NETGEAR®

Lite CLI Reference Manual

Smart Switches with Optional Remote/Cloud Management

XS508TM, XS516TM, and XS724TM

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Trademarks

Revision History

Publication Part Number	Publish Date	Comments
202-12824-01	January 2025	We added model XS724TM.
202-12753-01	August 2024	Initial publication. **NOTE** Because this manual describes a light version of the CLI, only a selection of CLI commands is documented. The selection consists of essential CLI commands.

Table of Contents

How to Use the CLI

The command-line interface (CLI) is a text-based way to manage and monitor the system. You can access the CLI by using a direct serial connection, or by using a remote logical connection with telnet or SSH.

NOTE: Because this manual describes a light version of the CLI, only a selection of CLI commands is documented. The selection consists of essential CLI commands.

Command syntax

A command is one or more words that might be followed by one or more parameters. Parameters can be required or optional values.

Some commands, such as **show version** and **clear arp-cache**, do not require parameters. Other commands, such as the **show interfaces status** <*slot/port*> command, require that you supply a value for the <*slot/port*> parameter. You must type the parameter values in a specific order, and optional parameters follow required parameters.

The following example describes the **show interfaces status** <*slot/port*> command syntax:

- **show interfaces** is the command name.
- **status** is an optional keyword, so you are not required to enter a value in place of the keyword.
- <*slot/port*> is the parameter and represents a required value (or *one* of the required values) that you must enter after you type the command keywords.

This manual lists each command by the command name and provides a brief description of the command ("Usage"). Each command reference also contains the following information:

- **Syntax**: The order of the command, the required and optional keywords, and the required and optional parameters.
- **Parameter**: The keywords and parameters with a description. The show commands also include a description of the information that the command shows.
- **Default**: The default value, if any, of a configurable setting on the device.
- **Mode**: The command mode you must be in to access the command.
- **Usage**: The usage and purpose of the command.
- **Example**: One or more command examples.

Command conventions

The parameters for a command might include mandatory values, optional values, or keyword choices. Parameters are order-dependent. The following table describes the conventions this manual uses to distinguish between value types.

Symbol	Example	Description
italic font	*value* or [*value*]	Indicates a variable value. You must replace the italicized text, which can be placed within curly brackets or square brackets, with an appropriate value, which might be a name or number.
[ ] square brackets	[keyword]	Indicates an optional parameter.
{ } curly braces	{choice1 | choice2}	Indicates that you must select a parameter from the list of choices.
| Vertical bars	choice1 | choice2	Separates the mutually exclusive choices.
[{ }] Braces within square brackets	[{choice1 | choice2}]	Indicates a choice within an optional element. This format is used mainly for complicated commands.

'no' form of a command

The **no** keyword is a specific form of an existing command and does not represent a new or distinct command. Almost every configuration command has a no form. In general, use the no form to reverse the action of a command or reset a value back to the default.
For example, the **no shutdown** configuration command reverses the shutdown of an interface. Use the command without the **no** keyword to reenable a disabled feature or to enable a feature that is disabled by default. Only the configuration commands are available in the no form.

'show' commands

Most show commands can be issued from any configuration mode, for example, Global Configuration or Interface Configuration. The show commands provide information about system and feature-specific configuration, status, and statistics.

Access the CLI

You can access the CLI over a secure shell (SSH) connection from a computer that is directly connected to an Ethernet port on the switch or remotely connected to the same network that the switch is connected to.
You need to install an SSH client program on your computer. Examples of SSH clients are applications such as PuTTY and WinSCP, both of which are available on the Internet free of charge.
You cannot access the switch remotely until the switch has an IP address, subnet mask, and default gateway configured. For information about setting up the switch, see the installation guide and user manual.

Command completion and abbreviation

Command completion finishes spelling the command when you have entered enough letters to uniquely identify the command. Once you have entered enough letters, press the SPACEBAR or TAB key to complete the word.

Command abbreviation allows you to execute a command when you have entered there are enough letters to uniquely identify the command. You must enter all of the required keywords and parameters before you enter the command.

CLI line-editing conventions

The following table describes the key combinations you can use to edit commands or increase the speed of command entry:

Key Sequence	Description
DEL or Backspace	Delete previous character.
Ctrl-A	Go to beginning of line.
Ctrl-E	Go to end of line.
Ctrl-F	Go forward one character.
Ctrl-B	Go backward one character.
Ctrl-D	Delete current character.
Ctrl-U	Delete to beginning of line.
Ctrl-K	Delete to end of line.
Ctrl-W	Delete the previous word.
Ctrl-P	Go to previous line in history buffer.
Ctrl-R	Searches backwards through the history for a string that is typed interactively.
Ctrl-N	Go to next line in history buffer.
Ctrl-Z	Return to root command prompt.
Tab	Command-line completion.
Exit	Go to next lower command prompt.
?	List available commands, keywords, or parameters.

CLI Modes and Common Commands

The CLI groups commands into modes according to the command function. Each of the command modes supports specific commands. The commands in one mode are not available until you enter that specific mode. The only exception are the User EXEC mode commands, which you execute in either the User EXEC mode or the Privileged EXEC mode.

The command prompt changes in each command mode to help you identify the current mode. The following table describes the command modes and the prompts visible in that mode.

Command Mode	Prompt	Mode Description
User Exec	Switch>	Contains a limited set of commands to view basic system information.
Privileged EXEC	Switch#	Let's you issue any EXEC command or enter the Global Configuration mode.
Global Configuration	Switch (Config)#	Groups general setup commands and permits you to make modifications to the running configuration.
VLAN Configuration	Switch (Config) (Vlan)#	Groups all the VLAN commands together.
Interface Configuration	Switch (Interface *id*)#	Manages the operation of one or more interfaces, LAGs, or both.
Line Configuration	Switch (Config-ssh)#	Contains commands to configure SSH authentication.

How to enter or exit a command mode

The following table describes how to enter or exit each mode.

Command Mode	Access Method	Exit or Access Previous Mode
User Exec	From the Privileged EXEC mode, enter **exit**.	To return to the Privileged EXEC mode, enter **enable** and leave the password blank.
Privileged EXEC	This is the default mode when you log in to the CLI. If in User ECEX mode, enter **enable** and leave the password blank	To exit to the User EXEC mode, enter **exit**.

Global Configuration	From the Privileged EXEC mode, enter **configure** or just **config**.	To exit to the Privileged EXEC mode, enter **exit**, or press **Ctrl-Z**.
VLAN Configuration	From the Global Configuration mode, enter **vlan** with a VLAN ID	To exit to the Global Configuration mode, enter **exit**. To return to the Privileged EXEC mode, enter **Ctrl-Z**.
Interface Configuration	From the Global Configuration mode, enter **interface** with an interface number, an interface range, or a LAG number	
Line Configuration	From the Global Configuration mode, enter **line ssh**.	

