port <port> | vlan <vlan_name 8> | vlanid <vidlist 1-4094> | mac_address <macaddr> | static | aging_time}
config multicast filter	[forward | filter]
show multicast filter_mode	
clear fdb	{ port <port> | all }
delete multicast_fdb	<vlan_name 8> <macaddr>

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	**create fdb [name <vlan_name 8> | vlanid <VIDlist 1-4094>] <macaddr> port <port>**
Description	The **create fdb** command creates a static entry in the Switch's unicast MAC address forwarding database.
Parameters	*name <vlan_name 8>* − The name of the VLAN on which the MAC address resides. *vlanid <VIDlist 1-4094>* − The VLAN ID on which the MAC address resides. <*macaddr*> − The MAC address to be added to the forwarding table. *port <port>* − The port number corresponding to the MAC destination address. The Switch will always forward traffic to the specified device through this port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a unicast MAC FDB entry:

```
DGS-1100-24P/ME:admin#create fdb vlanid 1 22-ff-ff-ff-ff-ff port 2
Command : create fdb vlanid 1 22-ff-ff-ff-ff-ff port 2

Success.

DGS-1100-24P/ME:admin#
```

create multicast_fdb

Purpose	To create a static entry in the multicast MAC address forwarding table (database).
Syntax	**create multicast_fdb name <vlan_name 8> <macaddr>**
Description	The **create multicast_fdb** command creates a static entry in the multicast MAC address forwarding table (database).
Parameters	*name <vlan_name 8>* − The name of the VLAN on which the MAC address resides. <*macaddr*> − The MAC address to be added to the forwarding table.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create multicast MAC forwarding:

```
DGS-1100-24P/ME:admin#create multicast_fdb name VLAN0001 ff-ff-ff-ff-ff-ff
Command : create multicast_fdb name VLAN0001 ff-ff-ff-ff-ff-ff

Success.

DGS-1100-24P/ME:admin#
```

config multicast_fdb

Purpose	To configure the Switch's multicast MAC address forwarding database.
Syntax	**config multicast_fdb name <vlan_name 8> <macaddr> [add | delete] <portlist>**
Description	The **config multicast_fdb** command configures the multicast MAC address forwarding table.
Parameters	<*vlan_name 8*> − The name of the VLAN on which the MAC address resides. <*macaddr*> − The MAC address to be configured to the forwarding table. *add* − Specifies that the MAC address is to be added to the forwarding table. Delete will remove the MAC address from the forwarding table. *delete* − Specifies that the MAC address is to be removed from the

	forwarding table. <*portlist*> − A port or range of ports to be configured.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure multicast MAC forwarding:

```
DGS-1100-24P/ME:admin#config multicast_fdb name VLAN0001 ff-ff-ff-ff-ff-ff add 1-8
Command : config multicast_fdb name VLAN0001 ff-ff-ff-ff-ff-ff add 1-8

Success.

DGS-1100-24P/ME:admin#
```

config fdb aging_time

Purpose	To set the aging time of the forwarding database.
Syntax	**config fdb aging_time <sec 10-10000000>**
Description	The **config fdb aging_time** 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. The aging time can be from 10 to 10000000 seconds with a default value of 300 seconds. 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 10-10000000*> − The aging time for the MAC address forwarding database value, in seconds.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the fdb aging time:

```
DGS-1100-24P/ME:admin#config fdb aging_time 300
Command: config fdb aging_time 300

Success.

DGS-1100-24P/ME:admin#
```

delete fdb	
Purpose	To delete an entry in the Switch's forwarding database.
Syntax	**delete fdb <vlan_name 8> <macaddr>**
Description	The **delete fdb** command deletes an entry in the Switch's MAC address forwarding database.
Parameters	<*vlan_name 8*> − 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-level users can issue this command.

Example usage:

To delete a permanent FDB entry:

```
DGS-1100-24P/ME:admin#delete fdb VLAN0001 22-ff-ff-ff-ff-ff
Command : delete fdb VLAN0001 22-ff-ff-ff-ff-ff

Success.

DGS-1100-24P/ME:admin#
```

show multicast_fdb	
Purpose	To display the contents of the Switch's multicast forwarding database.
Syntax	**show multicast_fdb {vlan <vlan_name 8> | vlanid <vidlist 1-4094> | mac_address <macaddr>}**
Description	The **show multicast_fdb** command displays the current contents of the Switch's multicast MAC address forwarding database.
Parameters	*vlan <vlan_name 8>* − The name of the VLAN on which the MAC address resides. vlanid <vlidlist 1-4094> - The VID of the VLAN on which the MAC address resides. *mac_address <macaddr>* − The MAC address that will be added to the forwarding table.
Restrictions	None.

Example usage:

To display multicast MAC address table:

```
DGS-1100-24P/ME:admin#show multicast_fdb
Command: show multicast_fdb

VID   VLAN NAME     Mac Address       Egress Port
------- ------------------     -------------------     ----------------

Total Entries: 0
```

```
DGS-1100-24P/ME:admin#
```

show fdb

Purpose	To display the current unicast MAC address forwarding database.
Syntax	**show fdb {port <port> | vlan <vlan_name 8> | vlanid <vidlist 1-4094> | mac_address <macaddr> | static | aging_time}**
Description	The **show fdb** command displays the current contents of the Switch's forwarding database.
Parameters	*port <port>* − The port number corresponding to the MAC destination address. The Switch always forwards traffic to the specified device through this port. *vlan <vlan_name 8>* − The name of the VLAN on which the MAC address resides. vlanid <vlidlist 1-4094> - The VID of the VLAN on which the MAC address resides. *mac_address <macaddr>* − The MAC address entry in the forwarding table. *static* − Specifies that static MAC address entries are to be displayed. *aging_time* − Displays the aging time for the MAC address forwarding database.
Restrictions	None.

Example usage:

To display unicast MAC address table:

```
DGS-1100-24P/ME:admin#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-1100-24P/ME:admin#
```

To display the aging time:

```
DGS-1100-24P/ME:admin#show fdb aging_time
Command: show fdb aging_time

Unicast MAC Address Aging Time = 300 sec

DGS-1100-24P/ME:admin#
```

config multicast filter

Purpose	To configure multicast filtering.
Syntax	**config multicast filter [forward | filter]**
Description	The **config multicast filter** command enables filtering of multicast addresses.
Parameters	*forward* - Forwards unregistered multicast packets. *filter* - Filter unregistered multicast packets.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure multicast filter

```
DGS-1100-24P/ME:admin#config multicast filter filter
Command : config multicast filter filter

Success.

DGS-1100-24P/ME:admin#
```

show multicast filter_mode

Purpose	To display multicast filtering settings on the Switch.
Syntax	**show multicast filter_mode**
Description	The **show multicast filter_mode** command displays the multicast filtering settings.
Parameters	None.
Restrictions	None.

Example usage:

To show multicast filtering settings:

```
DGS-1100-24P/ME:admin#show multicast filter_mode
Command : show multicast filter_mode

Multicast Filter Mode
-----------------------------------------------
Forward_unregistered_groups

DGS-1100-24P/ME:admin#
```

clear fdb

Purpose	To clear FDB entries by ports.
Syntax	**clear fdb { port <port> | all }**

Description	The **clear fdb** command clears FDB entries by ports.
Parameters	*port* <*port*> − The port number. *all* – Specifies all ports on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To clear FDB entry of port 2:

```
DGS-1100-24P/ME:admin#clear fdb port 2
Command : clear fdb port 2

Success.

DGS-1100-24P/ME:admin#
```

delete multicast_fdb

Purpose	To delete an entry in the Switch's muticast FDB.
Syntax	**delete multicast_fdb <vlan_name 8> <macaddr>**
Description	The **delete multicast_fdb** command deletes an entry in the Switch's multicast FDB.
Parameters	<*vlan_name 8*> − The name of the VLAN on which the MAC address resides. <*macaddr*> − The MAC address to be removed from the multicast forwarding table.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete a multicast FDB entry:

```
DGS-1100-24P/ME:admin#delete multicast_fdb VLAN0001
22-ff-ff-ff-ff-ff
Command : delete multicast_fdb VLAN0001 22-ff-ff-ff-ff-ff

Success.

DGS-1100-24P/ME:admin#
```

13

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	[ports<portlist> | all] [broadcast_threshold <value 512-524288>| multicast_threshold<value 512-524288> | unicast_threshold<value 512-524288>| no_limit]
show traffic control	{ports <portlist>}

Each command is listed in detail, as follows:

config traffic control	
Purpose	To configure broadcast / multicast / unknown unicast traffic control.
Syntax	**config traffic control [ports <portlist> | all] [broadcast_threshold <value 512-524288> | multicast_threshold<value 512-524288> | unicast_threshold<value 512-524288> | no_limit]**
Description	The **config traffic control** command configures broadcast, multicast and unknown unicast storm control.
Parameters	<*portlist*> - A port or range of ports to be configured. *all* − Specifies all ports on the Switch are to be configured. *broadcast_threshold* – Enables broadcast storm control only. *multicast_threshold* – Enables multicast storm control only. *unicast_threshold* – Enables unicast storm control only. *no_limit* – Disable traffic control measure. <*value 512-524288*> − 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 512 to 524288 Kbps. The default setting is no_limit.
Restrictions	Only administrator-level users can issue this command.

Example usage:

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

```
DGS-1100-24P/ME:admin#config traffic control ports 3-6 broadcast_threshold
1024
Command : config traffic control ports 3-6 broadcast_threshold 1024

Success.
```

```
DGS-1100-24P/ME:admin#
```

show traffic control

Purpose	To display current traffic control settings.
Syntax	**show traffic control {ports<portlist>}**
Description	The **show traffic control** command displays the current storm traffic control configuration on the Switch.
Parameters	*ports <portlist>* - A port or range of ports whose settings are to be displayed.
Restrictions	None.

Example usage:

To display traffic control setting:

```
DGS-1100-24P/ME:admin#show traffic control ports 1-3
Command : show traffic control ports 1-3

Port   Type          Threshold
-----  ------------  -----------
eth1   None          No Limit
eth2   None          No Limit
eth3   Broadcast     1M bps

Total Entries: 3

DGS-1100-24P/ME:admin#
```

14

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 bandwidth_control	<portlist>{rx_rate [no_limit | limit <value 8-524288>] | tx_rate [no_limit | limit <value 64-524288>]}(1)
show bandwidth_control	{ports <portlist>}
show 802.1p user_priority	
config scheduling_mechanism	{ports<porlist>} [sp | wrr]
show scheduling_mechanism	{ports<portlist>}
config 802.1p default_priority	{ports <portlist>} [Low|Medium|High|Highest]
show 802.1p default_priority	{ports <portlist>}

Each command is listed in detail, as follows:

config bandwidth_control	
Purpose	To configure bandwidth control on the Switch.
Syntax	**config bandwidth_control <portlist> {rx_rate [no_limit | limit <value 8-524288>] | tx_rate [no_limit | limit<value 64-524288>]}(1)**
Description	The **config bandwidth_control** command defines bandwidth control.
Parameters	*<portlist>* - A port or range of ports to be configured. *rx_rate* - Enables ingress rate limiting • *no_limit* – Indicates no limit is defined. • *limit <value 8-524288>* – Indicates a range between 8-524288 kbps. *tx_rate* – Enables egress rate limiting. • *no_limit* – Indicates no limit is defined. • *limit <value 64-524288>]* – Indicates a range between 64-524288 kbps.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure bandwidth control configuration:

```
DGS-1100-24P/ME:admin#config bandwidth_control 7-9 rx_rate limit 128
tx_rate limit 64
Command : config bandwidth_control 8-9 rx_rate limit 128 tx_rate limit 64

Success.

DGS-1100-24P/ME:admin#
```

show bandwidth_control

Purpose	To display bandwidth control settings on the Switch.
Syntax	**show bandwidth_control {ports<portlist>}**
Description	The **show bandwidth_control** command displays bandwidth control.
Parameters	*ports<portlist>* – A port or range of ports to be configured.
Restrictions	None.

Example usage:

To display the bandwidth control configuration:

```
DGS-1100-24P/ME:admin#show bandwidth_control
Command : show bandwidth_control

Port     RX Rate       TX Rate
------  ---------------  --------------
eth1     No Limit      No Limit
eth2     No Limit      No Limit
eth3     No Limit      No Limit
eth4     No Limit      No Limit
eth5     8K bps        No Limit
eth6     8K bps        No Limit
eth7     8K bps        No Limit
eth8     128K bps      64K bps
eth9     128K bps      64K bps
eth10    No Limit      No Limit
eth11    No Limit      No Limit
eth12    No Limit      No Limit
eth13    No Limit      No Limit
eth14    No Limit      No Limit
eth15    No Limit      No Limit
eth16    No Limit      No Limit
eth17    No Limit      No Limit
eth18    No Limit      No Limit
eth19    No Limit      No Limit
```

```
eth20    No Limit    No Limit
eth21    No Limit    No Limit
eth22    No Limit    No Limit
eth23    No Limit    No Limit
eth24    No Limit    No Limit

Total Entries: 24

DGS-1100-24P/ME:admin#
```

show 802.1p user_priority

Purpose	To display the 802.1p user priority.
Syntax	**show 802.1p user_priority**
Description	The **show 802.1p user_priority** command is used to display the 802.1p user_priority on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the QoS mode on the Switch:

```
DGS-1100-24P/ME:admin#show 802.1p user_priority
Command : show 802.1p user_priority

Priority-0  ->  < Class-1(Medium Queue)  >
Priority-1  ->  < Class-0(Low Queue)     >
Priority-2  ->  < Class-0(Low Queue)     >
Priority-3  ->  < Class-1(Medium Queue) >
Priority-4  ->  < Class-2(High Queue)    >
Priority-5  ->  < Class-2(High Queue)    >
Priority-6  ->  < Class-3(Highest Queue)  >
Priority-7  ->  < Class-3(Highest Queue)  >

DGS-1100-24P/ME:admin#
```

config scheduling_mechanism

Purpose	To configure the scheduling mechanism for the QoS function.
Syntax	**config scheduling_mechanism { ports <portlist> } [sp | wrr]**
Description	The **config scheduling_mechanism** 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.

	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.
Parameters	*ports<portlist>* – A port or range of ports to be configured. *sp* – 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. *wrr* – Specifies that the priority classes of service are to empty packets in a weighted roundrobin (WRR) order.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the traffic scheduling mechanism for each COS queue:

```
DGS-1100-24P/ME:admin#config scheduling_mechanism sp
Command : config scheduling_mechanism sp

Success.

DGS-1100-24P/ME:admin#
```

show scheduling_mechanism

Purpose	To display the current traffic scheduling mechanisms in use on the Switch.
Syntax	**show scheduling_mechanism {ports<portlist>}**
Description	The **show scheduling_mechanism** command displays the current traffic scheduling mechanisms in use on the Switch.
Parameters	*ports<portlist>* – A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To show the scheduling mechanism on port 10:

```
DGS-1100-24P/ME:admin#show scheduling_mechanism
ports 10
Command : show scheduling_mechanism ports 10

WRR:
Low:Medium:High:Highest=1:2:4:8

Port       Scheduling Mechanism
---------- ----------------------------------
```

```
eth10      SP

Total Entries: 1

DGS-1100-24P/ME:admin#
```

config 802.1p default_priority

Purpose	To specify default priority handling of untagged packets received by the Switch.
Syntax	**config scheduling {ports <portlist>} [Low | Medium | High | Highest]**
Description	The configure **802.1p default_priority** command allows you to specify default priority handling of untagged packets received by the Switch. The priority value entered with this command will be used to determine the hardware priority queues that the packet will be forwarded to.
Parameters	*ports<portlist>* – A port or range of ports to be configured. *Low* – Set the priority to low mode. *Medium* – Set the priority to medium mode. *High* – Set the priority to high mode. *Highest* – Set the priority to highest mode.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the 802.1p default_priority:

```
DGS-1100-24P/ME:admin#config 802.1p default_priority ports 3-4 Low
Command : config 802.1p default_priority ports 3-4 Low

Success.

DGS-1100-24P/ME:admin#
```

show 802.1p default_priority

Purpose	To display the setting of 802.1p default_priority.
Syntax	**show 802.1p default_priority {ports <portlist>}**
Description	The **show 802.1p default_priority** command displays the current configured default priority settings on the switch.
Parameters	*ports<portlist>* – A port or range of ports to be displayed.
Restrictions	None.