Common commands

When you log in to the CLI, you enter the Privileged EXEC mode, in which the CLI prompt displays as follows:

```
Switch#
```

The Privileged EXEC mode is the base mode from which you can enter other CLI modes.

enable

Syntax	enable
Parameter	
Default	No default value.
Mode	User EXEC
Usage	Use this command to enter Privileged EXEC mode. A password is not required. In Privileged EXEC mode, the prompt displays as follows with a number sign (#): `Switch#`

Example	This example shows how to enter Privileged EXEC mode (a password is not required):
	
	`Switch> enable`
	`Password:`
	`Switch#`

configure

Syntax	configure
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to enter Global Configuration mode, in which the CLI prompt displays as follows: `Switch(Config)#`

Example	This example shows how to enter global configuration mode:
	
	`Switch# configure`
	`Switch(Config)#`

vlan

Syntax	vlan *vlan-list*	
Parameter	*vlan-list*	The VLAN ID or list of IDs to be created. The *vlan-list* parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4094.
Default	No default value.	
Mode	Global Configuration	
Usage	Use this command to enter the VLAN Configuration mode, in which the CLI prompt displays as follows: `Switch(Config) (Vlan` *`vlan-list`*`)#`	

Example

This example shows how to enter VLAN Configuration mode for VLANs 5 through 9 and VLAN 101:

```
Switch# configure
Switch(Config)# vlan 5-9,101
Switch (Config)(Vlan 5-9,101)#
```

interface

Syntax

interface <*intf-range*>

Parameter

<*intf-range*>	Specify the interface. The <*intf-range*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).

Default

No default value.

Mode

Global Configuration

Usage

Some configurations are interface-based, requiring you to enter Interface Configuration mode. Use this command to enter the Interface Configuration mode and select one or more interfaces to configure.
In Interface Configuration mode, the prompt displays as follows:
`Switch(Interface <intf-range>)#`

Example

This example shows how to enter Interface Configuration mode for interface xg3:

```
Switch# configure
Switch(Config)# interface xg3
Switch(Interface xg3)#
```

This example shows how to enter Interface Configuration mode for interface range xg6 through xg8:

```
Switch# configure
Switch(Config)# interface xg6-xg8
Switch(Interface xg6-xg8)#
```

line ssh

Syntax	line ssh
Parameter	
Default	No default value.
Mode	Global Configuration
Usage	Use this command to enter Line Configuration mode, in which the CLI prompt displays as follows: `Switch(Config-ssh)#`

Example	This example shows how to enter Line Configuration mode:
	
	`Switch# configure`
	`Switch(Config)# line ssh`
	`Switch(Config-ssh)#`

end

Syntax	end
Parameter	
Default	No default value.
Mode	Privileged EXEC Global Configuration VLAN Configuration Interface Configuration Interface Range Configuration Line Configuration
Usage	Use this command to return to the privileged EXEC mode. Each mode, except for the User EXEC mode, allows the **end** command.

Example

This example shows how to enter the Interface Configuration mode and use the **end** command to return to the privileged EXEC mode:

```
Switch# configure
Switch(Config)# interface GigabitEthernet 1
Switch(Interface)# end
Switch#
```

exit

Syntax

exit

Parameter

Default

No default value.

Mode

User EXEC
Privileged EXEC
Global Configuration
VLAN Configuration
Interface Configuration
Line Configuration

Usage

In User EXEC mode, the **exit** command closes the current CLI session. In other modes, the **exit** command lets you return to the parent mode. Each mode lets you enter the **exit** command. The following table describes the relationships between each mode.

Command Mode	**Parent Mode**
User Exec	None
Privileged EXEC	User Exec
Global Configuration	Privileged EXEC
VLAN Configuration	Global Configuration
Interface Configuration	Global Configuration
Line Configuration	Global Configuration

Example

This example shows how to enter privileged EXEC mode and then use the **exit** command to return to the user EXEC mode:

```
Switch> enable
Switch# exit
Switch>
```

System Commands

Management commands

snmp-server sysname

Syntax	snmp-server sysname <*name*>	
Parameter	*name*	Specify the system name string. The <*name*> parameter can represent any combination of printable characters and a space except for a question mark (?), single quote (‘), and double quote (”).
Default	The default name is the switch model name.	
Mode	Global Configuration	
Usage	Use this command to modify the system name of the switch. The system name is also used as the CLI prompt.	

Example

This example shows how to modify the contact information:

```
Switch(Config)# snmp-server sysname myname
myname(Config)#
```

This example shows how to display the system name information

```
myname# show sysinfo
System Name      : myname
System Location  :
System Contact   :
MAC Address      : 00:01:02:03:04:05
IP Address       : 192.168.0.239
Subnet Mask      : 255.255.255.0
Hardware Version : 2
Loader Version   : 1.0.0.1
Loader Date      : 2017-12-28 09:35:22 UTC
Firmware Version : 6.0.9.2
Firmware Date    : Oct 29 2021 - 14:16:17
System Object ID : 1.3.6.1.4.1.4526.100.4.48
System Up Time   : 0 days, 0 hours, 2 mins, 37 secs
```

snmp-server contact

Syntax	snmp-server contact <*name*>
Parameter	<*name*> Set the contact information.
Default	No default value.
Mode	Global Configuration
Usage	Use this command to set the contact information for the switch.
Example	This example shows how to set the contact information:

```
Switch(Config)# snmp-server contact callme
```

This example shows how to display the system contact information:

```
Switch# show sysinfo
System Name      : Switch
System Location  :
System Contact   : callme
MAC Address      : 00:01:02:03:04:05
IP Address       : 192.168.0.239
Subnet Mask      : 255.255.255.0
Hardware Version : 2
Loader Version   : 1.0.0.1
Loader Date      : 2017-12-28 09:35:22 UTC
Firmware Version : 6.0.9.2
Firmware Date    : Oct 29 2021 - 14:16:17
System Object ID : 1.3.6.1.4.1.4526.100.4.48
System Up Time   : 0 days, 0 hours, 2 mins, 37 secs
```

snmp-server location

Syntax	snmp-server location <*loc*>
Parameter	<*loc*> Set the location information
Default	No default value.
Mode	Global Configuration

Usage

Use this command to set the location information for the switch.

Example

This example shows how to set the system location information:

```
Switch(Config)# snmp-server location main office
```

This example shows how to display the system location information:

```
Switch# show sysinfo
System Name      : SwitchEF0102
System Location  : main office
System Contact   :
MAC Address      : 00:01:02:03:04:05
IP Address       : 192.168.0.239
Subnet Mask      : 255.255.255.0
Hardware Version : 2
Loader Version   : 1.0.0.1
Loader Date      : 2017-12-28 09:35:22 UTC
Firmware Version : 6.0.9.2
Firmware Date    : Oct 29 2021 - 14:16:17
System Object ID : 1.3.6.1.4.1.4526.100.4.48
System Up Time   : 0 days, 0 hours, 2 mins, 37 secs
```

show sysinfo

Syntax

show sysinfo [noMIBs]

Parameter

noMIBs	Optional keyword to suppress the displays of the supported MIBs

Default

No default value.

Mode

User EXEC
Privileged EXEC

Usage

Use this command to show system summary information.

Example

This example shows how to display system summary information without the supported MIBs:

```
Switch# show sysinfo noMIBs

System Name      : Switch
System Location  :
System Contact   :
MAC Address      : 00:01:02:03:04:05
IP Address       : 192.168.0.239
Subnet Mask      : 255.255.255.0
```

```
Hardware Version : 2
Loader Version   : 1.0.0.1
Loader Date      : 2017-12-28 09:35:22 UTC
Firmware Version : 6.0.9.2
Firmware Date    : Oct 29 2021 - 14:16:17
System Object ID : 1.3.6.1.4.1.4526.100.4.48
System Up Time   : 0 days, 0 hours, 2 mins, 37 secs
```

show environment

Syntax

show environment

Parameter

Default

No default value.

Mode

User EXEC
Privileged EXEC

Usage

Use this command to show system environment information such as temperature and sensor status. The hardware of the switch model determines the output of this command.

Example

This example shows how to show system environment information:

```
Switch#show environment

Temp (C)..................................... 46
Temperature traps range: 0 to 90 degrees (Celsius)

Temperature Sensors:
Unit     Sensor  Description          Temp (C)    State              Max_Temp (C)
----     ------  -------------------  ----------  -----------------  --------------
1        1       Local                41          Normal             43
1        2       Remote-1             43          Normal             44
1        3       Remote-2             46          Normal             48

Fans:
Unit Fan Description    Type      Speed         Duty level    State
---- --- -------------- --------- ------------- ------------- --------------
1    1   FAN-1          Fixed     2993          27%           Operational
1    2   FAN-2          Fixed     2963          27%           Operational
1    3   FAN-3          Fixed     2825          27%           Operational

Power Modules:
Unit     Power supply   Description        Type          State
----     ------------   ----------------   ----------    --------------
1        1              PS-1               Fixed         Operational
```

show version

Syntax	show version
Parameter	
Default	No default value.
Mode	User EXEC Privileged EXEC
Usage	Use this command to show the loader and firmware versions and the build dates.
Example	This example shows how to display the system versions and build dates:

```
(Switch)#show version

Switch: 1

System Description.............................. XS516TM
S3600 Series 16-Port 10G/Multi-Gigabit Ethernet Smart
Switch with 2 SFP+ Ports, 7.8.11.15, 1.0.0.2
Machine Model................................... XS516TM
Serial Number...................................
79X1305NF0033
Burned In MAC Address.........................
E0:46:EE:3A:6C:35
Software Version................................ 7.8.11.15
Bootcode Version................................ 1.0.0.2
Current Time.................................... May 19
20:42:14 2024 (UTC+0:00)
```

show process cpu

Syntax	show process cpu [threshold]	
Parameter	threshold	Optional keyword to display the CPU thresholds
Default	No default value.	
Mode	Privileged EXEC	

Usage

Use this command to show current CPU status and utilization.

Example

This example shows how to show current CPU utilization:

```
Switch# show process cpu

Memory Utilization Report:

status     KBytes
------ ----------
free        43280
alloc       82360

CPU Utilization:

PID          Name                    5 Secs    60 Secs   300 Secs
----------- --------------------  --------  --------  --------
          3          [ksoftirqd/0]    0.09%     0.00%     0.00%

        500          DiscoveryAgent   0.94%     0.69%     0.74%

        412                  usaged    4.33%     4.29%     4.29%

        420                   snmpd    0.00%     0.01%     0.01%

        440                   polld    1.69%     1.61%     1.62%

        445                     cli    0.00%     0.00%     0.01%

----------- --------------------- --------  --------  --------
Total CPU Utilization                 7.07%     6.64%     6.72%
```

network parms

Syntax

network parms <*ipaddr*> <*netmask*> [<*gateway*>]

Parameter

<*ipaddr*>	Set the IPv4 address for the switch. The switch IP address is represented by <*ipaddr*>.
<*netmask*>	Set the netmask address for the switch. The netmask is represented by <*netmask*>.
[<*gateway*>]	As an option, set the gateway address for the switch. The gateway IP address is represented by [<*gateway*>].

Default

The default IP address is 192.168.0.239, the default netmask is 255.255.255.0, and the gateway IP address is 192.168.0.254.

Mode

Privileged EXEC

Usage

Use this command to set the administration IPv4 address for access to the switch. When you use Telnet, SSH, HTTP, HTTPS, or SNMP to connect to the switch, you must use this IP address to access the switch.

Example

This example shows how to modify the IPv4 address of the switch:

```
Switch# network parms 192.168.0.200 255.255.255.0
192.168.0.1
```

This example shows how to show current ipv4 address of the switch:

```
Switch# show network
###### Config ######
IP Address: 192.168.0.239
Subnet Netmask: 255.255.255.0
Default Gateway: 192.168.0.254

###### Status ######
IP Address: 192.168.0.239
Subnet Netmask: 255.255.255.0
Default Gateway: 192.168.0.254
```

network protocol dhcp

Syntax

network protocol dhcp [<*client-id*>]
no network protocol dhcp

Parameter

[<*client-id*>]	Optional keyword to set the unique client identifier (option 61)

Default

The DHCP client is disabled.

Mode

Privileged EXEC

Usage

Use the **network protocol dhcp** command to enable the DHCP client to let the switch receive an IP address from a DHCP server.
Use the **no network protocol dhcp** command to disable the DHCP client so that you can set a static IP address.

Example

This example shows how to enable the DHCP client:

```
Switch# network protocol dhcp
```

network protocol bootp

Syntax	network protocol bootp no network protocol bootp
Parameter	
Default	The Bootp client is disabled.
Mode	Privileged EXEC
Usage	Use the **network protocol bootp** command to enable the Bootp client to let the switch receive an IP address from a DHCP or Bootp server. Use the **no network protocol bootp** command to disable the Bootp client so that you can set a static IP address.
Example	This example shows how to enable the Bootp client: `Switch# network protocol bootp`

show network

Syntax	show network
Parameter	
Default	No default value.
Mode	User EXEC Privileged EXEC
Usage	Use this command to show the system IPv4 address, netmask, and default gateway.