Example usage:

To display the 802.1p default_priority:

```
DGS-1100-24P/ME:admin#show 802.1p default_priority ports 1-4
```

```
Command : show 802.1p default_priority ports 1-4

Port       Default CoS
---------- ------------------
eth1       Medium
eth2       Medium
eth3       Low
eth4       Low

Total Entries: 4

DGS-1100-24P/ME:admin#
```

15

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> source ports <portlist> [both | rx | tx]
show mirror	

Each command is listed in detail, as follows:

enable mirror	
Purpose	Used to enable a previously entered port mirroring configuration.
Syntax	**enable mirror**
Description	The **enable mirror** 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-level users can issue this command.

Example usage:

To enable the mirroring feature:

```
DGS-1100-24P/ME:admin#enable mirror
Command : enable mirror

Success.

DGS-1100-24P/ME:admin#
```

disable mirror	
Purpose	Used to disable a previously entered port mirroring configuration.
Syntax	**disable mirror**
Description	The **disable mirror** 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-level users can issue this command.

Example usage:

To disable mirroring configurations:

```
DGS-1100-24P/ME:admin#disable mirror
Command : disable mirror

Success.

DGS-1100-24P/ME:admin#
```

config mirror

Purpose	To configure a mirror port − source port pair on the Switch.
Syntax	**config mirror target <port> source ports <portlist> [both | rx | tx]**
Description	The **config mirror target** command allows a port to have all of its traffic also sent to a designated 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	*target <port>* − Specifies the port that mirrors traffic forwarding. *source ports <portlist>* – Specifies the port or ports being mirrored. This cannot include the target port. *rx* – Allows mirroring of packets received by (flowing into) the source port. *tx* – Allows mirroring of packets sent to (flowing out of) the source port. *both* – Allows mirroring of all the packets received or sent by the source port. *Comment*: 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.
Restrictions	A target port cannot be listed as a source port. Only administrator-level users can issue this command.

Example usage:

To set the mirroring ports:

```
DGS-1100-24P/ME:admin#config mirror target 4 source ports 1-3 both
Command: config mirror target 4 source ports 1-3 both

Success.
```

```
DGS-1100-24P/ME:admin#
```

show mirror	
Purpose	To show the current port mirroring configuration on the Switch.
Syntax	**show mirror**
Description	The **show mirror** command displays the current port mirroring configuration on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display mirror configuration:

```
DGS-1100-24P/ME:admin#show mirror
Command : show mirror

Current Settings
Mirror status : Enabled
Target Port   : 4
Mirrored Port
        RX : 1-3
        TX : 1-3

DGS-1100-24P/ME:admin#
```

16

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	[name <vlan_name 8> tag<vlanid 2-4094> | vlanid <vidlist 2-4094>]
delete vlan	[name <vlan_name 8> | vlanid <vidlist 2-4094>]
config vlan	[name <vlan_name 8> [add [tagged | untagged] | delete] <portlist> | vlanid <vidlist 1-4094>] [[add [tagged | untagged] | delete] <portlist> | name <vlan_name 8>]]
show vlan	{name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>}
enable asymmetric_ vlan	
disable asymmetric_vlan	
show asymmetric_vlan	
enable management_vlan	
disable management_vlan	
config management_vlan	vlanid <vlanid 1-4094>
show management_vlan	
config port_vlan	<portlist> pvid <vlanid 1-4094>
show port_vlan	{port <portlist>}
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	**create vlan [name <vlan_name 8> tag<vlanid 2-4094> | vlanid <vidlist 2-4094>]**

Description	The **create vlan** command creates a VLAN on the Switch.
Parameters	*name <vlan_name 8>* − The name of the VLAN to be created. Each VLAN name can be up to 8 characters. *tag <vlanid 2-4094>* − The VLAN ID of the VLAN to be created. The allowed values range from 2 to 4094. *vlanid <vidlist 2-4094>* – The VLAN ID list of the VLAN to be created.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a VLAN v1, tag 3:

```
DGS-1100-24P/ME:admin#create vlan name v1 tag 3
Command : create vlan name v1 tag 3

Success.

DGS-1100-24P/ME:admin#
```

delete vlan

Purpose	To delete a previously configured VLAN on the Switch.
Syntax	**delete vlan [name <vlan_name 8> | vlanid <vidlist 2-4094>]**
Description	The **delete vlan** command deletes a previously configured VLAN on the Switch.
Parameters	*name <vlan_name 8>* − The name of the VLAN to be deleted. *vlanid <vidlist 2-4092>* − The VLAN of the VLAN to be deleted.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove a vlan which VLAN ID is 2:

```
DGS-1100-24P/ME:admin#delete vlan vlanid 2
Command : delete vlan vlanid 2

Success.

DGS-1100-24P/ME:admin#
```

config vlan

Purpose	To add additional ports to a previously configured VLAN and to modify a VLAN name.
Syntax	**config vlan [name <vlan_name 8> [add [tagged | untagged] | delete] <portlist> | vlanid <vidlist 1-4094>] [[add [tagged | untagged] | delete] <portlist> | name <vlan_name 8>]]**

Description	The **config vlan** 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	*name <vlan_name 8>* − The name of the VLAN to be configured. *vlanid <vidlist >* − The ID of the VLAN to which to add ports to. *add* − Specifies that ports are to be added to a previously created vlan. *delete* - Specifies that ports are to be deleted from a previously created vlan. *tagged* − Specifies the additional ports as tagged. *untagged* − Specifies the additional ports as untagged. *<portlist >* − A port or range of ports to be added to or deleted from the VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To add ports 1-3 as tagged ports to the VLAN ID 1:

```
DGS-1100-24P/ME:admin#config vlan vlanid 1 add
tagged 1-3
Command : config vlan vlanid 1 add tagged 1-3

Success.

DGS-1100-24P/ME:admin#
```

show vlan

Purpose	To display the current VLAN configuration on the Switch
Syntax	**show vlan {name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>}**
Description	The **show vlan** 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	*name <vlan_name 8>* − Specify the VLAN id to be displayed. *vlanid <vidlist 1-4094>* − Specify the VLAN id to be displayed. ports <portlist> − Specify the ports to be displayed.
Restrictions	None.

Example usage:

To display the Switch's current VLAN settings:

```
DGS-1100-24P/ME:admin#show vlan
Command : show vlan

VID             : 1
```

```
VLAN Name       : VLAN0001
member Ports    : 1-24
Current Tagged Ports    : 1-3
Current Untagged Ports : 4-24
Static Tagged Ports     : 1-3
Static Untagged Ports   : 4-24

VID             : 2
VLAN Name       : a
member Ports    :
Current Tagged Ports    :
Current Untagged Ports :
Static Tagged Ports     :
Static Untagged Ports   :

Total Static VLAN Entries: 2

DGS-1100-24P/ME:admin#
```

enable asymmetric_vlan

Purpose	To enable Asymmetric VLAN on the switch.
Syntax	**enable asymmetric_vlan**
Description	The **enable asymmetric_vlan** command, along with the **disable enable asymmetric_vlan** command below, is used to enable and disable Asymmetric VLAN on the Switch
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable asymettric VLAN on the switch:

```
DGS-1100-24P/ME:admin#enable asymmetric_vlan
Command: enable asymmetric_vlan

Success.

DGS-1100-24P/ME:admin#
```

disable asymmetric_vlan

Purpose	To disable asymmetric VLAN on the switch.
Syntax	**disable asymmetric_vlan**
Description	The **disable asymmetric_vlan** command, along with the **enable asymmetric_vlan** command below, is used to disable and enable asymmetric VLAN on the Switch.

Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable asymmetric_vlan on the switch:

```
DGS-1100-24P/ME:admin#disable asymmetric_vlan
Command: disable asymmetric_vlan

Success.

DGS-1100-24P/ME:admin#
```

show asymmetric_vlan

Purpose	To display the asymmetric VLAN status on the Switch.
Syntax	**show asymmetric_vlan**
Description	The **show asymmetric_vlan** command displays the asymmetric VLAN status on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display asymmetric VLAN status:

```
DGS-1100-24P/ME:admin#show asymmetric_vlan
Command: show asymmetric_vlan

Asymmetric VLAN : Enabled

DGS-1100-24P/ME:admin#
```

enable management_vlan

Purpose	To enable the management VLAN on the Switch.
Syntax	**enable management vlan**
Description	The **enable management vlan** command enables the management VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable management VLAN on the switch:

```
DGS-1100-24P/ME:admin#enable management_vlan
Command: enable management_vlan
```

```
Success.

DGS-1100-24P/ME:admin#
```

disable management_vlan

Purpose	To disable the management VLAN on the Switch.
Syntax	**disable management_vlan**
Description	The **disable management_vlan** command disables the management VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable management VLAN on the switch:

```
DGS-1100-24P/ME:admin#disable management_vlan
Command: disable management_vlan

Success.

DGS-1100-24P/ME:admin#
```

config management_vlan

Purpose	To configure the management VLAN on the Switch.
Syntax	**config management_vlan <vlanid 1-4094>**
Description	The **config management vlan** command configures the management VLAN on the Switch.
Parameters	*<vlanid 1-4094>* – Specifies the management VLAN ID on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the management VLAN on the switch:

```
DGS-1100-24P/ME:admin#config management_vlan  1
Command: config management_vlan 1

Success.

DGS-1100-24P/ME:admin#
```

show management_vlan

Purpose	To display the management VLAN on the Switch.
Syntax	**show management_vlan**
Description	The **show management_vlan** command displays the management VLAN information on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the management VLAN on the switch:

```
DGS-1100-24P/ME:admin#show management_vlan
Command: show management_vlan

Management VLAN

VID    state
-----  --------------
1      Disabled

DGS-1100-24P/ME:admin#
```

config port_vlan

Purpose	To configure the management VLAN on the Switch.
Syntax	**config port_vlan <portlist> pvid <vlanid 1-4094>**
Description	The **config port_vlan** command configures the port PVID of VLAN on the Switch.
Parameters	<*portlist*> - A port or range of ports to be configured the port PVID. <*vlanid 1-4094*> − Specifies the management VLAN ID on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the PVID of VLAN on the switch:

```
DGS-1100-24P/ME:admin#config port_vlan 5-8 pvid 2
Command: config port_vlan 5-8 pvid 2

Success.

DGS-1100-24P/ME:admin#
```

show port_vlan

Purpose	To display the port PVID of VLAN on the Switch.
Syntax	**show port_vlan {port <portlist>}**
Description	The **show port_vlan** command displays the port PVID of VLAN on the Switch.
Parameters	None.
Restrictions	None.

Example usage:

To display the port PVID of VLAN on the switch:

```
DGS-1100-24P/ME:admin#show port_vlan port 1-10
Command : show port_vlan port 1-10

Port     PVID
---------- -------
1        1
2        1
3        1
4        1
5        1
6        1
7        1
8        1
9        1
10       1

Total Entries : 10

DGS-1100-24P/ME:admin#
```

enable pvid auto_assign

Purpose	To enable PVID auto assign of port vlan.
Syntax	**enable pvid auto_assign**
Description	To enable PVID auto assign.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable PVID auto_assign:

```
DGS-1100-24P/ME:admin#enable pvid auto_assign
Command: enable pvid auto_assign
```

```
Success.

DGS-1100-24P/ME:admin#
```

disable pvid auto_assign

Purpose	To disable PVID auto assign of port vlan.
Syntax	**disable pvid auto_assign**
Description	To disable PVID auto assign.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable PVID auto_assign:

```
DGS-1100-24P/ME:admin#disable pvid auto_assign
Command: disable pvid auto_assign

Success.

DGS-1100-24P/ME:admin#
```

show pvid auto_assign

Purpose	To display the setting of PVID auto assign of port vlan.
Syntax	**show pvid auto_assign**
Description	To display the setting of PVID auto assign.
Parameters	None.
Restrictions	None.

Example usage:

To diplay pvid auto_assign:

```
DGS-1100-24P/ME:admin#show pvid auto_assign
Command: show pvid auto_assign

PVID Auto-assignment: Disabled

DGS-1100-24P/ME:admin#
```

17

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 {retry_time <retry_time 5-120>} |ipaddress <network_address> | bootp | ipv6 {state [enable|disable] | ipv6address <ip_address>}(1)]
show ipif	

Each command is listed in detail, as follows:

config ipif System	
Purpose	To configure the DHCPv6 client state for the interface.
Syntax	**config ipif System [dhcp {retry_time <retry_time 5-120>} | ipaddress <network_address> | bootp | ipv6 {state [enable|disable] | ipv6address <ip_address>}(1)**]
Description	The **config ipif system** command is used to configure an interface's parameters.
Parameters	*dhcp* – Use DHCP to obtain the IPv4 address. *retry_time <retry_time 5-120>* - To configure the DHCP retry time on an interface. *ipaddress - <network_address>:* To configure a network address on an interface. The address should specify a host address and the length of the network mask. Since an interface can only have one IPv4 address, the new configured address will overwrite the original. *Bootp* - Use BOOTP to obtain the IPv4 address. *ipv6* – To set the IPV6 interface. *state [enable|disable]:* To enable or disable the state of the IPV6 interface. *Ipv6address <ip_address>:* IPv6 network address. The address should specify the host address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the DHCP client state as the System interface:

```
DGS-1100-24P/ME:admin#config ipif System dhcp
Command: config ipif System dhcp

Success.

DGS-1100-24P/ME:admin#
```

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

Example usage:

To display IP interface settings:

```
DGS-1100-24P/ME:admin#show ipif
Command: show ipif

IPv4 Type          : DHCP
IPv4 Address       : 10.90.90.90
IPv4 mask          : 255.0.0.0
Gateway            : 0.0.0.0
DHCP retry time    : 7
IPv6 state         : disabled
IPv6 address       : fe80:0:0:0:2e0:95ff:fe66:77d0

DGS-1100-24P/ME:admin#
```

18

IGMP SNOOPING COMMANDS

The Switch supports IGMPv1-, IGMPv2-, and IGMPv3 awareness (excluded IGMPv3 source-filtering) snooping.