Example	This example shows how to display the current IPv4 address settings of the switch:
	`Switch# show network`
	`###### Config ######`
	`IP Address: 192.168.0.239`
	`Subnet Netmask: 255.255.255.0`
	`Default Gateway: 192.168.0.254`
	
	`###### Status ######`

```
IP Address: 192.168.0.239
Subnet Netmask: 255.255.255.0
Default Gateway: 192.168.0.254
```

network ipv6 enable

Syntax	network ipv6 enable no network ipv6 enable
Parameter	
Default	IPv6 is enabled.
Mode	Privileged EXEC
Usage	Use the **network ipv6 enable** command to enable IPv6. Use the **no network ipv6 enable** command to disable IPv6.
Example	This example shows how to disable IPv6 globally on the switch: `Switch# no network ipv6 enable`

network ipv6 address autoconfig

Syntax	network ipv6 address autoconfig no network ipv6 address autoconfig
Parameter	
Default	IPv6 autoconfiguration is enabled.
Mode	Privileged EXEC
Usage	Use the **network ipv6 address autoconfig** command to enable IPv6 autoconfiguration. Use the **no network ipv6 address autoconfig** command to disable IPv6 autoconfiguration.
Example	This example shows how to disable IPv6 autoconfiguration: `Switch# no network ipv6 address autoconfig`

network ipv6 address

Syntax	network ipv6 address <*prefix*>/<*prefix-length*> no network ipv6 address <*prefix*>/<*prefix-length*>	
Parameter	<*prefix*>	Specify the IPv6 address for switch. The IPv6 address is represented by <*prefix*>.
	<*prefix-length*>	Specify the IPv6 prefix length for switch. This can be a value from 0 to 128.
Default	No default IPv6 address is configured for the switch.	
Mode	Privileged EXEC	
Usage	Use the **network ipv6 address** command to add a static IPv6 address. Use the **no network ipv6 address** command to remove an IPv6 address.	
Example	This example shows how to add a static IPv6 address for the switch: `Switch# network ipv6 address fe80::20e:2eff:fef1:4b3c/128`	

network ipv6 gateway

Syntax	network ipv6 gateway <*ipv6-address*> no network ipv6 gateway	
Parameter	<*ipv6-address*>	Specify the gateway IPv6 address for the switch. The IPv6 address is represented by <*ipv6-address*>.
Default	No IPv6 gateway address is configured on the switch.	
Mode	Privileged EXEC	
Usage	Use the **network ipv6 gateway** command to set the IPv6 gateway address. Use the **no network ipv6 gateway** command to remove the IPv6 gateway address.	

Example	This example shows how to modify the network IPv6 gateway address on the switch: `Switch# network ipv6 gateway fe80::dcad:beff:feef:103`

network ipv6 address dhcp

Syntax	network ipv6 address dhcp no network ipv6 address dhcp
Parameter	
Default	The DHCPv6 client is disabled.
Mode	Privileged EXEC
Usage	Use the **network ipv6 address dhcp** command to enable the DHCPv6 client to let the switch receive an IP address from a DHCPv6 server. Use the **no network ipv6 address dhcp** command to disable the DHCPv6 client so that you can set a static IPv6 address or IPv6 autoconfiguration address for the switch.
Example	This example shows how to enable the DHCPv6 client: `Switch# network ipv6 address dhcp`

show ipv6 neighbors

Syntax	show ipv6 neighbors
Parameter	
Default	No default value.
Mode	User EXEC Privileged EXEC
Usage	Use this command to show information about the IPv6 neighbor entries cached on the system.

Example

This example shows how to display the ipv6 neighbor entries:

```
Switch# show ipv6 neighbors

VLAN Interface IPv6 address              HW address        Status   Router State
-------------  ------------------------- ----------------  -------- ------ ---------
vlan 1         fe80::b498:654a:75f5:9c7b 50:3e:aa:07:ab:46  Dynamic  No     Reachable
```

show clock

Syntax

show clock [detail]

Parameter

detail	Optional keyword that displays more detailed information about the clock such as the time zone and daylight saving time.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to show information about the clock of the switch.

Example

This example shows how to display information about the clock of the switch:

```
Switch# show clock
Jan 01 02:08:52 2021 (UTC+0)
Time set manually
```

This example shows how to display detailed information about the clock of the switch:

```
Switch# show clock detail
Jan 01 02:08:54 2021 (UTC+0)
Time set manually

Time zone:
Acronym is
Offset is UTC+0
```

ntp server

Syntax	ntp server {<*ip address*> | <*ipv6 address*> | <*hostname*>}
Parameter	<*ip address*> Set the IPv4 IP address of the NTP server. <ipv6 address> Set the IPv6 IP address of the NTP server. <*hostname*> Set the hostname of the NTP server.
Default	time-a.netgear.com time-b.netgear.com
Mode	Global Configuration
Usage	Use the **ntp** command to set a remote NTP server. You can verify your NTP settings in the output of the **show ntp server** command.
Example	This example shows how to set a remote NTP server for the switch: `switch(Config)# ntp server 203.0.113.75`

show ntp server

Syntax	show ntp server
Parameter	
Default	No default value.
Mode	Privileged EXE
Usage	Use this command to display the remote NTP server information.

Example	This example shows how to display the remote NTP server information:
	
	`(Switch)#show ntp servers`
	
	`Address ..... time-b.netgear.com`
	`Version ..... 4`
	`Key Id ..... 0`
	`Minimum Poll Interval ..... 6`
	`Maximum Poll Interval ..... 10`
	`Prefer ..... No`

```
Burst ..................................... Yes
Iburst .................................... Yes

Address ................................... time-
a.netgear.com
Version ................................... 4
Key Id .................................... 0
Minimum Poll Interval ..................... 6
Maximum Poll Interval ..................... 10
Prefer .................................... No
Burst ..................................... Yes
Iburst .................................... Yes
……
```

LLDP commands

show lldp interface

Syntax	show lldp interface {<*slot/port*> | all }	
Parameter	<*slot/port*>	The interface or a range of interfaces for which the LLDP information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
	all	Use the **all** keyword to display LLDP information for all interfaces.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the LLDP information for one or all interfaces.	

Example

This example shows how to display the LLDP information for interface xg1:

```
Switch#show lldp interface xg1

LLDP Interface Configuration

Interface  Link    Transmit  Receive   Notify    TLVs     Mgmt
---------  ------  --------  --------  --------  -------  ----
```

```
xg1        Up      Enabled   Enabled   Disabled  0,1,2,3  Y

TLV Codes: 0- Port Description,   1- System Name
           2- System Description, 3- System Capabilities
```

show lldp local-device

Syntax

show lldp local-device {<*slot/port*> | all | detail <*slot/port*>}

Parameter

<*slot/port*>	The interface or a range of interfaces for which the LLDP information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
all	LLDP information is displayed for all interfaces.
detail <*slot/port*>	Detailed LLDP information is displayed for the interface.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to show the LLDP local configuration of LLDP PDUs, including the contents of LLDP/LLDP-MED TLVs.