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

Command	Parameter
enable igmp_snooping	
disable igmp_snooping	
show igmp_snooping	[vlan_name <vlan_name 8> | vlanid<vidlist 1-4094> | all]
config igmp_snooping	[vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] {fast_leave [enable | disable] | state [enable | disable]}(1)
config igmp_snooping querier	[vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] state [enable | disable]
create igmp_snooping static_group	[vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipaddr>
config igmp_snooping static_group	[vlan_name <vlan_name 8> | vlanid < vidlist 1-4094>] < ipaddr > [add | delete] <portlist>
delete igmp_snooping static_group	[vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipaddr>
create igmp_snooping multicast_vlan	<vlan_name 8> <vlanid 2-4094>
config igmp_snooping multicast_vlan	<vlan_name 8> { action [add | delete] [member_port <portlist> | source_port <portlist> | tag_member_port <portlist >] |state [enable | disable] | replace_source_ip <ipaddr> } (1)
delete igmp_snooping multicast_vlan	[name <vlan_name 8>| all]
config igmp_snooping multicast_vlan_group	<vlan_name 8> [add | delete] ipv4_range <mcast_address_range>
enable igmp_snooping multicast_vlan	
disable igmp_snooping multicast_vlan	
show igmp_snooping multicast_vlan	{name <vlan_name 8>}
show igmp_snooping multicast_vlan_group	{name <vlan_name 8>}
show igmp_snooping group	[all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>] {ipaddress<ipaddr>}]

Command	Parameter
show igmp_snooping static_group	[all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094>]<ipaddr>]

Each command is listed in detail, as follows:

enable igmp_snooping	
Purpose	To enable IGMP snooping on the Switch.
Syntax	**enable igmp_snooping**
Description	The **enable igmp_snooping** command enables IGMP snooping on the Switch. If MLD snooping is also enabled, this operation may fail due to the total number of group entry exceeding the limitation of the group table.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable IGMP snooping on the Switch:

```
DGS-1100-24P/ME:admin#enable igmp_snooping
Command : enable igmp_snooping

Success.

DGS-1100-24P/ME:admin#
```

disable igmp_snooping	
Purpose	To disable IGMP snooping on the Switch.
Syntax	**disable igmp_snooping**
Description	The **disable igmp_snooping** command disables IGMP snooping on the Switch. Disabling IGMP snooping allows all IGMP and IP multicast traffic to flood within a given IP interface.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable IGMP snooping on the Switch:

```
DGS-1100-24P/ME:admin#disable igmp_snooping
Command : disable igmp_snooping

Success.
```

```
DGS-1100-24P/ME:admin#
```

show igmp_snooping

Purpose	To display IGMP snooping on the Switch.
Syntax	**show igmp_snooping [vlan_name <vlan_name 8> | vlanid<vidlist 1-4094> | all]**
Description	The **show igmp_snooping** command displays IGMP snooping on the Switch.
Parameters	*vlan_name* <*vlan_name 8*> − Displays the IGMP Snooping on the Switch. *vlanid* <*vidlist 1-4094*> − Display the VLAN id for IGMP Snooping on the switch. *All* – Display all current IGMP Snooping configurations on the Switch.
Restrictions	None.

Example usage:

To display IGMP snooping on the Switch:

```
DGS-1100-24P/ME:admin#show igmp_snooping vlan_name VLAN0001
Command : show igmp_snooping vlan_name VLAN0001

IGMP Snooping Global State : Disabled

VLAN Name                  : VLAN0001
Query Interval             : 125
Max Response Time          : 10
Robustness Value           : 2
Last Member Query Interval : 1
Querier State              : Disabled
Querier Role               : Non-Querier
Querier IP                 : 0.0.0.0
State                      : Enabled
Fast Leave                 : Enabled

Total Entries: 1

DGS-1100-24P/ME:admin#
```

config igmp_snooping

Purpose	To configure IGMP snooping on the Switch.
Syntax	**config igmp_snooping [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] {fast_leave [enable | disable] | state [enable | disable]}(1)**

Description	The **config igmp_snooping** command configures IGMP snooping on the Switch.
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which IGMP snooping is to be configured. *vlanid <vidlist 1-4094>* − The VLAN ids for which IGMP snooping is to be configured. all − Specifies all VLAN for which IGMP snooping is to be configured. *fast_leave [enable*	*disable]* − Enables or disables the fast leave. *state [enable*	*disable]* − Enables or disables IGMP snooping for the specified VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping:

```
DGS-1100-24P/ME:admin#config igmp_snooping vlan_name VLAN0001 state enable
Command : config igmp_snooping vlan_name VLAN0001 state enable

Success.

DGS-1100-24P/ME:admin#
```

config igmp_snooping querier

Purpose	To configure IGMP snooping querier on the Switch.
Syntax	**[vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] state [enable | disable]**
Description	The **config igmp_snooping querier** command enables IGMP snooping querier on a specific VLAN.
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which IGMP snooping is to be configured. Up to 8 characters can be used. *vlanid <vidlist 1-4094>* − The VLAN id for which IGMP snooping is to be configured. all − Specifies all VLAN for which IGMP snooping is to be configured. *state [enable*	*disable]* − Enables/Disables IGMP Snooping Querier.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping:

```
DGS-1100-24P/ME:admin#config igmp_snooping querier vlanid 1 state enable
Command : config igmp_snooping querier vlanid 1 state enable

Success.
```

```
DGS-1100-24P/ME:admin#
```

create igmp_snooping static_group

Purpose	To create an IGMP snooping static group on the Switch.
Syntax	**create igmp_snooping static_group [vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipaddr>**
Description	The **create igmp_snooping static_group** command creates an IGMP snooping static group on the Switch. Member ports can be added to the static group. The static member and the dynamic member port form the member ports of a group. The static group will only take effect when IGMP snooping is enabled on the VLAN. For those static member ports, the device needs to emulate the IGMP protocol operation to the querier, and forward the traffic destined to the multicast group to the member ports. For a layer 3 device, the device is also responsible for routing the packet destined for this specific group to static member ports. The Reserved IP multicast address 224.0.0.X must be excluded from the configured group. The VLAN must be created first before a static group can be created. The group table is shared with MLD snooping. If MLD snooping and IGMP snooping are enabled at the same time, the count of static groups that can be created will be limited by the number of MLD snooping groups that exist (including static group and dynamic groups).
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which the IGMP snooping static group is to be created. Up to 8 characters can be used. *vlanid <vidlist 1-4094>* − The ID of the VLAN for which IGMP snooping static group is to be created. The range is from 1 to 4094. *<ipaddr>* − The multicast group IP address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create the igmp snooping static group:

```
DGS-1100-24P/ME:admin#create igmp_snooping static_group vlanid 1
225.0.0.1
Command : create igmp_snooping static_group vlanid 1 225.0.0.1

Success.

DGS-1100-24P/ME:admin#
```

config igmp_snooping static_group	
Purpose	To configure an IGMP snooping static group on the Switch.
Syntax	**config igmp_snooping static_group [vlan_name <vlan_name 8> | vlanid < vidlist 1-4094>] < ipaddr > [add | delete] <portlist>**
Description	The **config igmp_snooping static_group** command is used to add or delete static member ports from a static group on the Switch. Member ports can be added to the static group. When a port is configured as a static member port, the IGMP protocol will not operate on this port. For example, suppose that a port is a dynamic member port learned by IGMP. If this port is configured as a static member later, then the IGMP protocol will stop operating on this port. The IGMP protocol will resume once this port is removed from static member ports. The static member port will only affect V2 IGMP operation.
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which IGMP snooping static group is to be created. Up to 8 characters can be used. *vlanid <1-4094>* − The ID of the VLAN for which IGMP snooping static group is to be created. The range is from 1 to 4094. <*ipaddr*> − The multicast group IP address. *[add* | *delete]* - Specify to add or delete the member ports. <*portlist*> − A port or range of ports that will be configured.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping static group:

```
DGS-1100-24P/ME:admin#config igmp_snooping static_group vlanid 1
225.0.0.1 add 5-9
Command : config igmp_snooping static_group vlanid 1 225.0.0.1 add 5-9

Success.

DGS-1100-24P/ME:admin#
```

delete igmp_snooping static_group	
Purpose	To delete an IGMP snooping static group on the Switch.
Syntax	**delete igmp_snooping static_group [vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipaddr>**
Description	The **delete igmp_snooping static_group** command is used to delete an IGMP snooping multicast static group. The deletion of an IGMP snooping static group will not affect the IGMP snooping dynamic member ports for a group.
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which IGMP snooping static group is to be deleted. Up to 8 characters can be used. *vlanid <1-4094>* − The ID of the VLAN for which IGMP snooping

	static group is to be deleted. The range is from 1 to 4094. <*ipaddr*> − The multicast group IP address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the igmp snooping static group:

```
DGS-1100-24P/ME:admin#delete igmp_snooping static_group vlanid 1
225.0.0.1
Command : delete igmp_snooping static_group vlanid 1 225.0.0.1

Success.

DGS-1100-24P/ME:admin#
```

create igmp_snooping multicast_vlan

Purpose	To create an IGMP snooping multicast VLAN on the Switch.
Syntax	**create igmp_snooping multicast_vlan <vlan_name 8> <vlanid 2-4094>**
Description	The **create igmp_snooping multicast_vlan** command creates an IGMP snooping multicast VLAN on the Switch.
Parameters	<*vlan_name 8*> − The name of the VLAN for which IGMP snooping is to be created. Up to 8 characters can be used. <vlanid 2-4092> − The ID of the VLAN for which IGMP snooping is to be created. The range is from 2 to 4094.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create an igmp snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#create igmp_snooping multicast_vlan test 8
Command : create igmp_snooping multicast_vlan test 8

Success.

DGS-1100-24P/ME:admin#
```

config igmp_snooping multicast_vlan

Purpose	To configure IGMP snooping multicast VLAN on the Switch.
Syntax	**config igmp_snooping multicast_vlan <vlan_name 8> { action [add | delete] [member_port <portlist> | source_port <portlist> | tag_member_port <portlist >] |state [enable | disable] | replace_source_ip <ipaddr> } (1)**
Description	The **config igmp_snooping multicast_vlan** command enables IGMP snooping multicast VLAN on the Switch.

Parameters	*<vlan_name 8>* − The name of the VLAN for which IGMP snooping is to be configured. Up to 8 characters can be used. *action [add | delete]* − Specify whether to add or delete ports defined in the following parameter *member ports, source ports or tag member ports to the multicast VLAN.* *member_port <portlist>* − Specifies a port or a range of ports to be the member port for the multicast VLAN of IGMP snooping. *source_port <portlist>* − Specifies a port or a range of ports to be the source port for the multicast VLAN of IGMP snooping. *tag_member_port <portlist>* − Specifies a port or a range of ports to be the tagged port for the multicast VLAN of IGMP snooping. *state [enable | disable]* − Enables/Disables IGMP Snooping multicast VLAN. *replace_source_ip <ipaddr>* – Specifies the replace source IP address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#config igmp_snooping multicast_vlan test action
add member_port 10-12
Command : config igmp_snooping multicast_vlan test action add
member_port 10-12

Success.

DGS-1100-24P/ME:admin#
```

delete igmp_snooping multicast_vlan

Purpose	To remove an IGMP snooping multicast VLAN on the Switch.
Syntax	**delete igmp_snooping multicast_vlan [name <vlan_name 8>| all]**
Description	The **delete igmp_snooping multicast_vlan** command removes IGMP snooping multicast VLAN on the Switch.
Parameters	*name <vlan_name 8>* − Specify the multicast vlan name to be removed from the Switch. *all* – All IGMP snooping multicast vlan to be removed on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove the igmp snooping multicast VLAN ‘test’:

```
DGS-1100-24P/ME:admin#delete igmp_snooping multicast_vlan name test
Command : delete igmp_snooping multicast_vlan name test

Success.
```

```
DGS-1100-24P/ME:admin#
```

config igmp_snooping multicast_vlan_group

Purpose	To specify that IGMP snooping is to be configured for multicast vlan groups on the Switch.
Syntax	**config igmp_snooping multicast_vlan_group <vlan_name 8> [add | delete] ipv4_range <mcast_address_range>**
Description	The **config igmp_snooping multicast_vlan_group** command specifies an IGMP snooping multicast VLAN group on the Switch.
Parameters	*<vlan_name 8>* − The name of the VLAN for which IGMP snooping is to be configured. Up to 8 characters can be used. *[add | delete]* − Specify whether to add or delete address range defined in the following parameter <mcast_address_range>. *ipv4_range <mcast_address_range>* − Specify the address to be configured with the IGMP snooping multicast VLAN group.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the igmp snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#config igmp_snooping multicast_vlan_group
test add ipv4_range 227.0.0.1-228.0.0.1
Command : config igmp_snooping multicast_vlan_group test add
ipv4_range 227.0.0.1-228.0.0.1

Success.

DGS-1100-24P/ME:admin#
```

enable igmp_snooping multicast_vlan

Purpose	To enable IGMP snooping multicast VLAN on the Switch.
Syntax	**enable igmp_snooping multicast_vlan**
Description	The **enable igmp_snooping multicast_vlan** command enables IGMP snooping multicast VLAN on the Switch. IGMP snooping and IGMP snooping multicast VLAN behave differently in the same packet. If both are enabled at the same time, only IGMP snooping works.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable IGMP snooping multicast VLAN on the Switch:

```
DGS-1100-24P/ME:admin#enable igmp_snooping
multicast_vlan
Command : enable igmp_snooping multicast_vlan
```

```
Success.

DGS-1100-24P/ME:admin#
```

disable igmp_snooping multicast_vlan

Purpose	To disable IGMP snooping multicast VLAN on the Switch.
Syntax	**disable igmp_snooping multicast_vlan**
Description	The **disable igmp_snooping multicast_vlan** command disables IGMP snooping multicast VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable IGMP snooping multicast VLAN on the Switch:

```
DGS-1100-24P/ME:admin#disable igmp_snooping multicast_vlan
Command : disable igmp_snooping multicast_vlan

Success.

DGS-1100-24P/ME:admin#
```

show igmp_snooping multicast_vlan

Purpose	To show the current status of IGMP snooping multicast VLAN on the Switch.
Syntax	**show igmp_snooping multicast_vlan {name <vlan_name 8>}**
Description	The **show igmp_snooping** command displays the current IGMP snooping multicast VLAN configuration on the Switch.
Parameters	*name<vlan_name 8>* − The name of the VLAN for which IGMP snooping configuration is to be displayed. Up to 8 characters can be used.
Restrictions	None.

Example usage:

To show igmp snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#show igmp_snooping multicast_vlan name
test
Command : show igmp_snooping multicast_vlan name test

IGMP Multicast Global State : Disabled

VLAN Name                   : test
VID                         : 8
```

```
Member(Untagged) Ports : 10-12
Tagged Member Ports    :
Source Ports           :
Status                 : Disabled
Replace Source IP      : 0.0.0.0

Total Entries: 1

DGS-1100-24P/ME:admin#
```

show igmp_snooping multicast_vlan_group

Purpose	To show the current status of IGMP snooping multicast VLAN group on the Switch.
Syntax	**show igmp_snooping multicast_vlan_group {name <vlan_name 8>}**
Description	The **show igmp_snooping multicast_vlan_group** command displays the current IGMP snooping multicast VLAN group configuration on the Switch.
Parameters	*name<vlan_name 8>* − The name of the VLAN, IGMP snooping configuration will be displayed on. Up to 8 characters can be used.
Restrictions	None.

Example usage:

To show igmp snooping multicast VLAN group:

```
DGS-1100-24P/ME:admin#show igmp_snooping multicast_vlan_group
name test
Command : show igmp_snooping multicast_vlan_group name test

VID  Vlan Name   IP Range
-----  ----------------  ------------------------------------------
8      test              225.0.0.1~ 226.0.0.1

DGS-1100-24P/ME:admin#
```

show igmp_snooping group

Purpose	To display the current IGMP snooping group configuration on the Switch.
Syntax	**show igmp_snooping group [all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>] {ipaddress<ipaddr>}]**
Description	The **show igmp_snooping group** command displays the current IGMP snooping group configuration on the Switch. The group table shared with MLD snooping. If MLD snooping and IGMP snooping are enabled at the same time, the total that can be learned by the dynamic group, will be limited by the number of MLD snooping groups that exist (including static group and dynamic

	groups).
Parameters	*all* – Display all the IGMP snooping group enties. *vlan_name <vlan_name 8>* − The name of the VLAN that IGMP snooping group configuration information will to be displayed on. Up to 8 characters can be used. *vlanid <vidlist 1-4094>* − The ID of the VLAN that IGMP snooping group configuration information will to be displayed on. *ports<portlist>* − A port or a range of ports that IGMP snooping group configuration information will be displayed on. *ipaddress<ipaddr>* − Specifies the IGMP Snooping group IP address to be displayed.
Restrictions	None.

Example usage:

To show igmp snooping group:

```
DGS-1100-24P/ME:admin#show igmp_snooping group all
Command : show igmp_snooping group all

Total Entries: 0

DGS-1100-24P/ME:admin#
```

show igmp_snooping static_group

Purpose	To display the IGMP snooping multicast group static member port on the Switch.
Syntax	**show igmp_snooping static_group [all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094>]<ipaddr>]**
Description	The **show igmp_snooping static_group** command displays the IGMP snooping multicast group static member ports currently configured on the Switch.
Parameters	*all* – Display all IGMP Snooping static group configuration. *vlan_name <vlan_name 8>* – Specifies the VLAN name of IGMP Snooping to be displayed. *vlanid <vidlist 1-4094>* – Specifies the VLAN ID of IGMP Snooping to be displayed. <*ipaddr*> – Specifies the IGMP Snooping group IP address to be displayed.
Restrictions	None.

Example usage:

To view the IGMP snooping host table on the Switch:

```
DGS-1100-24P/ME:admin#show igmp_snooping static_group all
Command : show igmp_snooping static_group all

VLAN ID/Name    IP Address      Static Member Ports
```

```
---------------------  ----------------  -------------------------
1   /VLAN0001     225.0.0.1          5-9

Total Entries: 1

DGS-1100-24P/ME:admin#
```

19

MLD SNOOPING COMMANDS

The Switch supports MLDv1- and MLDv2 awareness (excluded MLDv2 source-filtering) snooping.

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	
disable mld_snooping	
config mld_snooping	[vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] {fast_leave [enable | disable] | state [enable | disable]}(1)
config mld_snooping querier	[vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] state [enable | disable]
create mld_snooping static_group	[vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipv6addr>
config mld_snooping static_group	[vlan_name <vlan_name 8> | vlanid < vidlist 1-4094>] < ipv6addr > [add | delete] <portlist>
delete mld_snooping static_group	[vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipv6addr>
create mld_snooping multicast_vlan	<vlan_name 8> <vlanid 2-4094>
config mld_snooping multicast_vlan	<vlan_name 8> { action [add | delete] [member_port <portlist> | source_port <portlist> | tag_member_port <portlist >] |state [enable | disable] | replace_source_ip <ipv6addr> } (1)
delete mld_snooping multicast_vlan	[name <vlan_name 8>| all]
config mld_snooping multicast_vlan_group	<vlan_name 8> [add | delete] ipv6_range <mcast_address_range>
enable mld_snooping multicast_vlan	
disable mld_snooping multicast_vlan	
show mld_snooping multicast_vlan	{name <vlan_name 8>}
show mld_snooping multicast_vlan_group	{name <vlan_name 8>}
show mld snooping	[vlan_name <vlan_name 8> | vlanid<vidlist 1-4094> | all]
show mld_snooping group	[all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>] {ipaddress<ipv6addr>}]
show mld_snooping	[all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094>]<ipv6addr>]

Command	Parameter
static_group	

Each command is listed in detail, as follows:

enable mld_snooping	
Purpose	To enable MLD snooping on the Switch.
Syntax	**enable mld snooping**
Description	The **enable mld snooping** command enables MLD snooping on the Switch. If IGMP snooping is also enabled, this operation may possibly fail due to the total number of group entrys exceeding the limitation of group table.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the MLD snooping:

```
DGS-1100-24P/ME:admin#enable mld_snooping
Command : enable mld_snooping

Success.

DGS-1100-24P/ME:admin#
```

disable mld_snooping	
Purpose	To disable MLD snooping on the Switch.
Syntax	**disable mld snooping**
Description	The **disable mld snooping** command disables MLD snooping on the Switch. Disabling MLD snooping allows all MLD and IP multicast traffic to flood within a given IP interface.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable the MLD snooping:

```
DGS-1100-24P/ME:admin#disable mld_snooping
Command : disable mld_snooping

Success.

DGS-1100-24P/ME:admin#
```

config mld_snooping	
Purpose	To configure mld snooping.
Syntax	**config mld_snooping [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] {fast_leave [enable | disable] | state [enable | disable]}(1)**
Description	The **config mld_snooping** command defines mld snooping on the VLAN.
Parameters	*vlan_name <vlan_name 8>* – Specifies that the mld snooping applies only to this previously created VLAN. *vlanid <vidlist 1-4094>* – Specifies that the mld snooping applies only to this VLAN id. *all* – specifies that MLD snooping is to be configured for all VLANs on the Switch. *state [enable | disable]* – Allows the user to enable or disable MLD snooping for the specified VLAN. *fast_leave [enable | disable]* – Allows the user to enable or disable MLD snooping for the specified VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure mld snooping:

```
DGS-1100-24P/ME:admin#config mld_snooping all state enable
Command : config mld_snooping all state enable

Success.

DGS-1100-24P/ME:admin#
```

config mld_snooping querier	
Purpose	Used to configure the timers and settings for the MLD snooping querier on the Switch.
Syntax	**config mld_snooping querier [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | all] state [enable | disable]**
Description	The **config mld_snooping querier** command enables MLD snooping querier on a specific VLAN.
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which MLD snooping is to be configured. Up to 8 characters can be used. *vlanid <vidlist 1-4094>* − The VLAN id for which MLD snooping is to be configured. all − Specifies all VLAN for which MLD snooping is to be configured. *state [enable | disable]* − Enables/Disables MLD Snooping Querier.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure MLD snooping querier:

```
DGS-1100-24P/ME:admin#config mld_snooping querier vlanid 1 state
enable
Command : config mld_snooping querier vlanid 1 state enable

Success.

DGS-1100-24P/ME:admin#
```

create mld_snooping static_group

Purpose	To create an MLD snooping static group on the Switch.
Syntax	**create mld_snooping static_group [vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipv6addr>**
Description	The **create mld_snooping static_group** command creates an MLD snooping static group on the Switch. Member ports can be added to the static group. The static member and the dynamic member port form the member ports of a group. The static group will only take effect when MLD snooping is enabled on the VLAN. For those static member ports, the device needs to emulate the MLD protocol operation to the querier, and forward the traffic destined to the multicast group to the member ports. The Reserved IP multicast addresses FF0x:: must be excluded from the configured group. The VLAN must be created first before a static group can be created. The group table is shared with IGMP snooping. If MLD snooping and IGMP snooping are enabled at the same time, the count of static groups that can be created will be limited by the number of IGMP snooping groups that exist (including static group and dynamic groups).
Parameters	*vlan_name <vlan_name 8>* − The name of the VLAN for which MLD snooping static group is to be created. Up to 8 characters can be used. *vlanid <1-4094>* − The ID of the VLAN for which MLD snooping static group is to be created. The range is from 1 to 4094. <*ipv6addr*> − The multicast group IPv6 address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the mld snooping static group:

```
DGS-1100-24P/ME:admin#create mld_snooping static_group vlan_name
VLAN0001 ff1e::1
Command : create mld_snooping static_group vlan_name VLAN0001
ff1e::1

Success.
```

```
DGS-1100-24P/ME:admin#
```

config mld_snooping static_group

Purpose	To configure an MLD snooping static group on the Switch.
Syntax	**config mld_snooping static_group [vlan_name <vlan_name 8> | vlanid < vidlist 1-4094>] < ipv6addr > [add | delete] <portlist>**
Description	The **config mld_snooping static_group** command is used to add or delete static member ports in a static group on the Switch. Member ports can be added to the static group. When a port is configured as a static member port, the MLD protocol will not operate on this port. For example, suppose that a port is a dynamic member port found by MLD. If this port is configured as a static member later, then the MLD protocol will stop operating on this port. The MLD protocol will resume once this port is removed from static member ports.
Parameters	*vlan_name* <*vlan_name 8*> − The name of the VLAN for which MLD snooping static group is to be created. Up to 8 characters can be used. *vlanid* <*1-4094*> − The ID of the VLAN for which MLD snooping static group is to be created. The range is from 1 to 4094. <*ipv6addr*> − The multicast group IPv6 address. <*portlist*> − A port or range of ports that will be configured as member ports of the specific multicast group.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the mld snooping static group:

```
DGS-1100-24P/ME:admin#config mld_snooping static_group vlanid 1
ff1e::1 add 5-8
Command : config mld_snooping static_group vlanid 1 ff1e::1 add 5-8

Success.

DGS-1100-24P/ME:admin#
```

delete mld_snooping static_group

Purpose	To delete an MLD snooping static group on the Switch.
Syntax	**delete mld_snooping static_group [vlan_name<vlan_name 8> | vlanid < vidlist 1-4094>] <ipv6addr>**
Description	The **delete mld_snooping static_group** command is used to delete an MLD snooping multicast static group. The deletion of an MLD snooping static group will not affect the MLD snooping dynamic member ports for a group.
Parameters	*vlan_name* <*vlan_name 8*> − The name of the VLAN on which the MLD snooping static group will be deleted. Up to 8 characters can be used.

	vlanid <1-4094> − The ID of the VLAN on which the MLD snooping static group will be deleted. The range is from 1 to 4094. *<ipv6addr>* − The multicast group IPv6 address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete the mld snooping static group:

```
DGS-1100-24P/ME:admin#delete mld_snooping static_group vlanid 1 ff1e::1
Command : delete mld_snooping static_group vlanid 1 ff1e::1

Success.

DGS-1100-24P/ME:admin#
```

create mld_snooping multicast_vlan

Purpose	To create an MLD snooping multicast VLAN on the Switch.
Syntax	**create mld_snooping multicast_vlan <vlan_name 8> <vlanid 2-4094>**
Description	The **create mld_snooping multicast_vlan** command creates a MLD snooping multicast VLAN on the Switch.
Parameters	*<vlan_name 8>* − The name of the VLAN on which MLD snooping will be created. Up to 8 characters can be used. *<vlanid 2-4092>* − The ID of the VLAN on which MLD snooping will be created. The range is from 2 to 4094.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a mld snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#create mld_snooping multicast_vlan test 8
Command : create mld_snooping multicast_vlan test 8

Success.

DGS-1100-24P/ME:admin#
```

config mld_snooping multicast_vlan

Purpose	To configure MLD snooping multicast VLAN on the Switch.
Syntax	**config mld_snooping multicast_vlan <vlan_name 8> { action [add | delete] [member_port <portlist> | source_port <portlist> | tag_member_port <portlist >] |state [enable | disable] | replace_source_ip <ipv6addr> } (1)**
Description	The **config mld_snooping multicast_vlan** command configures the MLD snooping multicast VLAN settings on the Switch.

Parameters	*<vlan_name 8>* − The name of the VLAN for which MLD snooping is to be configured. Up to 8 characters can be used. *action [add | delete]* − Specify whether to add or delete ports defined in the following parameter *member ports, source ports or tag member ports to the multicast VLAN.* *member_port <portlist>* − Specifies a port or a range of ports to be the member port for the multicast VLAN of MLD snooping. *source_port <portlist>* − Specifies a port or a range of ports to be the source port for the multicast VLAN of MLD snooping. *tag_member_port <portlist>* − Specifies a port or a range of ports to be the tagged port for the multicast VLAN of MLD snooping. *state [enable | disable]* − Enables/Disables MLD Snooping multicast VLAN. *replace_source_ip <ipv6addr>* – Specifies the replace source IPv6 address.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the mld snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#config mld_snooping multicast_vlan test action
add member_port 10-12
Command : config mld_snooping multicast_vlan test action add
member_port 10-12

Success.

DGS-1100-24P/ME:admin#
```

delete mld_snooping multicast_vlan

Purpose	To remove an MLD snooping multicast VLAN on the Switch.
Syntax	**delete mld_snooping multicast_vlan [name <vlan_name 8>| all]**
Description	The **delete mld_snooping multicast_vlan** command removes MLD snooping multicast VLAN on the Switch.
Parameters	*name <vlan_name 8>* − Specify the multicast vlan name to be removed on the Switch. *all* – All MLD snooping multicast vlans will be removed from the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To remove the mld snooping multicast VLAN ‘test’:

```
DGS-1100-24P/ME:admin#delete mld_snooping multicast_vlan name test
Command : delete mld_snooping multicast_vlan name test

Success.
```

```
DGS-1100-24P/ME:admin#
```

config mld_snooping multicast_vlan_group

Purpose	To specify that MLD snooping is to be configured for multicast vlan groups on the Switch.
Syntax	**config mld_snooping multicast_vlan_group <vlan_name 8> [add | delete] ipv6_range <mcast_range 80>**
Description	The **config mld_snooping multicast_vlan_group** command specifies an MLD snooping multicast VLAN group on the Switch.
Parameters	*<vlan_name 8>* − The name of the VLAN for which MLD snooping is to be configured. Up to 8 characters can be used. *[add | delete]* − Specify whether to add or delete address ranges defined in the following parameter <mcast_address_range>. *<mcast_range 80>* − Specify the IPv6 address to be configured with the MLD snooping multicast VLAN group.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the mld snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#config mld_snooping multicast_vlan_group lala
add ipv6_range ffe1::99-ffe1::1:33
Command : config mld_snooping multicast_vlan_group lala add
ipv6_range ffe1::99-ffe1::1:33

Success.

DGS-1100-24P/ME:admin#
```

enable mld_snooping multicast_vlan

Purpose	To enable MLD snooping multicast VLAN on the Switch.
Syntax	**enable mld_snooping multicast_vlan**
Description	The **enable mld_snooping multicast_vlan** command enables MLD snooping multicast VLAN on the Switch. MLD snooping and MLD snooping multicast VLAN will have different behavior in the same packet. If both are enabled at the same time, only MLD snooping will work.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable MLD snooping multicast VLAN on the Switch:

```
DGS-1100-24P/ME:admin#enable mld_snooping multicast_vlan
Command : enable mld_snooping multicast_vlan
```

```
Success.

DGS-1100-24P/ME:admin#
```

disable mld_snooping multicast_vlan

Purpose	To disable MLD snooping multicast VLAN on the Switch.
Syntax	**disable mld_snooping multicast_vlan**
Description	The **disable mld_snooping multicast_vlan** command disables MLD snooping multicast VLAN on the Switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable MLD snooping multicast VLAN on the Switch:

```
DGS-1100-24P/ME:admin#disable mld_snooping multicast_vlan
Command : disable mld_snooping multicast_vlan

Success.