Example

This example shows how to display the LLDP local device information for interface xg1:

```
(Switch)#show lldp local-device xg1

LLDP Local Device Summary

Interface  Port ID               Port Description
---------  --------------------  --------------------
xg1        E0:46:EE:3A:6C:37
```

show lldp remote-device

Syntax	show lldp remote-device {<*slot/port*> | all | detail <*slot/port*>}	
Parameter	<*slot/port*>	The interface or a range of interfaces for which the LLDP information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
	all	LLDP information is displayed for all interfaces.
	detail <*slot/port*>	Detailed LLDP information is displayed for the interface.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the LLDP remote configuration of LLDP PDUs, including the contents of LLDP/LLDP-MED TLVs.	
Example	This example shows how to display detailed LLDP remote device information for interface xg1:	

```
Switch#show lldp remote-device detail xg1

LLDP Remote Device Detail

Local Interface: xg1

Remote Identifier: 1073
Chassis ID Subtype: MAC Address
Chassis ID: 04:0E:3C:22:2E:BD
Port ID Subtype: MAC Address
Port ID: 04:0E:3C:22:2E:BD
System Name:
System Description:
Port Description:
System Capabilities Supported:
System Capabilities Enabled:
Time to Live: 3392 seconds

Remote Identifier: 1072
Chassis ID Subtype: MAC Address
Chassis ID: 44:A5:6E:59:38:D0
Port ID Subtype: Interface Name
Port ID: 0/1
System Name: M4250 Managed Switch
```

```
System Description: M4250-10G2F-PoE+ 10x1G PoE+ 125W and
2xSFP Managed Switch, 13.0.4.21, 1.0.0.11
Port Description: 0/1
System Capabilities Supported: bridge, router
System Capabilities Enabled: bridge, router
Management Address:
    Type: IPv4
    Address: 192.168.100.104
Time to Live: 117 seconds

Remote Identifier: 1
Chassis ID Subtype: MAC Address
Chassis ID: 74:AC:B9:F2:13:24
Port ID Subtype: Local
Port ID: eth0
System Name:
System Description:
Port Description:
System Capabilities Supported:
System Capabilities Enabled:
Time to Live: 235 seconds

Remote Identifier: 798
Chassis ID Subtype: MAC Address
Chassis ID: 94:18:65:D3:B4:3F
Port ID Subtype: MAC Address
Port ID: 94:18:65:D3:B4:3F
System Name: NETGEARD3B43F
System Description: OpenWrt 19.07-SNAPSHOT Linux 5.4.213 #0
SMP PREEMPT Sat Feb 10 06:18:18 2024 armv7l
Port Description: lldp0
System Capabilities Supported: bridge, WLAN access point
System Capabilities Enabled: bridge, WLAN access point
Management Address:
    Type: IPv4
    Address: 192.168.100.118
Time to Live: 18 seconds
```

show lldp med interface

Syntax	show lldp med interface {<*slot/port*>.| all }	
Parameter	<*slot/port*>	The interface or a range of interfaces for which the LLDP information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
	all	LLDP information is displayed for all interfaces.

Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to show the LLDP MED information for one or all interfaces.

Example	This example shows how to display the LLDP MED information for interface xg1:
	
	`Switch#show lldp interface xg1`
	
	`LLDP Interface Configuration`
	
	`Interface  Link    Transmit  Receive   Notify    TLVs     Mgmt`
	`---------  ------  --------  --------  --------  -------  ----`
	`xg1        Up      Enabled   Enabled   Disabled  0,1,2,3  Y`
	
	`TLV Codes: 0- Port Description,   1- System Name`
	`           2- System Description, 3- System Capabilities`

show lldp med local-device detail

Syntax	show lldp med local-device detail <*slot/port*>	
Parameter	<*slot/port*>	The interface or a range of interfaces for which the LLDP MED information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the local configuration of LLDP MED PDUs, including the contents of LLDP/LLDP-MED TLVs.	
Example	This example shows how to display the LLDP MED local device information for interface xg1: `Switch#show lldp med local-device detail xg1`	

```
LLDP MED Local Device Detail

Interface:  xg1

Network Policies
```

show lldp med remote-device

Syntax	show lldp med remote-device {<*slot/port*> | all | detail <*slot/port*>}

Parameter		
	<*slot/port*>	The interface or a range of interfaces for which the LLDP MED information must be displayed. The <*slot/port*> parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both..
	all	LLDP MED information is displayed for all interfaces.
	detail <*slot/port*>	Detailed LLDP MED information is displayed for the interface

Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to show the LLDP MED remote configuration of LLDP MED PDUs, including the contents of LLDP/LLDP-MED TLVs.

Example

This example shows how to display detailed LLDP MED remote device information for interface xg1:

```
Switch#show lldp med local-device detail xg1

LLDP MED Local Device Detail

Interface:  xg1

Network Policies

(XS516TM)#show lldp med remote-device detail xg1

LLDP MED Remote Device Detail

Local Interface: xg1

Remote Identifier: 1073
```

```
Capabilities
 MED Capabilities Supported:  capabilities
 MED Capabilities Enabled:  capabilities
 Device Class:  Endpoint Class I

Network Policies


Remote Identifier: 1072


Capabilities
 MED Capabilities Supported:  capabilities, networkpolicy,
location, extended-pse, inventory
 MED Capabilities Enabled:  capabilities
 Device Class:  Network Connectivity

Network Policies


Remote Identifier: 1


Capabilities
 MED Capabilities Supported:
 MED Capabilities Enabled:

Network Policies


Remote Identifier: 798


Capabilities
 MED Capabilities Supported:
 MED Capabilities Enabled:

Network Policies
```

show lldp statistics

Syntax: show lldp statistics *{<slot/port>* | all}

Parameter		
	<slot/port>	The interface or a range of interfaces for which the LLDP statistics must be displayed. The *<slot/port>* parameter represents the interface number or a range of interface numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.

	all	LLDP statistics are displayed for all interfaces.

Default No default value.

Mode Privileged EXEC

Usage Use this command to display the LLDP RX/TX statistics.

Example This example shows how to display the local device information for interface xg1:

```
Switch#show lldp statistics xg1

LLDP Device Statistics


Last Update.............................. 0 days
02:49:52

Total Inserts............................ 1073

Total Deletes............................ 382

Total Drops.............................. 0

Total Ageouts............................ 383
```

	Tx	Rx				TLV	TLV	TLV	TLV	TLV
Interface	Total	Total	Discards	Errors	Ageout	Discards	Unknowns	MED	802.1	802.3
xg1	3000	21104	691	0	383	0	17906	3752	17097	54754

clear lldp statistics

Syntax clear lldp {remote-data | statistics}

Parameter	remote-data	Clears the LLDP remote data on the switch.
	statistics	Clears the LLDP statistics on the switch.

Default No default value.

Mode Privileged EXEC

Usage Use this command to clear the LLDP remote data or statistics.

Example	This example shows how to clear the LLDP statistics `Switch# clear lldp statistics`

Switching Commands

Interface commands

interface

Syntax	interface <*slot/port*>	
Parameter	<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
Default	No default value.	
Mode	Global Configuration	
Usage	Some configurations are interface-based, requiring you to enter Interface Configuration mode. Use this command to enter the Interface Configuration mode and select one or more interfaces to configure. In Interface Configuration mode, the prompt displays as follows: `Switch(Interface <slot/port>)#`	

Example	This example shows how to enter Interface Configuration mode for interface xg3:
	`Switch# configure`
	`Switch(Config)# interface xg3`
	`Switch(Interface xg3)#`
	This example shows how to enter Interface Configuration mode for interface range xg6 through xg8:
	`Switch# configure`
	`Switch(Config)# interface xg6-xg8`
	`Switch(Interface xg6-xg8)#`	

clear counters

Syntax

clear counters [<*slot/port*> | all | keepalive | lag <*lag-intf-num*>| vlan <*1-4093*>]

Parameter

<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
all	Use the **all** keyword to clear all counters on the switch.
keepalive	Use the **keepalive** keyword to clear keep-alive statistics that are associated with the interfaces, such as the number of transmitted packets, the number of received packets, and the number of loop packets.
<*lag-intf-num*>	Use the **lag** keyword to clear statistics for a specific LAG. The <*lag-intf-num*> parameter represents the LAG number.
<*1-4093*>	Use the **vlan** keyword to clear statistics for a specific VLAN. The <*1-4093*> parameter represents the VLAN ID.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to clear statistical counters.

Example

This example shows how to clear the counters on interface xg8:

```
Switch# clear counters xg8
```

description

Syntax

description <*description*>
no description

Parameter	*<description>*	A port description with a length from 1 to 64 characters. If the description includes a space character, place the entire string in double quotes.

Default: No default value.

Mode: Interface Configuration

Usage: Use the **description** command to set a port description so that you can identify it easily.
Use the **no description** command to reset the description to a blank string.

Example: This example shows how to set a port description:

```
Switch(Config)# interface xg1
Switch(Interface xg1)# description uplink
Switch(Interface xg1)# exit
```

This example shows how to display the port description for interface xg1:

```
(Switch)#show port description xg1

Interface....... xg1
ifIndex......... 1
Description..... uplink
MAC address..... E0:46:EE:3A:6C:37
Bit Offset Val.. 1
```

flowcontrol

Syntax:
flowcontrol {asymmetric | symmetric}
no flowcontrol

asymmetric	Forces flow-control as asymmetric on the interface
symmetric	Forces flow-control as symmetric on the interface.

Default: Flow control is disabled.

Mode: Interface Configuration

Usage

Use the **flowcontrol** command to set the flow control configuration for an interface.
Use **no flowcontrol** command to reset flow control to its default (off).

Example

This example shows how to set the flow control configuration for interface xg3:

```
Switch(Config)# interface xg3
Switch(Interface xg3)# flowcontrol symmetric
```

This example shows how to display the flow control configuration for interface xg3:

```
(Switch)(Interface xg3)#show flowcontrol xg3

        Flow Control   Flow Control   RxPause   TxPause
 Intf   Oper           Mode
------- ------------   ------------   --------  --------
xg3     Inactive       Symmetric      0         0
```

show interface

Syntax

show interfaces {<*slot/port*> | all | lag <*lag-intf-num*> | counters}

Parameter

<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
all	Use the **all** keyword to display statistics for all interfaces.
lag <*lag-intf-num*>	Use the **lag** keyword to display statistics for a specific LAG. The <*lag-intf-num*> parameter represents the LAG number.
counters	Use the **counters** keyword to display statistics for all interfaces and LAGs.

Default

No default value.

Mode

Privileged EXEC

Usage

Use the **show interfaces** command to display statistics for an interface, all interfaces, or a LAG, or a table with counters for all interfaces.

Example

This example shows how to display the statistics for interface xg1:

```
(XS516TM)#show interface xg1

Interface :................................ xg1

Packets Received Without Error.............. 690605
Packets Received With Error................. 0
Broadcast Packets Received.................. 70371
Receive Packets Discarded................... 0
Packets Transmitted Without Errors.......... 1129079
Transmit Packets Discarded.................. 0
Transmit Packet Errors...................... 0
Collision Frames............................ 0
Number of link down events.................. 1
Load Interval............................... 300
Received Rate(Mbps)......................... 0.0
Transmitted Rate(Mbps)...................... 0.0
Received Error Rate......................... 0
Transmitted Error Rate...................... 0
Packets Received Per Second................. 7
Packets Transmitted Per Second.............. 10
Percent Utilization Received................ 0%
Percent Utilization Transmitted............. 0%
Time Since Counters Last Cleared............ 1 day 6 hr 28 min 57 sec
```

show interfaces status

Syntax

show interfaces status {<*slot/port*> | all | lag <*lag-intf-num*> | vlan <*1-4093*>}

Parameter

<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
all	Use the **all** keyword to display status information for all interfaces.
lag <*lag-intf-num*>	Use the **lag** keyword to display the status information for a specific LAG. The <*lag-intf-num*> parameter represents the LAG number.
vlan <*1-4093*>	Use **vlan** keyword to display the status information for a specific VLAN. The <*1-4093*> parameter represents the VLAN ID.

Default

No default value.

Mode — Privileged EXEC

Usage — Use the **show interfaces status** command to display a brief status of an interface, all interfaces, a LAG, or VLAN.

Example — This example shows how to display the status for interface xg1:

```
(XS516TM)#show interfaces status xg1

                          Link    Physical    Physical    Media       Flow
Port       Name           State   Mode        Status      Type        Control     VLAN
---------  -------------  ------  ----------  ----------  ----------  ----------  --------
xg1                       Up      Auto        1000 Full   Copper      Inactive    1,4088
```

This example shows how to display the status for LAG 2:

```
(XS516TM)#show interfaces status lag 2

                          Link    Physical    Physical    Media       Flow
Port       Name           State   Mode        Status      Type        Control     VLAN
---------  -------------  ------  ----------  ----------  ----------  ----------  --------
lag 2                     Down                                                    1,4088
```

interface speed

Syntax — speed {100 {full-duplex | half-duplex} | 1000 {full-duplex | half-duplex} | 10G full-duplex | 2.5G full-duplex | 5G full-duplex | auto}

Parameter

100 {full-duplex | half-duplex}	Forces the port speed to 100 Mbps at full or half duplex.
1000 {full-duplex | half-duplex}	Forces the port speed to 1000 Mbps at full or half duplex.
10G full-duplex	Forces the port speed to 10 Gbps full-duplex.
2.5G full-duplex	Forces the port speed to 2.5 Gbps full-duplex.
5G full-duplex	Forces the port speed to 5 Gbps full-duplex.
auto	Sets the port speed to autonegotiation.

Default — auto (autonegotiation) with all available abilities.

Mode — Interface Configuration

Usage — Use this command to change the port speed configuration up to the maximum allowed physical speed.
The output of the **show interfaces status** keyword (see an example below) shows the configured port speed.

Example

This example shows how to set the port speed for interface xg3 to 2.5 Gbps:

```
Switch(Config)# interface xg3
Switch(Interface xg3)# speed 5G full-duplex
Switch(Interface xg3)# exit
```

This example shows how to display the status for interface xg4:

```
(XS516TM)#show interfaces status xg4

                        Link    Physical    Physical    Media       Flow
Port       Name         State   Mode        Status      Type        Control     VLAN
---------  -----------  ------  ----------  ----------  ----------  ----------  --------
xg4                     Up      Auto        1000 Full   Copper      Inactive    1,4088
```

auto-negotiate

Syntax

auto-negotiate
no auto-negotiate

Parameter

Default

Autonegotiation is enabled.

Mode

Interface Configuration

Usage

Use the **auto-negotiate** command to enable autonegotiation on an interface.
Use the **no auto-negotiate** command to disable autonegotiation on an interface.