DGS-1100-24P/ME:admin#
```

show mld_snooping multicast_vlan

Purpose	To show the current status of MLD snooping multicast VLAN on the Switch.
Syntax	**show mld_snooping multicast_vlan {name <vlan_name 8>}**
Description	The **show mld_snooping** command displays the current MLD snooping multicast VLAN configuration on the Switch.
Parameters	*name<vlan_name 8>* − The name of the VLAN for which MLD snooping configuration is to be displayed. Up to 8 characters can be used.
Restrictions	None.

Example usage:

To show mld snooping multicast VLAN:

```
DGS-1100-24P/ME:admin#show mld_snooping multicast_vlan name
test
Command : show mld_snooping multicast_vlan name test

MLD Multicast Global State     : Disabled

VLAN Name                      : test
VID                            : 8
Member(Untagged) Ports    : 10-12
```

```
Tagged Member Ports      :
Source Ports             :
Status                   : Disabled
Replace Source IP        : ::

Total Entries: 1

DGS-1100-24P/ME:admin#
```

show mld_snooping multicast_vlan_group

Purpose	To show the current status of MLD snooping multicast VLAN group on the Switch.
Syntax	**show mld_snooping multicast_vlan_group {name <vlan_name 8>}**
Description	The **show mld_snooping multicast_vlan_group** command displays the current MLD snooping configuration on the Switch.
Parameters	*name<vlan_name 8>* − The name of the VLAN on which MLD snooping configuration will be displayed. Up to 8 characters can be used.
Restrictions	None.

Example usage:

To show mld snooping multicast VLAN group:

```
DGS-1100-24P/ME:admin#show mld_snooping multicast_vlan_group
Command : show mld_snooping multicast_vlan_group

VID   Vlan Name    IP Range
----- ------------ ------------------------------------------------------------
17    lala         ffe1:0000:0000:0000:0000:0000:0000:0099 ~
                   ffe1:0000:0000:0000:0000:0000:0001:0033

DGS-1100-24P/ME:admin#
```

show mld_snooping

Purpose	To display MLD snooping on the Switch.
Syntax	**show mld_snooping [vlan_name <vlan_name 8> | vlanid<vidlist 1-4094> | all]**
Description	The **show mld_snooping** command displays MLD snooping on the Switch.
Parameters	*vlan_name <vlan_name 8>* − Displays the MLD Snooping on the Switch. *vlanid <vidlist 1-4094>* − Display the VLAN id for MLD Snooping on the switch. *all* – Display all current MLD Snooping configurations on the Switch.

Restrictions	None.

Example usage:

To display MLD snooping on the Switch:

```
DGS-1100-24P/ME:admin#show mld_snooping vlan_name
VLAN0001
Command : show mld_snooping vlan_name VLAN0001

MLD Snooping Global State   : Disabled

VLAN Name                   : VLAN0001
Query Interval              : 125
Max Response Time           : 10
Robustness Value            : 2
Last Member Query Interval  : 1
Querier State               : Disabled
Querier Role                : Non-Querier
Querier IP                  : ::
State                       : Enabled
Fast Leave                  : Enabled

Total Entries: 1

DGS-1100-24P/ME:admin#
```

show mld_snooping group

Purpose	To display the current MLD snooping group configuration on the Switch.
Syntax	**show mld_snooping group [all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094> | ports <portlist>] {ipaddress<ipv6addr>}]**
Description	The **show mld_snooping group** command displays the current MLD snooping group configuration on the Switch. The group table shared with IGMP snooping. If MLD snooping and IGMP snooping are enabled at the same time, the count of dynamic groups that can be learned will be limited by the number of IGMP snooping groups that exist (including static group and dynamic groups).
Parameters	*all* – Display all current MLD Snooping group configurations on the Switch. *vlan_name* <*vlan_name 8*> − The name of the VLAN on which MLD snooping group configuration information will be displayed. Up to 8 characters can be used. *vlanid* <*vidlist 1-4094*> − The ID of the VLAN on which MLD snooping group configuration information will be displayed. *ports*<*portlist*> − A port or a range of ports on which MLD snooping group configuration information will be displayed.

	ipaddress<ipv6addr> − Specifies the MLD Snooping group IPv6 address to be displayed.
Restrictions	None.

Example usage:

To show mld snooping group:

```
DGS-1100-24P/ME:admin#show mld_snooping group all
Command : show mld_snooping group all

Total Entries: 0

DGS-1100-24P/ME:admin#
```

show mld_snooping static_group

Purpose	To display the MLD snooping multicast group static member port on the Switch.
Syntax	**show mld_snooping static_group [all | [vlan_name <vlan_name 8> | vlanid <vidlist 1-4094>]<ipv6addr>]**
Description	The **show mld_snooping static_group** command displays the MLD snooping multicast group static member ports currently configured on the Switch.
Parameters	*all* – Display all MLD Snooping static group configuration. *vlan_name <vlan_name 8>* – Specifies the VLAN name of MLD Snooping that will be displayed. *vlanid <vidlist 1-4094>* – Specifies the VLAN ID of MLD Snooping that will be displayed. *<ipv6addr>* – Specifies the MLD Snooping group IPv6 address that will be displayed.
Restrictions	None.

Example usage:

To view the MLD snooping host table on the Switch:

```
DGS-1100-24P/ME:admin#show mld_snooping static_group all
Command : show mld_snooping static_group all

VLAN ID/Name     IPv6 Address              Static Member Ports
---------------------     ----------------------------     ----------------------
1   /VLAN0001      ffe1::3                   5-8

Total Entries: 1

DGS-1100-24P/ME:admin#
```

20

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	{ipaddress<ipaddr> | poll_interval <sec 30-99999>}(1)
show sntp	
enable sntp	
disable sntp	
config time	<date ddmthyyyy> <time hh:mm:ss>
config time_zone	operator [+ | -] hour <hour 0-13> minute <minute 0-59>
config dst	[disable | annual s_date <start_date 1-31> s_mth <start_mth 1-12> s_time <start_time hh:mm> e_date <end_date 1-31> e_mth <end_mth 1-12> e_time <end_time hh:mm> offset [30 | 60 | 90 | 120]]
show time	

Each command is listed in detail, as follows:

config sntp	
Purpose	To setup SNTP service.
Syntax	**config sntp {ipaddress<ipaddr> | poll_interval <sec 30-99999>}(1)**
Description	The **config sntp** command configures SNTP service from an SNTP server. SNTP must be enabled for this command to function (See **enable sntp**).
Parameters	*ipaddress <ipaddr>* – Specifies the IPv4 address of the SNTP server. *poll_interval <sec 30-99999>* – The interval between requests for updated SNTP information. The polling interval ranges from 30 seconds to 99999 seconds.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure SNTP settings:

```
DGS-1100-24P/ME:admin#config sntp ipaddress 10.1.1.1 poll_interval 60
Command : config sntp ipaddress 10.1.1.1 poll_interval 60

  Success.

DGS-1100-24P/ME:admin#
```

show sntp

Purpose	To display the SNTP information.
Syntax	**show sntp**
Description	The **show sntp** 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-1100-24P/ME:admin#show sntp
Command : show sntp

  Current Time Source        : System Clock
  SNTP                       : Disabled
  SNTP Server Ip Address     : 10.1.1.1
        Stratum              : -
        Version              : -
        Last Receive         : -
  SNTP Poll Interval         : 60 sec

DGS-1100-24P/ME:admin#
```

enable sntp	
Purpose	To enable SNTP server support.
Syntax	**enable sntp**
Description	The **enable sntp** command enables SNTP server support. SNTP service must be separately configured (see **config sntp**). Enabling and configuring SNTP support will override any manually configured system time settings.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the SNTP function:

```
DGS-1100-24P/ME:admin#enable sntp
Command : enable sntp

  Success.

DGS-1100-24P/ME:admin#
```

disable sntp	
Purpose	To disable SNTP server support.
Syntax	**disable sntp**
Description	The **disable sntp** command disables SNTP support.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable SNTP support:

```
DGS-1100-24P/ME:admin#disable sntp
Command : disable sntp

  Success.

DGS-1100-24P/ME:admin#
```

config time	
Purpose	To manually configure system time and date settings.
Syntax	**config time <date ddmthyyyy> <time hh:mm:ss>**
Description	The **config time date** command configures the system time and date settings. These will be overridden if SNTP is configured and enabled.
Parameters	<*date ddmthyyyy*> –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. <*time hh:mm:ss*> – 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-level users can issue this command.

Example usage:

To manually set system time and date settings:

```
DGS-1100-24P/ME:admin#config time 09jan2012 15:50:50
Command : config time 09jan2012 15:50:50

   Success.

DGS-1100-24P/ME:admin#
```

config time_zone	
Purpose	To determine the time zone used in order to adjust the system clock.
Syntax	**config time_zone operator [+ | -] hour <hour 0-13> minute <minute 0-59>**
Description	The **config time_zone operator** command adjusts the system clock settings according to the time zone. Time zone settings adjust SNTP information accordingly.
Parameters	*operator [+ | -]* – May be (+) to add or (-) to subtract time to adjust for time zone relative to GMT. *hour <hour 0-13>* – Specifies the number of hours difference from GMT. *minute <minute 0-59>* – Specifies the number of minutes added or subtracted to adjust the time zone.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure time zone settings:

```
DGS-1100-24P/ME:admin#config time_zone operator + hour 2 minute 30
Command : config time_zone operator + hour 2 minute 30

   Success.

DGS-1100-24P/ME:admin#
```

config dst

Purpose	To configure time adjustments to allow for the use of Daylight Saving Time (DST).
Syntax	**config dst [disable | annual s_date <start_date 1-31> s_mth <start_mth 1-12> s_time <start_time hh:mm> e_date <end_date 1-31> e_mth <end_mth 1-12> e_time <end_time hh:mm> offset [30 | 60 | 90 | 120]]**
Description	The **config dst** 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	*disable* – Disables the DST seasonal time adjustment for the Switch. *annual* – Enables DST seasonal time adjustment. The format for annual is as follows, and in the order listed: • *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 hh:mm>* - The time of day to begin DST in hours and minutes, expressed using a 24-hour clock. • *e_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 hh:mm>* - 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-level users can issue this command.

Example usage:

To configure daylight savings time on the Switch to run from the 2nd April at 3 PM until the 2nd October at 3:30 PM and add 30 minutes at the onset of DST:

```
DGS-1100-24P/ME:admin#config dst annual s_date 2 s_mth 4 s_time 15:00
e_date 2 e_mth 10 e_time 15:30 offset 30
Command : config dst annual s_date 2 s_mth 4 s_time 15:00 e_date 2 e_mth
10 e_time 15:30 offset 30

   Success.

DGS-1100-24P/ME:admin#
```

show time

Purpose	To display the current time settings and status.
Syntax	**show time**
Description	The **show time** 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-1100-24P/ME:admin#show time
Command : show time

  System Uptime          : 3 hours, 14 minutes, 56 seconds
  Current Time Source    : System Clock
  Current Time           : 2000/01/01 03:14:56
  Time Zone              : GMT + 00:00
  Daylight Saving Time   : Enabled
      Offset in Minutes   : 30
      From               : 02 Apr 2009 15:00
      To                 : 02 Oct 2010 15:30

DGS-1100-24P/ME:admin#
```

21

POWER SAVING COMMANDS

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

Command	Parameter
config power_saving global	[[link_detection_scheduled | port_shutdown_scheduled | hiberantion_scheduled | dim-led_scheduled | administrative_dim-led] [enable | disable] | time_profile [dim-led | hibernation] [add <range_name 8> | delete]]
config power_saving port	[port_list <portlist> | all] [time_range <range_name 8> | clear_time_range]
show power_saving	{global | port}

Each command is listed in detail, as follows:

config power_saving global

Purpose	To configure the power saving mode on the switch.
Syntax	**config power_saving global [[link_detection_scheduled | port_shutdown_scheduled | hibernation_scheduled | dim-led_scheduled | administrative_dim-led] [enable | disable] | time_profile type [dim-led | hibernation] time_range [add <range_name 20> | delete]]**
Description	The **config power_saving global** command is used to configure the power saving mode on the switch.
Parameters	*link_detection_scheduled* – Configure the link detection state to enable or disable. The default value is disabled. *port_shutdown_scheduled* – Configure the port shutdown state to enable or disable. The default value is disabled. *hiberanation_scheduled* – Configure the hibernation state to enable or disable. The default value is disabled. *dim-led_scheduled* – Configure dim led state to be enabled or disabled. *administrative_dim-led* – Configure administrative dim-led state to be enabled or disabled. *[enable* | *disable]* – Enable or disable the power saving feature. *dim-led – The dim-led type of time profile***.** *hibernation* – The hibernation type of time profile. *add <range_name 8>* - The time profile name to add for power saving. *delete* – remove the time profile for power saving.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the power saving mode on the switch:

```
DGS-1100-24:admin#config power_saving global link_detection_scheduled enable
Command: config power_saving global link_detection_scheduled enable

   Success.

DGS-1100-24:admin#
```

config power_saving port

Purpose	To configure the power saving on the switch.
Syntax	**config power_saving port [port_list <portlist>| all] [time_range <range_name 8> | clear_time_range]**
Description	The **config power_saving port** command is used to configure the power saving port on the switch.
Parameters	*port_list<portlist>* - A port or range of ports that will be configured. *all* - To configure all the ports. *time_range* <range_name 8> - Specifies the time range to be configured. *clear_time_range* – Clear the time range setting for power saving on the port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the power saving on the switch:

```
DGS-1100-24:admin# config power_saving port port_list 2-4  time_range DLINK001
Command: config power_saving  port port_list 2-4  time_range DLINK001

   Success.

DGS-1100-24:admin#
```

show power_saving

Purpose	To display power saving information on the switch.
Syntax	**show power_saving [global | port]**
Description	The **show power_saving** is used to display power saving information.
Parameters	*global* – Display the power saving global state. *port* – Display ports state.
Restrictions	None.

Example usage:

To display power saving information on the switch:

```
DGS-1100-24:admin# show power_saving global
Command: show power_saving global

  Link Detection State                      : Disabled
  Scheduled Port-shutdown Power Saving : Disabled
  Scheduled Hibernation Power Saving     : Disabled
  Scheduled Dim-LED Power Saving         : Disabled
  Administrative Dim-LED                    : Disabled
  Dim-LED Time Profile                      : None
  Hibernation Time Profile                  : None

DGS-1100-24:admin#
```

22

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	
show lldp	
show lldp remote_ports	
config lldp	notification [enable | disable]

Each command is listed in detail, as follows:

enable lldp	
Purpose	To enable LLDP on the switch.
Syntax	**enable lldp**
Description	The **enable lldp** command enables the Link Layer Discovery Protocol (LLDP) on the switch.
Parameters	None**.**
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable LLDP on the switch:

```
DGS-1100-24P/ME:admin#enable lldp
Command: enable lldp

   Success.

DGS-1100-24P/ME:admin#
```

disable lldp	
Purpose	To disable LLDP on the switch.
Syntax	**disable lldp**
Description	The **disable lldp** command disables the Link Layer Discovery Protocol (LLDP) on the switch.
Parameters	None.

Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable LLDP on the switch:

```
DGS-1100-24P/ME:admin#disable lldp
Command: disable lldp

   Success.

DGS-1100-24P/ME:admin#
```

show lldp

Purpose	To display the *Link Layer Discovery Protocol* (LLDP) on the switch.
Syntax	**show lldp**
Description	The **show lldp** displays the LLDP configuration on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To show LLDP settings:

```
DGS-1100-24P/ME:admin#show lldp
Command : show lldp

   LLDP State       : Disabled
   LLDP Trap State : Disabled

DGS-1100-24P/ME:admin#
```

show lldp remote_ports

Purpose	To display information regarding the neighboring devices discovered using LLDP.
Syntax	**show lldp remote_ports**
Description	The **show lldp remote_ports command** displays the information regarding neighboring devices.
Parameters	None.
Restrictions	None.

Example usage:

To show the information for remote ports:

```
DGS-1100-24P/ME:admin#show lldp remote_ports
Command : show lldp remote_ports

  Remote Entities Count : 1

  Entity 1
    Chassis Id Subtype   : 4
    Chassis Id           : ec22804008df
    Port Id Subtype      : 1
    Port Id              : eth07
    Port Description     :

DGS-1100-24P/ME:admin#
```

config lldp

Purpose	To enable LLDP notification on a port or ports.
Syntax	**config lldp notification [enable | disable]**
Description	The **config lldp** notification command defines lldp notification per system on the switch.
Parameters	*notification [enable* | *disable]*– Defines if the notification is enabled or disabled.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure LLDP notification:

```
DGS-1100-24P/ME:admin#config lldp notification enable
Command : config lldp notification enable

  Success.

DGS-1100-24P/ME:admin#
```

23

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 [all | ports <portlist>]
show traffic_segmentation	{ports <portlist>}

Each command is listed in detail, as follows:

config traffic_segmentation

Purpose	To configure traffic segmentation on the Switch.
Syntax	**config traffic_segmentation <portlist> forward_list [all | ports <portlist>]**
Description	The **config traffic_segmentation** command configures traffic segmentation 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. *forward_list* – Specify a port or a port channel to receive forwarded frames from the source ports specified in the portlist, above. *all* - All ports are specified. *ports <portlist>* – Specify a range of ports for the forwarding list.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure ports 1~3 to be able to forward frames to port 5:

```
DGS-1100-24P/ME:admin#config traffic_segmentation 1-3 forward_list ports 9
Command : config traffic_segmentation 1-3 forward_list ports 9

   Success.

DGS-1100-24P/ME:admin#
```

show traffic_segmentation

Purpose	To display the current traffic segmentation configuration on the Switch.

Syntax	**show traffic_segmentation {ports <portlist>}**
Description	The **show traffic_segmentation** command displays the current traffic segmentation configuration on the Switch.
Parameters	*ports <portlist>* – A port or a port channel for which the current traffic segmentation configuration on the Switch will be displayed.
Restrictions	None.

Example usage:

To display the current traffic segmentation configuration on the Switch:

```
DGS-1100-24P/ME:admin#show traffic_segmentation
Command : show traffic_segmentation

  Port   Forward Portlist
  -------  ------------------------
  eth1   9
  eth2   9
  eth3   9
  eth4   1-24
  eth5   5-8
  eth6   1-24
  eth7   1-24
  eth8   1-24
  eth9   1-24
  eth10  1-24
  eth11  1-24
  eth12  1-24
  eth13  1-24
  eth14  1-24
  eth15  1-24
  eth16  1-24
  eth17  1-24
  eth18  1-24
  eth19  1-24
  eth20  1-24
  eth21  1-24
  eth22  1-24
  eth23  1-24
  eth24  1-24

  Total Entries: 24

DGS-1100-24P/ME:admin#
```

24

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	**config safeguard_engine state [enable | disable]**
Description	To define the safeguard_engine on the switch.
Parameters	*state [enable* | *disable]* – enable and disable Safeguard engine on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable the safeguard engine on the switch:

```
DGS-1100-24P/ME:admin#config safeguard_engine state enable
Command: config safeguard_engine state enable

  Success

DGS-1100-24P/ME:admin#
```

show safeguard_engine	
Purpose	To show the safeguard engine status on the switch.
Syntax	**show safeguard_engine**
Description	To show the safeguard engine on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To show the safeguard engine status on the switch:

```
DGS-1100-24P/ME:admin#show safeguard_engine
Command: show safeguard_engine

  Safeguard Engine State        :  Enabled

DGS-1100-24P/ME:admin#
```

25

SPANNING TREE PROTOCOL COMMANDS

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

Command	Parameter
config stp ports	<portlist> edge [true | false | auto]
show stp ports	{portlist <portlist>}
config stp trap	{ new_root [enable | disable] | topo_change [enable | disable] } (1)
config stp version	[rstp | stp]
enable stp	
disable stp	
show stp	

Each command is listed in detail, as follows:

config stp ports	
Purpose	To set the edge state of each port.
Syntax	**config stp ports <portlist> edge [true | false | auto]**
Description	The **config stp ports** command sets the edge mode of each port. The default value is true mode.
Parameters	*<portlist>* – Specifies the port list to be configured. *edge [true | false | auto]* – To set the STP mode of the ports. The mode specified below: • *true* – The port will connect to a network immediately, rather than waiting for the spanning tree to converge. • *false* – The port cannot enter forwarding state until the spanning tree converge. • *auto* – The port will delay for a period and become edge port if no bridge BPUD is received.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure STP ports settings

```
DGS-1100-24P/ME:admin#config stp ports 5-10 edge true
Command : config stp ports 5-10 edge true

  Success.

DGS-1100-24P/ME:admin#
```

show stp ports

Purpose	To display the edge state of each port.
Syntax	**show stp ports {portlist <portlist>}**
Description	The **show stp ports** command displays the edge mode of each port.
Parameters	*portlist <portlist>* – Specifies the port list to be display.
Restrictions	None.

Example usage:

To display STP ports status.

```
DGS-1100-24P/ME:admin#show stp ports portlist 5-8
Command : show stp ports portlist 5-8

  Port   Edge    State
  ------ -------- ----------
  eth5   True    Link down
  eth6   True    Link down
  eth7   True    Link down
  eth8   True    Link down

DGS-1100-24P/ME:admin#
```

config stp trap

Purpose	To set the STP trap status.
Syntax	**config stp trap { new_root [enable | disable] | topo_change [enable | disable] } (1)**
Description	The **config stp trap** command sets the STP trap status.
Parameters	*new_root [enable* | *disable]* – Enable/Disable the new root traps support. *tppo_change [enable* | *disable]* – Enable/Disable the topology change traps support.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure STP trap settings

```
DGS-1100-24P/ME:admin#config stp trap new_root enable
Command : config stp trap new_root enable

   Success.

DGS-1100-24P/ME:admin#
```

config stp version

Purpose	To set the STP version used by the switch.
Syntax	**config stp version [rstp | stp]**
Description	The **config stp version** command sets the STP version used by the switch.
Parameters	*rstp* – Rapid spanning tree protocol. *stp* – Spanning tree protocol.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set STP version to RSTP

```
DGS-1100-24P/ME:admin#config stp version rstp
Command : config stp version rstp

   Success.

DGS-1100-24P/ME:admin#
```

enable stp

Purpose	To enable STP support of the switch.
Syntax	**enable stp**
Description	The **enable stp** command enables STP support of the switch. **Note**: If Spanning Tree protocol is used, loopback detection will not be available. If Loopback Detection is enabled, the Spanning Tree protocol will not be available.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable STP support

```
DGS-1100-24P/ME:admin#enable stp
Command : enable stp

   Success.

DGS-1100-24P/ME:admin#
```

disable stp	
Purpose	To enable STP support of the switch.
Syntax	**disable stp**
Description	The **disable stp** command enables STP support of the switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable STP support

```
DGS-1100-24P/ME:admin#disable stp
Command : disable stp

   Success.

DGS-1100-24P/ME:admin#
```

show stp	
Purpose	To display the STP settings of the switch.
Syntax	**show stp**
Description	The **show stp** command displays the STP settings of the switch.
Parameters	None.
Restrictions	None.

Example usage:

To display STP settings

```
DGS-1100-24P/ME:admin#show stp
Command : show stp

  STP Bridge Global Settings
  --------------------------
  STP Status              : Disabled
  STP Version             : RSTP
  New Root Trap           : Enabled
  Topology Change Trap : Disabled

  Root Bridge Information
  --------------------------
  Root Bridge             : 0000:00:00:00:00:00:00
  Root Cost               : 0
  Root Max Age            : 0
  Root Forward Delay      : 0
  Root Port               : 0

DGS-1100-24P/ME:admin#
```

26

ZONE DEFENSE COMMANDS

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

Command	Parameter
enable zone_defense	
disable zone_defense	
show zone_defense	

Each command is listed in detail, as follows:

enable zone_defense	
Purpose	To enable zone defense support of the switch.
Syntax	**enable zone_defense**
Description	The **enable zone_defense** command enables zone defense support of the switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable zone defense support

```
DGS-1100-24P/ME:admin#enable zone_defense
Command : enable zone_defense

  Success.

DGS-1100-24P/ME:admin#
```

disable zone_defense	
Purpose	To disable zone defense support of the switch.
Syntax	**disable zone_defense**
Description	The **disable zone_defense** command disables zone defense support of the switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable zone defense support

```
DGS-1100-24P/ME:admin#disable zone_defense
Command : disable zone_defense

  Success.

DGS-1100-24P/ME:admin#
```

show zone_defense

Purpose	To display zone defense setting of the switch.
Syntax	**disable zone_defense**
Description	The **disable zone_defense** command displays zone defense setting of the switch.
Parameters	None.
Restrictions	None.

Example usage:

To display zone defense setting

```
DGS-1100-24P/ME:admin#show zone_defense
Command : show zone_defense

  Zone Defense State : Enabled

DGS-1100-24P/ME:admin#
```

27

D-LINK DISCOVERY PROTOCOL COMMANDS

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

Command	Parameter
enable ddp	
disable ddp	
config ddp report_time	[30 | 60 | 90 | 120 | never]
show ddp	

Each command is listed in detail, as follows:

enable ddp	
Purpose	To enable DDP support of the switch.
Syntax	**enable ddp**
Description	The **enable ddp** command enables DDP support of the switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable DDP support

```
DGS-1100-24P/ME:admin#enable ddp
Command : enable ddp

  Success.

DGS-1100-24P/ME:admin#
```

disable ddp	
Purpose	To disable DDP support of the switch.
Syntax	**disable ddp**
Description	The **disable ddp** command disables DDP support of the switch.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable DDP support

```
DGS-1100-24P/ME:admin#disable ddp
Command : disable ddp

   Success.

DGS-1100-24P/ME:admin#
```

config ddp report_time

Purpose	To set the interval between two consecutive DDP report messages.
Syntax	**config ddp report_time [30 | 60 | 90 | 120 | never]**
Description	The **config ddp report_time** command configures report period of the switch.
Parameters	*30* – Set report interval to 30 seconds. *60* – Set report interval to 60 seconds. *90* – Set report interval to 90 seconds. *120* – Set report interval to 120 seconds. *never* – Set report interval to Never, the switch stops sending report message.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set DDP report time to 60

```
DGS-1100-24P/ME:admin#config ddp report_time 60
Command : config ddp report_time 60

   Success.

DGS-1100-24P/ME:admin#
```

show ddp

Purpose	To display DDP setting of the switch.
Syntax	**show ddp**
Description	The **show ddp** command displays DDP settings of the switch.
Parameters	None.
Restrictions	None.

Example usage:

To display DDP settings

```
DGS-1100-24P/ME:admin#show ddp
Command : show ddp

  DDP status            : Enabled
  DDP report timer      : 60

DGS-1100-24P/ME:admin#
```

28

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 system	trap_state [enable | disable]
config poe ports	[all | portlist <portlist>]{ state [enable | disable] | time_range [name <range_name 8> | clear] | priority [critical | high | low] | power_limit [auto | class_1| class_2 | class_3| class_4| user_define <value m - n>]}(1)
show poe system	
show poe ports	{ port_list <portlist>}

Each command is listed in detail, as follows:

config poe system	
Purpose	To configure PoE system-wise function and port settings.
Syntax	**config poe system trap_state [enable | disable]**
Description	To configure PoE system-wise function.
Parameters	*trap_state[enable* | *disable]* – To specify if the PoE trap was sent.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the PoE system:

```
DGS-1100-24P/ME:admin#config poe system trap_state enable
Command : config poe system trap_state enable

  Success.

DGS-1100-24P/ME:admin#
```

config poe ports

Purpose	To configure PoE system-wise function and port settings.
Syntax	**config poe ports [all | portlist <portlist>] { state [enable | disable] | time_range [name <range_name 8> | clear] | priority [critical | high | low] | power_limit [auto | class_1| class_2 | class_3| class_4| user_define <value m - n>]}(1)**
Description	To configure PoE port settings.
Parameters	*[all* | *portlist <portlist>]* – Specifies PoE ports to be used on the switch. *state [enable* | *disable]* - When the state is set to disable, power will not be supplied to the powered device connected to this port. *time_range[name<range_name 8>* | *clear]* - Specifies the time range that applies to the port of the PoE. *priority [critical* | *high* | *low]* - Port priority determines the priority level for when the system attempts to supply the power to the port. There are three levels of priority that can be selected, critical, high, and low. When multiple ports happen to have the same level of priority, the port ID will be used to determine the priority. The lower port ID has higher priority. The setting of priority will affect the ordering of supplying power. Whether the disconnect method is set to deny low priority ports, priority of the port will be used by the system to manage the power supply to the ports. *power_limit [auto* | *class_1* | *class_2* | *class_3* | *class_4* | *user_define <value m-n>]* - Specifies the per-port power limit. If a port exceeds its power limit, it will be shut down. Based on the industry standard, 802.3af, there are 5 kinds of PD classes, class 1, class 2, class 3, and class 4. The power consumption ranges for them are 0.44~12.95W, 0.44~3.84W, 3.84~6.49W, 6.49~12.95W, and 12.95~29.5W, respectively. The five pre-defined settings are for the users' convenience: The following is the power limit applied to the port for these four classes. For each class, the power limit is a little more than the power consumption range for the class. This takes the factor of the power loss on cable into account. Thus, the following are the typical values defined by the chip vendor. *class_1* - 15400mW *class_2* - 4000mW *class_3* - 7000mW *clase_4* - 15400mW *user_define <value m-n>* - Other than these four pre-defined settings, the users can directly specify any value that the chip supports. Normally, the minimum setting is 1000mW, and the maximum setting is 15400mW for 802.3af and greater or equal to 35000mW for 802.3at.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure the PoE port:

```
DGS-1100-24P/ME:admin#config poe ports portlist 1-4 state enable priority high
Command : config poe ports portlist 1-4 state enable priority high

   Success.

DGS-1100-24P/ME:admin#
```

show poe system

Purpose	This command is used to display the settings and actual values of the whole PoE system.
Syntax	**show poe system**
Description	This command is used to display the settings and actual values of the whole PoE system.
Parameters	None.
Restrictions	None.

Example usage:

To show PoE system information:

```
DGS-1100-24P/ME:admin#show poe system
Command:   show poe system

   PoE System Information
   -------------------------------------
   Delivered (W)          : 6553.5(W)
   Power Budget(W)        : 100(W)
   Trap State             : Disabled

DGS-1100-24P/ME:admin#
```

show poe ports

Purpose	This command is used to display the settings and actual values of the PoE port.
Syntax	**show poe ports { port_list <portlist>}**
Description	Displays the settings and actual values of the PoE port. **Note**: For the PoE Status table, if the classification was shown as "Legacy PD", it will be classified to non-AF PD or Legacy PD.
Parameters	*port_list <portlist>* - Specifies a list of ports to be displayed.
Restrictions	None.

Example usage:

To show PoE port information:

```
DGS-1100-24P/ME:admin#show poe ports port_list 2-4
Command : show poe ports port_list 2-4

  Port   Status     Class      Max (W)     Used (W)
         State      Priority   Power Limit Time Profile
  ================================================
   2     Searching  Auto       0.0         0.0
         Disabled   Low        Auto

   3     Searching  Auto       0.0         0.0
         Disabled   Low        Auto

   4     Searching  Auto       0.0         0.0
         Disabled   Low        Auto

DGS-1100-24P/ME:admin#
```

29

SURVEILLANCE VLAN COMMANDS

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

Command	Parameter
enable surveillance_vlan	[name <vlan_name 8> | vlanid <vlanid 1-4094>]
disable surveillance_vlan	
config surveillance_vlan priority	<0-7>
config surveillance_vlan aging_time	<min 1-65535>
config surveillance_vlan oui	[add | delete] mac <macaddr> mask <macmask> { component_type [vms | vms_client | video_encoder | network_storage | other] {description <desc 8>}}
show surveillance_vlan global	
show surveillance_vlan oui	
show surveillance_vlan device	[ports <portlist> | all]

Each command is listed in detail, as follows:

enable surveillance_vlan	
Purpose	Enables the global Surveillance VLAN function.
Syntax	**enable surveillance_vlan [name <vlan_name 8> | vlanid <vlanid 1-4094>]**
Description	Enables the global Surveillance VLAN function on a switch. To enable the Surveillance VLAN, the Surveillance VLAN must be assigned a name and there must be an existing static 802.1Q VLAN.
Parameters	*name <vlan_name 32>* - The name of the surveillance VLAN *vlanid <vlanid 1-4094>* - The VLAN ID of the surveillance VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable surveillance vlan with vlanid 3:

```
DGS-1100-24P/ME:admin#enable surveillance_vlan vlanid 3
Command : enable surveillance_vlan vlanid 3

   Success.

DGS-1100-24P/ME:admin#
```

disable surveillance_vlan

Purpose	Disables the global Surveillance VLAN function.
Syntax	**disable surveillance_vlan**
Description	To disable the Surveillance VLAN function on a switch. Whenever the surveillance VLAN function is disabled then the Surveillance VLAN will be unassigned.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable surveillance vlan:

```
DGS-1100-24P/ME:admin#disable surveillance_vlan
Command : disable surveillance_vlan

   Success.