Example

This example shows how to disable autonegotiation on interface xg2 and to enable autonegotiation on interface xg3:

```
Switch(Config)# interface xg2
Switch(Interface xg2)# no auto-negotiate
Switch(Interface xg2)# exit
Switch(Config)# interface xg3
Switch(Interface xg2)# auto-negotiate
```

shutdown

Syntax	shutdown no shutdown
Parameter	
Default	The administrative state is no shutdown.
Mode	Interface Configuration
Usage	Use the **shutdown** command to disable an interface. Use the **no shutdown** command to enable an interface. If an interface is error-disabled, use the **no shutdown** command to try to recover the interface.

Example	This example shows how to shut down interface xg5:
	
	`Switch(Config)# interface xg5`
	`Switch(Interface xg5)# shutdown`
	
	This example shows how to display the running configuration for interface xg5, which also display the administrative state of an interface:
	
	`(Switch)#show running-config interface xg5`
	
	`!Current Configuration:`
	`!`
	`interface  xg5`
	`shutdown`
	`exit`

show fiber-ports

Syntax	show fiber-ports {[optics {<*slot/port*> | all}] | [optics-diag {<*slot/port*> | all}] | [optics-eeprom {<*slot/port*> | all}] | [optics-info {<*slot/port*> | all}]}	
Parameter	<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg9. Specify a port list by separating the interfaces by a comma (for example: xg9, xg10).

		Specify a port range by separating the interfaces by a hyphen (for example: xg9-xg10).
	all	Use the **all** keyword to display status information for all interfaces
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to display information about one or more fiber transceiver modules that are installed in one or more ports. Use the **show fiber-ports optics** command to display electrical and diagnostic information. Use the **show fiber-ports optics-diag** command to display diagnostic data, if present. Use the **show fiber-ports optics-eeprom** command to display information about the Electrically Erasable Programmable Read-Only Memory (EEPROM). Use the **show fiber-ports optics-info** command to display detailed general information.	
Example	This example shows how to display information about all fiber transceiver modules that are installed in the switch:	

```
(Switch)#show fiber-ports optics-info all

                          Link   Link                                          Nominal
                         Length Length Link                                     Bit
                          50um  62.5um Length                                  Rate
Port        Vendor Name    [m]    [m]    [m]   Serial Number    Part Number     [Mbps]
-------- ---------------- ------ ------ ------ ---------------- ---------------- -------
xg17     NETGEAR          0      0      100M   224604001560     AGM734           1300

                                   Possible
                                    Speed
Rev     Compliance     Supported   Detected
---- ---------------- ------------ ---------
0000 1000T            Yes          1G
```

LAG interface commands

addport lag
deleteport lag

Syntax	addport lag <*lag-group-id*> deleteport lag *lag-id*	
Parameter	<*lag-group-id*>	Set the LAG ID for the interface. The <*lag-group-id*> parameter represents the LAG number. The

number of LAGs that can be supported depends on the switch model.

Default — No default value.

Mode — Interface Configuration

Usage — A link aggregation group (LAG) lets you aggregate multiple physical ports into one logic port for load sharing (increased bandwidth) or fault tolerance.
Use the **addport lag** command to add one or more ports to a LAG.
Use the **deleteport lag** command to remove a LAG
.

Example — This example shows how to create LAG 2 with ports xg3 and xg4 as members:

```
Switch(Config)# interface xg3-xg4
Switch(Interface xg3-xg4)# addport lag 2
```

This example shows how to display the LAG status for LAG 2:

```
(Switch)#show port-channel 2

Local Interface.............................. lag 2
Channel Name................................. ch2
Link State................................... Down
Admin Mode................................... Enabled
Type......................................... Static
Port-channel Min-links....................... 1
Load Balance Option.......................... 3
(Src/Dest MAC, VLAN, EType, incoming port)

Mbr     Device/       Port      Port
Ports   Timeout       Speed     Active
------- ------------- --------- -------
xg3     actor/long    Auto      False
        partner/long
xg4     actor/long    Auto      False
        partner/long
```

This example shows how to remove LAG 2:

```
Switch(Config)# interface xg3-xg4
Switch(Interface xg3-xg4)# deleteport lag 2
```

port-channel static

Syntax — port-channel static
no port-channel static

Parameter	
Default	Static
Mode	Interface LAG Configuration
Usage	Use the **port-channel static** command to set a LAG as a static LAG. (If you add a LAG, by default it is a static LAG.) Use the **no port-channel static** command to set a LAG as a dynamic LAG.
Example	This example shows how to set LAG 2 as a dynamic LAG:

```
(Switch)(Config)#interface lag 2
(Switch)(Interface lag 2)#no port-channel static
```

This example shows how to set LAG 3 as a static LAG:

```
(Switch)(Config)#interface lag 3
(Switch)(Interface lag 3)#port-channel static
```

This example shows how to display the status of the LAG 2:

```
(Switch)#show port-channel 2

Local Interface.............................. lag 2
Channel Name................................. ch2
Link State................................... Down
Admin Mode................................... Enabled
Type......................................... Dynamic
Port-channel Min-links....................... 1
Load Balance Option.......................... 3
(Src/Dest MAC, VLAN, EType, incoming port)

Mbr     Device/       Port      Port
Ports   Timeout       Speed     Active
------- ------------- --------- -------
xg3     actor/long    Auto      False
        partner/long
xg4     actor/long    Auto      False
        partner/long
```

show port-channel

Syntax

show port-channel [<*slot/port*> | <*lag-intf-num*> | all | brief | system priority]

Parameter

<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
<*lag-intf-num*>	Specify the LAG ID for the interface. The <*lag-intf-num*> parameter represents the LAG number. The number of LAGs that can be supported depends on the switch model.
all	Use the **all** keyword to display the status for all interfaces and LAGs.
brief	Use the **brief** keyword to display the LAG capability and summary information
system priority	Use the **system priority** keyword to display the LAG system priority.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to display the status of the LAGs and their members.

Example

This example shows how to display the status for all LAGs:

```
(XS516TM)#show port-channel all

Log.    Channel             Admin       Load     Mbr     Device/       Port      Port
Intf    Name     Min  Link   Mode   Type Balance  Ports   Timeout       Speed     Active
------- -------------- ---- ------ ------ ---- -------- ------- ------------- ---------
lag 1   ch1      1    Down   En.    Stat 3
lag 2   ch2      1    Down   En.    Stat 3        xg3     actor/long    Auto      False
                                                         partner/long
                                                 xg4     actor/long    Auto      False
                                                         partner/long
lag 3   ch3      1    Down   En.    Stat 3
lag 4   ch4      1    Down   En.    Stat 3
lag 5   ch5      1    Down   En.    Stat 3
lag 6   ch6      1    Down   En.    Stat 3
lag 7   ch7      1    Down   En.    Stat 3
lag 8   ch8      1    Down   En.    Stat 3
```

This example shows how to display an abbreviated LAG status for all LAGs:

```
(Switch)#show port-channel brief

Logical   Port-Channel     Min Link State Trap     Type    Mbr Ports  Active Ports
Interface Name                          Flag
```

```
-------- ---------------- --- ---------- -------- ------- ---------- -------------
lag 1    ch1              1   Down       Enabled  Static
lag 2    ch2              1   Down       Enabled  Dynamic xg3,xg4
lag 3    ch3              1   Down       Enabled  Static
lag 4    ch4              1   Down       Enabled  Static
lag 5    ch5              1   Down       Enabled  Static
lag 6    ch6              1   Down       Enabled  Static
lag 7    ch7              1   Down       Enabled  Static
lag 8    ch8              1   Down       Enabled  Static
```

VLAN commands

vlan (Vlan mode)

Syntax

vlan <*vlan-list*>
no vlan <*vlan-list*>

Parameter

<*vlan-list*>	The VLAN ID or list of IDs to be created. The <*vlan-list*> parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4094.