DGS-1100-24P/ME:admin#
```

config surveillance_vlan priority

Purpose	Configures the priority of the Surveillance VLAN.
Syntax	**config surveillance_vlan priority <0-7>**
Description	The Surveillance VLAN priority will be the priority associated with the Surveillance VLAN traffic to distinguish the QoS of the surveillance traffic from the data traffic.
Parameters	<*0-7*> - The priority of the surveillance VLAN, the range is 0 – 7. The default priority is 5.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the surveillance priority 5:

```
DGS-1100-24P/ME:admin#config surveillance_vlan priority 5
Command : config surveillance_vlan priority 5

   Success.

DGS-1100-24P/ME:admin#
```

config surveillance_vlan aging_time

Purpose	Configures Surveillance VLAN aging time.
Syntax	**config surveillance_vlan aging_time <min 1-65535>**
Description	To set the aging time of the Surveillance VLAN. The aging time is used to remove a port from the Surveillance VLAN if the port is an automatic Surveillance VLAN member. When the last surveillance device stops sending traffic and the MAC address of this surveillance device is aged out, the Surveillance VLAN aging timer will be started. The port will be removed from the Surveillance VLAN after expiration of Surveillance VLAN aging timer. If the surveillance traffic resumes during the aging time, the aging timer will be reset and stopped.
Parameters	<*min 1-65535*> - The aging time to set, the range is 1–65535 minutes. The default value is 720 minutes.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the aging time of the Surveillance VLAN to 600 minutes:

```
DGS-1100-24P/ME:admin#config surveillance_vlan aging_time 600
Command:    config surveillance_vlan aging_time 600

   Success.

DGS-1100-24P/ME:admin#
```

config surveillance_vlan oui

Purpose	Configures the user-defined OUI of a Surveillance device(s) to be associated with the Surveillance VLAN.
Syntax	**config surveillance_vlan oui [add | delete] mac <macaddr> mask <macmask> { component_type [vms | vms_client | video_encoder | network_storage | other] {description <desc 8>} }**
Description	To configure user-defined surveillance traffic OUI. OUI are used by the switch to identify the surveillance traffic packets. There are a number of pre-defined OUI. The user can further define user-defined OUI if needed. A user-defined OUI cannot be the same as any of the pre-defined OUI. The following are the pre-defined surveillance traffic's OUI:

OUI	Vendor	Mnemonic name
F0:7D:68:0x:xx:xx	D-Link	D-Link IP camera
28:10:7B:00:00:00 ~ 28:10:7B:2F:FF:FF	D-Link	Network camera, Video server, NVR
B0:C5:54:00:00:00~ B0:C5:54:7F:FF:FF	D-Link	Network camera, Video server, NVR

Parameters	*add* - Adds a user-defined OUI of a Surveillance device vendor. *delete* - Deletes a user-defined OUI of a Surveillance device vendor. *mac* <macaddr> - The user-defined OUI MAC address. *mask* <maskaddr> - The user-defined OUI MAC address mask. *component_type [vms|vms_client|video_encoder|network_storage|other]* - There are surveillance components that could be auto-detected by surveillance VLAN. These components are: Video Management Server (VMS), VMS Client, Video Encoder, Network Storage, or other IP Surveillance Devices. *description <desc 8>* - The text description for the user-defined OUI.
Restrictions	Only administrator-level users can issue this command.

Example usage:

Adding a user-defined OUI of a Surveillance device:

```
DGS-1100-24P/ME:admin#config surveillance_vlan oui add mac f0:00:00:00:00:00 mask ff:ff:00:00:00:00 component_type vms description IP-CAM
Command : config surveillance_vlan oui add mac f0:00:00:00:00:00 mask ff:ff:00:00:00:00 component_type vms description IP-CAM

   Success.

DGS-1100-24P/ME:admin#
```

show surveillance_vlan global	
Purpose	Shows the Surveillance VLAN global information
Syntax	**show surveillance_vlan global**
Description	This command is used to show the Surveillance VLAN information.
Parameters	None.
Restrictions	None.

Example usage:

To show surveillance vlan global information:

```
DGS-1100-24P/ME:admin#show surveillance_vlan global
Command : show surveillance_vlan global

  Surveillance VLAN State   : Disabled
  VLAN ID                   : Unassigned
  VLAN Name                 :
  Priority                  : 5
  Aging Time                : 720 minutes.

DGS-1100-24P/ME:admin#
```

show surveillance_vlan oui	
Purpose	Shows the Surveillance VLAN oui information
Syntax	**show surveillance_vlan oui**
Description	This command is used to show the Surveillance VLAN oui information.
Parameters	None.
Restrictions	None.

Example usage:

To show surveillance vlan oui information:

```
DGS-1100-24P/ME:admin#show surveillance_vlan  oui
Command : show surveillance_vlan  oui

  OUI Address         Mask              Component Type          Description
  ------------------------  --------------------  ------------------------------  -----------
  28-10-7b-00-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  28-10-7b-10-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  28-10-7b-20-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-00-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-10-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-20-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-30-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-40-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-50-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-60-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  b0-c5-54-70-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***
  f0-7d-68-00-00-00   ff-ff-ff-f0-00-00  D-Link Device           ***DD***

  Total Entries: 12

DGS-1100-24P/ME:admin#
```

show surveillance_vlan device

Purpose	Shows the Surveillance VLAN device information
Syntax	**show surveillance_vlan device [ports <portlist> | all]**
Description	This command is used to show the Surveillance VLAN device information.
Parameters	*ports <portlist>* - A range of ports to display. *all* - All ports are specified.
Restrictions	None.

Example usage:

To show surveillance vlan device information:

```
DGS-1100-24P/ME:admin#show surveillance_vlan device all
Command: show surveillance_vlan device all

  Ports  Device Address       Component Type                 Start Time
  -------- ------------------------------ ---------------------------------------------- ----------
  --------
  12          C0-A0-BB-75-33-EB     Other IP Surveillance Device   1/1/2000
  00:01:01

DGS-1100-24P/ME:admin#
```

30

VOICE VLAN COMMANDS

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

Command	Parameter
enable voice_vlan	[name <vlan_name 8> | vlanid <vlanid 1-4094>]
disable voice_vlan	
config voice_vlan priority	<0-7>
config voice_vlan aging_time	<min 1-65535>
config voice_vlan oui	[add | delete] mac <macaddr> mask <macmask> { description <desc 8> }
config voice_vlan ports	config voice_vlan ports [list <portlist> | all] [state [enable | disable] | mode [autotagged | autountagged | manual]]
show voice_vlan global	
show voice_vlan oui	
show voice_vlan voice_device	{ports <portlist>}
show surveillance_vlan ports	[list <portlist> | all]

Each command is listed in detail, as follows:

enable voice_vlan	
Purpose	Enables the global Voice VLAN function.
Syntax	**enable voice_vlan [name <vlan_name 8> | vlanid <vlanid 1-4094>]**
Description	To enable the Voice VLAN function on a switch, the Voice VLAN must be assigned a name and there must be an existing static 802.1Q VLAN. To change the Voice VLAN parameters, the user must disable the Voice VLAN function and then re-issue the enable command.
Parameters	*name <vlan_name 8>* - The name of the voice VLAN *vlanid <vlanid 1-4094>* - The VLAN ID of the voice VLAN.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable voice vlan with vlanid 3:

```
DGS-1100-24P/ME:admin#enable voice_vlan vlanid 3
Command : enable voice_vlan vlanid 3

  Success.

DGS-1100-24P/ME:admin#
```

disable voice_vlan

Purpose	Disables the global Voice VLAN function.
Syntax	**disable voice_vlan**
Description	To disable the Voice VLAN function on a switch. Whenever the voice VLAN function is disabled then the Voice VLAN will be unassigned.
Parameters	None.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To disable voice vlan:

```
DGS-1100-24P/ME:admin#disable voice_vlan
Command : disable voice_vlan

  Success.

DGS-1100-24P/ME:admin#
```

config voice_vlan priority

Purpose	Configures the priority of the Voice VLAN.
Syntax	**config voice_vlan priority <0-7>**
Description	The Voice VLAN priority will give priority to the Voice VLAN traffic to distinguish the QoS of the voice traffic from the data traffic.
Parameters	*<0-7>* - The priority of the voice VLAN, the range is 0 – 7. The default priority is 5.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the surveillance priority 5:

```
DGS-1100-24P/ME:admin#config voice_vlan priority 5
Command : config voice_vlan priority 5

   Success.

DGS-1100-24P/ME:admin#
```

config voice_vlan aging_time

Purpose	Configures Voice VLAN aging time.
Syntax	**config voice_vlan aging_time <min 1-65535>**
Description	To set the aging time of the Voice VLAN. If the port is an automatic Voice VLAN member, the aging time will be used to remove a port from the Voice VLAN. The Voice VLAN aging timer will start when the last voice device stops sending traffic and the MAC address of this voice device is timed out, The port will be removed from the Voice VLAN after it expires. When the voice traffic resumes during the aging time, the aging timer will reset and stop.
Parameters	*<min 1-65535>* - The aging time to set, the range is 1–65535 minutes. The default value is 720 minutes.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To set the aging time of the Voice VLAN to 600 minutes:

```
DGS-1100-24P/ME:admin#config voice_vlan aging_time 600
Command : config voice_vlan aging_time 600

   Success.

DGS-1100-24P/ME:admin#
```

config voice_vlan oui

Purpose	Configures the user-defined OUI of a Voice device(s) to be associated with the Voice VLAN.
Syntax	config voice_vlan oui [add | delete] mac <mac_address> mask < addr_mask> {description <desc 8> }
Description	To configure user-defined voice traffic OUIs. OUIs are used by the switch to identify the voice traffic packets. There are a number of pre-defined OUIs. The user can further define user-defined OUIs if needed. A user-defined OUI cannot be the same as any of the pre-defined OUIs. The following are the pre-defined voice traffic's OUIs:

OUI	Vendor	Mnemonic name
00:E0:BB	3COM	3com
00:03:6B	Cisco	cisco
00:E0:75	Veritel	veritel
00:D0:1E	Pingtel	pingtel
00:01:E3	Siemens	siemens
00:60:B9	NEC/Philips	nec&philips
00:0F:E2	Huawei-3COM	huawei&3com
00:09:6E	Avaya	avaya

Parameters	*add* - Adds a user-defined OUI of a Voice device vendor. *delete* - Deletes a user-defined OUI of a Voice device vendor. *mac* <macaddr> - The user-defined OUI MAC address. *mask* <maskaddr> - The user-defined OUI MAC address mask. *description<desc 8>* - The text description for the user-defined OUI.
Restrictions	Only administrator-level users can issue this command.

Example usage:

Adding a user-defined OUI of a Voice device:

```
DGS-1100-24P/ME:admin#config voice_vlan oui add mac e0:00:00:00:00:00 mask ff:ff:ff:ff:00:00 description TEST001
Command : config voice_vlan oui add mac e0:00:00:00:00:00 mask ff:ff:ff:ff:00:00 description TEST001

   Success.

DGS-1100-24P/ME:admin#
```

config voice_vlan ports

Purpose	Configures Voice VLAN aging time.
Syntax	**config voice_vlan ports [list <portlist> | all] [state [enable | disable] | mode [autotagged | autountagged | manual]]**
Description	This command is used to configure the Voice VLAN setting on the Switch.
Parameters	*list <portlist>* - A range of ports to set.

	all - All ports are specified. *state[enable | disable]* – To enable/disable Voice VLAN function on the ports specified.The default state is disabled. *mode* - Specify the port voice VLAN mode to manual. When the switch receives LLDP-MED packets, it checks the VLAN ID, tagged flag and priority flag.The switch should follow the tagged flag and priority setting. By default, the mode is auto untagged. *manual* - Under the manual mode, a learnt voice device will not cause the port join to voice VLAN automatically. *autotag* - Specify the port to join the voice VLAN as tagged member. When the port is working in auto tagged mode, and learns about a voice device through the device's OUI, it will join the voice VLAN as a tagged member automatically. When the voice device sends voice VLAN tagged packets, the switch will change its priority. When the voice device sends untagged packets, it will forward them to port's PVID VLAN. *autountag* - Specify the port to join the voice VLAN as an untagged member. When the port is working in auto untagged mode, and the port captures a voice device through the device's OUI, it will join the voice VLAN as an untagged member automatically. When the voice device sends voice VLAN, tagged packets, the switch will change its priority. Should the voice device send untagged packets, the switch will assign priority to those and add the voice VLAN ID into this packet
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable Voice VLAN on ports 4-6:

```
DGS-1100-24P/ME:admin#config voice_vlan ports list 4-6 state enable
Command : config voice_vlan ports list 4-6 state enable

   Success.

DGS-1100-24P/ME:admin#
```

To set the Voice VLAN mode of ports 3-5 to autotag:

```
DGS-1100-24P/ME:admin#config voice_vlan ports list 3-5 mode autotagged
Command : config voice_vlan ports list 3-5 mode autotagged

   Success.

DGS-1100-24P/ME:admin#
```

show voice_vlan global	
Purpose	Shows the Surveillance VLAN global information
Syntax	**show surveillance_vlan global**
Description	This command is used to show the Surveillance VLAN information.
Parameters	None.
Restrictions	None.

Example usage:

To show voice vlan global information:

```
DGS-1100-24P/ME:admin#show voice_vlan global
Command : show voice_vlan global

  Voice VLAN State  : Enabled
  VLAN ID           : VLAN3
  VLAN Name         : VLAN0003
  Priority          : 7
  Aging Time        : 600 minutes

DGS-1100-24P/ME:admin#
```

show voice_vlan oui	
Purpose	Shows the Voice VLAN oui information
Syntax	**show voice_vlan oui**
Description	This command is used to show the Voice VLAN oui information.
Parameters	None.
Restrictions	None.

Example usage:

To show voice vlan oui information:

```
DGS-1100-24P/ME:admin#show voice_vlan  oui
Command:    show voice_vlan  oui

  OUI Address          Mask              Description
  -------------------------   ----------------------   ------------------
  00-01-e3-00-00-00    ff-ff-ff-00-00-00    Siemens
  00-03-6b-00-00-00    ff-ff-ff-00-00-00    Cisco
  00-09-6e-00-00-00    ff-ff-ff-00-00-00    Avaya
  00-0f-e2-00-00-00    ff-ff-ff-00-00-00    Hua-3COM
  00-60-b9-00-00-00    ff-ff-ff-00-00-00    NEC/Phil
  00-d0-1e-00-00-00    ff-ff-ff-00-00-00    Pingtel
  00-e0-75-00-00-00    ff-ff-ff-00-00-00    Veritel
  00-e0-bb-00-00-00    ff-ff-ff-00-00-00    3COM
  e0-00-00-00-00-00    ff-ff-ff-ff-00-00    TEST001

 Total Entries: 9

DGS-1100-24P/ME:admin#
```

show voice_vlan voice_device

Purpose	Shows the Voice VLAN device information.
Syntax	**show voice_vlan voice_device [ports <portlist> | all]**
Description	This command is used to show the Voice VLAN device information.
Parameters	<portlist>: A range of ports to display.
Restrictions	None.

Example usage:

To show voice vlan device all information:

```
DGS-1100-24P/ME:admin#show voice_vlan voice_device all
Command: show voice_vlan  voice_device all

  Ports  Device Address          Start Time
  --------  ---------------------------      -------------------------
  9       EC-F4-BB-20-56-D8    1/1/2000 04:57:05

DGS-1100-24P/ME:admin#
```

show voice_vlan ports	
Purpose	Shows the Voice VLAN ports information.
Syntax	**show voice_vlan ports [list <portlist> | all]**
Description	This command is used to show the Voice VLAN ports information.
Parameters	*list <portlist>* - A range of port to display. *all* - All ports are specified.
Restrictions	None.

Example usage:

To show voice vlan device all information:

```
DGS-1100-24P/ME:admin#show voice_vlan ports list 2-4
Command : show voice_vlan ports list 2-4

  Ports   Status      Mode
  -------   -------------   ------------
  2       Disabled    Auto Untagged
  3       Disabled    Auto Untagged
  4       Enabled     Auto Untagged

DGS-1100-24P/ME:admin#
```

31

DOS ATTACK PREVENTION COMMANDS

The DoS 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 state [enable | disable] | blat_attack state [enable | disable] | tcp_null_scan state [enable | disable] | tcp_xmascan state [enable | disable] | tcp_synfin state [enable | disable] | tcp_syn_srcport_less_1024 state [enable | disable] | ping_death_attack state [enable | disable]} (1) | all state [enable | disable]]
show dos_prevention	{land_attack | blat_attack | tcp_null_scan | tcp_xmascan | tcp_synfin | tcp_syn_srcport_less_1024 | ping_death_attack }

Each command is listed in detail, as follows:

config dos_prevention

Purpose	To prevent the DoS attack on the Switch.
Syntax	**config dos_prevention [dos_type {land_attack state [enable | disable] | blat_attack state [enable | disable] | tcp_null_scan state [enable | disable] | tcp_xmascan state [enable | disable] | tcp_synfin state [enable | disable] | tcp_syn_srcport_less_1024 state [enable | disable] | ping_death_attack state [enable | disable]} (1) | all state [enable | disable]]**
Description	This command configures the prevention of each DoS attack. The packet matching will be done by hardware. For a specific type of attack, the content of the packet will be matched against a specific pattern. Note: the DoS type is project dependant.
Parameters	*dos_type* –The type of DoS attack. Possible values are as follows: land_attack, blat_attack, tcp_null_scan, tcp_xmascan, tcp_synfin, tcp_syn_srcport_less_1024, ping_death_attack. *state [enable | disable]* – enable and disable DoS attack prevention on the Switch.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To configure DoS attack prevention on the switch:

```
DGS-1100-24P/ME:admin#config dos_prevention dos_type land_attack
state enable
Command : config dos_prevention dos_type land_attack state enable

  Success.

DGS-1100-24P/ME:admin#
```

show dos_prevention

Purpose	To show the DoS prevention information on the switch.
Syntax	**show dos_prevention {land_attack | blat_attack | tcp_null_scan | tcp_xmascan | tcp_synfin | tcp_syn_srcport_less_1024 | ping_death_attack }**
Description	This command displays the DoS prevention information on the switch.
Parameters	None.
Restrictions	None.

Example usage:

To configure DoS attack prevention on the switch:

```
DGS-1100-24P/ME:admin#show dos_prevention
Command : show dos_prevention

  DoS Type                          State      Action
  ----------------------------------------  --------------  ---------
  Land Attack                        Enabled    Drop
  Blat Attack                        Disabled   Drop
  TCP Null Scan                      Disabled   Drop
  TCP Xmascan                        Disabled   Drop
  TCP SYNFIN                         Disabled   Drop
  TCP SYN SrcPort Less 1024          Disabled   Drop
  Ping Death Attack                  Disabled   Drop

DGS-1100-24P/ME:admin#
```

32

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> {type [lacp | static]}
delete link_aggregation	group_id <value>
config link_aggregation	group_id <value> ports <portlist>
show link_aggregation	{group_id <value>}

Each command is listed in detail, as follows:

create link_aggregation	
Purpose	To create a link aggregation group on the Switch.
Syntax	**create link_aggregation group_id <value> {type [lacp | static]}**
Description	The **create link_aggregation** command creates a link aggregation group with a unique identifier.
Parameters	*group_id* <*value*> − Specifies the group ID. The group number identifies each of the groups. *type* – Specify the type of link aggregation used for the group. If the type is not specified, the default type is static. • *lacp* – This designates 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 amount ports that can be configured in the same LACP are 8. • *static* – This designates the aggregated port group as static. Static port groups cannot 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
Restrictions	Only administrator-level users can issue this command.

Example usage:

To create a link aggregation group:

```
DGS-1100-24P/ME:admin# create link_aggregation group_id 1
Command : create link_aggregation group_id 1

   Success.

DGS-1100-24P/ME:admin#
```

delete link_aggregation

Purpose	To delete a previously configured link aggregation group.
Syntax	**delete link_aggregation group_id <value>**
Description	The **delete link_aggregation** group_id command deletes a previously configured link aggregation group.
Parameters	*group_id* <*value* > − Specifies the group ID. The group number identifies each of the groups.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To delete link aggregation group:

```
DGS-1100-24P/ME:admin# delete link_aggregation group_id 1
Command : delete link_aggregation group_id 1

   Success.

DGS-1100-24P/ME:admin#
```

config link_aggregation

Purpose	To configure a previously created link aggregation group.
Syntax	**config link_aggregation group_id <value> ports <portlist>**
Description	The **config link_aggregation** command configures a link aggregation group created with the **create link_aggregation** command above.
Parameters	*group_id* <*value*> − Specifies the group ID. The group number identifies each of the groups. *ports* <*portlist*> − Specifies a list of ports to belong to the link aggregation group.
Restrictions	Only administrator-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-1100-24P/ME:admin#config link_aggregation group_id 2 ports 1-5
Command : config link_aggregation group_id 2 ports 1-5

  Success.

DGS-1100-24P/ME:admin#
```

show link_aggregation

Purpose	To display the current link aggregation configuration on the Switch.
Syntax	**show link_aggregation {group_id <value> }**
Description	The **show link_aggregation** command displays the current link aggregation configuration of the Switch.
Parameters	*group_id* <*value*> − Specifies the group ID. The group number identifies each of the groups.
Restrictions	None.

Example usage:

To display Link Aggregation configuration:

```
DGS-1100-24P/ME:admin# show link_aggregation
Command : show link_aggregation

  Group ID       : 2
  Type           : Static
  Member Port    : 1-5
  Active Port    :

DGS-1100-24P/ME:admin#
```

33

LACP COMMANDS

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

Command	Parameter
show lacp	{ports <portlist>}
config lacp_ports	<portlist> mode [active | passive]

Each command is listed in detail, as follows:

show lacp	
Purpose	To display current LACP port mode settings.
Syntax	**show lacp {ports <portlist>}**
Description	The **show lacp** command displays the current LACP mode settings.
Parameters	*ports <portlist>* - A port or range of ports whose LACP settings will 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-1100-24P/ME:admin#show lacp ports 1-3
Command : show lacp ports 1-3

  Port   Activity
  -------  ------------
  1        Passive
  2        Passive
  3        Passive

DGS-1100-24P/ME:admin#
```

config lacp_ports	
Purpose	To configure settings for LACP compliant ports.
Syntax	**config lacp_ports <portlist> mode [active | passive]**
Description	The **config lacp_ports** command is used to configure ports that have been previously designated as LACP ports.
Parameters	*<portlist>* – Specifies a port or range of ports to be configured. *mode* – Select the mode to determine if LACP ports will process LACP control frames. • *active* – 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 designate LACP ports as active. Both devices must support LACP. • *passive* – LACP ports that are designated 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).
Restrictions	Only administrator-level users can issue this command.

Example usage:

To display LACP information for port1~3:

```
DGS-1100-24P/ME:admin#config lacp_port 1-3 mode active
Command : config lacp_port 1-3 mode active

   Success.

DGS-1100-24P/ME:admin#
```

34

EEE

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

Command	Parameter
config eee	[portlist <portlist> | all] state [enable | disable]
show eee	{portlist <portlist>}

Each command is listed in detail, as follows:

config eee	
Purpose	Used to configure eee function on the switch.
Syntax	**config eee [portlist <portlist> | all] state [enable | disable]**
Description	The **config eee** command is used to enable/disable the eee function on special port(s) on the switch. **Note**: The EEE feature is only supported on the copper ports on all DGS-1100/ME Series switches.
Parameters	*portlist* <*portlist*> - Specified a range of ports to be configured. (UnitID: port number). *all* - For set all ports in the system, you may use “all” parameter. *state* - Specified the eee state. The default state is disabled. *enable:* Enable the eee function on the special port. *disable:* Disable the eee function on the special port.
Restrictions	Only administrator-level users can issue this command.

Example usage:

To enable eee in port 3:

```
DGS-1100-24P/ME:config eee portlist 3 state enable
Command : config eee portlist 3 state enable

  Success.

DGS-1100-24P/ME:admin#
```

show eee	
Purpose	Used to show the eee function state on special port(s).
Syntax	**show eee {portlist <portlist>}**
Description	The show eee command is used to display the eee function state on the special port(s)
Parameters	*portlist* <*portlist*> − Specifies a port or range of ports to be displayed.
Restrictions	None.

Example usage:

To show eee state of port 2-10:

```
DGS-1100-24P/ME:admin#show eee portlist 2-10
Command : show eee portlist 2-10

  Port  EEE state
  ------  ---------
  2       disable
  3       disable
  4       disable
  5       disable
  6       disable
  7       disable
  8       disable
  9       disable
  10      disable

DGS-1100-24P/ME:admin#
```

35

APPENDIX A - ETHERNET TECHNOLOGY SAMPLE COMMANDS

This chapter will describe the features of the D-Link Switch and provide some background information about Ethernet/Fast Ethernet/Gigabit Ethernet switching technology.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, and management objects, but with a tenfold increase in theoretical throughput of over 100-Mbps Fast Ethernet and a hundredfold increase over 10-Mbps Ethernet. Since it is compatible with all 10-Mbps and 100-Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting existing investments in hardware, software, or trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to help solving network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources. Upgrading key components, such as backbone connections and servers to Gigabit Ethernet technology can greatly improve network response times as well as significantly speed up the traffic between subnets.

Gigabit Ethernet enables fast optical fiber connections to support video conferencing, complex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet NIC's are able to perform 10 times the number of operations in the same amount of time.

In addition, the phenomenal bandwidth delivered by Gigabit Ethernet is the most cost-effective method to take advantage of today and tomorrow's rapidly improving switching and routing internetworking technologies. Expected advances in the coming years in silicon technology and digital signal processing will enable Gigabit Ethernet to eventually operate over unshielded twisted-pair (UTP) cabling. Outfitting your network with a powerful 1000-Mbps-capable backbone/server connection will create a flexible foundation for the next generation of network technology products and allow you to stay one step ahead of the trend.

Fast Ethernet Technology

The growing importance of LANs and the increasing complexity of desktop computing applications are fueling the need for high performance networks. A number of high-speed LAN technologies have been proposed to provide greater bandwidth and improve client/server response times. Among them, 100BASE-T (Fast Ethernet) provides a non-disruptive, smooth evolution from the current 10BASE-T technology. The non-disruptive and smooth evolution nature, and the dominating potential market base, virtually guarantees cost-effective and high performance Fast Ethernet solutions.

100Mbps Fast Ethernet is a standard specified by the IEEE 802.3 LAN committee. It is an extension of the 10Mbps Ethernet standard with the ability to transmit and receive data at 100Mbps, while maintaining the CSMA/CD Ethernet protocol. Since the 100Mbps Fast Ethernet is compatible with all other 10Mbps Ethernet environments, it provides a straightforward upgrade and utilizes existing investments in hardware, software, and personnel training.

Switching Technology

Another approach to push beyond the limits of Ethernet technology is the development of switching technology. A switch bridges Ethernet packets at the MAC address level of the Ethernet protocol, transmitting among connected Ethernet or Fast Ethernet LAN segments.

Switching is a cost-effective way of increasing the total network capacity available to users on a local area network. A switch increases capacity and decreases network loading by dividing a local area network into different segments which won't compete with each other for network transmission capacity.

The switch acts as a high-speed selective bridge between the individual segments. The switch, without interfering with any other segments, automatically forwards traffic that needs to go from one segment to another. By doing this the total network capacity is multiplied, while still maintaining the same network cabling and adapter cards.

36

APPENDIX B - TECHNICAL SPECIFICATIONS

Hardware Specifications

Key Components / Performance

- Switching Capacity:
  - DGS-1100-16/ME: 32Gbps
  - DGS-1100-18/ME: 36Gbps
  - DGS-1100-24/ME: 48Gbps
  - DGS-1100-26/ME : 52 Gbps
  - DGS-1100-24P/ME : 48Gbps
- Max. Forwarding Rate:
  - DGS-1100-16/ME: 23.81Mpps
  - DGS-1100-18/ME: 26.79Mpps
  - DGS-1100-24/ME: 35.71Mpps
  - DGS-1100-26/ME: 38.69Mpps
  - DGS-1100-24P/ME: 35.71Mpps
- Forwarding Mode: Store and Forward
- Packet Buffer memory:
  - DGS-1100-16/ME: 512Kbits
  - DGS-1100-18/ME: 1.5Mbits
  - DGS-1100-24/ME: 512Kbits
  - DGS-1100-26/ME: 1.5Mbits
  - DGS-1100-24P/ME: 512Kbits
- Flash Memory: 8M Byte

Port Functions

- 10/100/1000BaseTX ports compliant with the following standards:
  - IEEE 802.3 compliance
  - IEEE 802.3u compliance
  - IEEE 802.3ab compliance
  - IEEE802.3at (Only DGS-1100-24 Port 1 ~ Port 12)
  -Supports Full/half-Duplex operations at 10/100Mbps
  -Supports Full-Duplex operation at 1000Mbps
  -Supports IEEE 802.3x Flow Control
  -Support Auto-Negotiation
  -Compliant to IEEE 802.3az Energy Efficiency Ethernet.
- SFP ports compliant with the following standards:
  - IEEE 802.3u compliance
  - IEEE 802.3z compliance

Physical & Environment

- DGS-1100/ME: AC input, 100~240 VAC, 50/60Hz, internal universal power supply
- Acoustic Value:
  - DGS-1100-16/ME, 18/ME, 24/ME, 26/ME: 0dB(A) (Fan-less)
  - DGS-1100-24P/ME: 27.6 dB(A)
- Operation Temperature 0~50°C
- Storage Temperature -10~70°C
- Operation Humidity: 10%~95% RH
- Storage Humidity: 5%~95% RH

Emission (EMI) Certifications

- FCC class A
- CE Class A
- VCCI Class A
- BSMI
- CCC

Safety Certifications

- CUL, LVD, CB, CCC, BSMI

Features

L2 Features

- DGS-1100-16/ME, 24/ME, 24P/ME: 8K MAC address.
- DGS-1100-18/ME, 26/ME: 16K Mac address
- Loopback Detection
- Port Mirroring
- Link Aggregation
- Cable Diagnostics
- Spanning Tree

L2 Multicasting

- IGMP Snooping
- MLD Snooping

VLAN

- 802.1Q VLAN standard
- Surveillance VLAN
- Voice VLAN:
- Multicast VLAN
- Asymmetric VLAN

QoS (Quality of Service)

- 802.1p priority,
- 4 queues
- Bandwidth Control

Security

- Storm Control
- DoS Attack Prevention
- D-Link Safeguard

Management

- Telnet or D-Link Network Assistant
- Configuration backup / restoration via Telnet interface (CLI)
- Firmware backup & upgrade via Telnet interface (CLI)
- Reset, Reboot system
- Factory reset by pressing reset button
- SNMP, LLDP, Dual Image, 2 level user account, SNTP, Mirror

Power Saving

- IEEE 802.3az Compliant (Energy Efficient Ethernet)
- D-Link Green Technologies
  - Power saving by link status
  - Power Saving by LED Shut-Off:
  - Power Saving by Port Shut-Off
  - Power Saving by System Hibernation

37

APPENDIX C – RACK MOUNT INSTRUCTIONS

Safety Instructions - Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)