Default

VLAN 1

Mode

Vlan
Enter Vlan mode from the privileged EXEC mode by typing **vlan database**.

Usage

Use the **vlan** command to create a VLAN.
Use the **no vlan** to remove an existing VLAN.
You can verify the VLAN setting in the output of the **show vlan** command.

Example

This example shows how to create VLAN 55:

```
(Switch)#vlan database
(Switch)(Vlan)#vlan 55
```

This example shows how to delete VLAN 75:

```
(Switch)#vlan database
(XS516TM)(Vlan)#no vlan 75
```

This example shows how to display the VLANs on the switch:

```
(Switch)#vlan database
```

```
(Switch)(Vlan)#show vlan

Maximum VLAN Entries.......................... 512
VLAN Entries Currently in Use................. 6

VLAN ID VLAN Name                          VLAN Type
------- ---------------------------------- -----------
1       Default                            Default
55      VLAN0055                           Static
4086    Auto-Wifi                          Static
4087    Auto-Camera                        Static
4088    Auto-VoIP                          Static
4089    Auto-Video                         Auto-Video
```

vlan name (Vlan mode)

Syntax

vlan name <*vlan-list*> <*newname*>
no vlan name <*vlan-list*> <*newname*>

Parameter

<*vlan-list*>	The VLAN ID or list of IDs to be created. The <*vlan-list*> parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4094.
<*newname*>	Specify the VLAN name of up to 32 characters in length.

Default

No default value.

Mode

Vlan
Enter Vlan mode from the privileged EXEC mode by typing **vlan database**.

Usage

Use the **vlan name** command to add a name to a VLAN.
Use the **no vlan name** command to remove a name from a VLAN.
You can verify the VLAN setting in the output of the **show vlan** command.

Example

This example shows how to add the name Trunk to VLAN 55:

```
(Switch)#vlan database
(Switch)(Vlan)#vlan name 55 Trunk
```

vlan pvid

Syntax	vlan pvid <*vlan-list*>	
Parameter	<*vlan list*>	The VLAN ID or list of IDs to which the interface must be added. The *vlan-list* parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4093.
Default	The port VLAN ID (PVID) is 1.	
Mode	Interface Configuration	
Usage	Use this command to set the PVID of an interface. You can verify your setting in the output of the **show interfaces switchport** command.	

Example

This example sets the PVID for interface xg2 to 100:

```
(Switch)(Config)#interface xg2
(Switch)(Interface xg2)#vlan pvid 100
```

The example shows the output of the **show interfaces switchport** command:

```
(Switch)#show interfaces switchport xg2

Port: xg2
VLAN Membership Mode: General
Access Mode VLAN: 1 (default)
General Mode PVID: 100
General Mode Ingress Filtering: Disabled
General Mode Acceptable Frame Type: Admit all
General Mode Dynamically Added VLANs:
General Mode Untagged VLANs: 1
General Mode Tagged VLANs:
General Mode Forbidden VLANs:
Trunking Mode Native VLAN: 1 (default)
Trunking Mode Native VLAN tagging: Disable
Trunking Mode VLANs Enabled: All
Protected Port: False
```

vlan participation include

Syntax	vlan participation include <*vlan-list*>	
Parameter	<*vlan-list*>	The VLAN ID or list of IDs to which the interface must be added. The <*vlan-list*> parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4093.
Default	Each interface is an untagged member of VLAN 1. When you add an interface to a VLAN, by default it is a tagged member.	
Mode	Interface Configuration	
Usage	Use this command to add an interface to a VLAN. You can verify your setting in the output of the **show interfaces switchport** command.	

Example	This example adds interface xg2 as a tagged member to VLANs 100, 101, 102, 103, 104, and 105:
	`(Switch)(Config)#interface xg2`
	`(Switch)(Interface xg2)#vlan participation include 100-105`	

vlan participation exclude

Syntax	vlan participation exclude <*vlan-list*>	
Parameter	<*vlan-list*>	The VLAN ID or list of IDs to which the interface must be added. The <*vlan-list*> parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4093.

Default	Each interface is an untagged member of VLAN 1. When you add an interface to a VLAN, by default it is a tagged member.
Mode	Interface Configuration
Usage	Use this command to remove an interface from a VLAN. You can verify your setting in the output of the **show interfaces switchport** command.

Example	This example removes interface xg2 from VLANs 100, 101, 102, 103, 104, and 105:
	`(Switch)(Config)#interface xg2`
	`(Switch)(Interface xg2)#vlan participation exclude 100-105`

network mgmt_vlan

Syntax	network mgmt_vlan *<1-4093>* no network mgmt_vlan	
Parameter	*<1-4093>*	The VLAN ID or list of IDs to which the interface must be added. The *<1-4093>* parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4093.
Default	VLAN 1 is the management VLAN	
Mode	Privileged EXEC	
Usage	Use the **network mgmt_vlan** command to set the ID of the management VLAN. (The VLAN must already exist.) Use the **no network mgmt_vlan** command to restore the management VLAN to VLAN 1.	
Example	This example sets VLAN 2 as the management VLAN: `(Switch)#network mgmt_vlan 2`	

This example restores the management VLAN to the default management VLAN (VLAN 1):

```
Switch(Config)#no network mgmt_vlan
```

show vlan

Syntax

show vlan [*<1-4093>*]

Parameter

<1-4093>	The VLAN ID or list of IDs to which the interface must be added. The *<1-4093>* parameter represents a single VLAN ID (for example: 3), a range of VLAN IDs in which the IDs are separated by a hyphen (for example: 5-9), or a combination of both, in which the single IDs and ranges of IDs are separated by one or more commas (for example: 3,5-9,14,101-104). VLAN IDs can be from 1 to 4093.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to display information about one or more VLANs.

Example

This example shows how to display information about all VLANs:

```
(Switch)#show vlan

Maximum VLAN Entries.......................... 512
VLAN Entries Currently in Use................. 5

VLAN ID VLAN Name                           VLAN Type
------- ----------------------------------- -----------
1       Default                             Default
4086    Auto-Wifi                           Static
4087    Auto-Camera                         Static
4088    Auto-VoIP                           Static
4089    Auto-Video                          Auto-Video
```

show interfaces switchport

Syntax	show interfaces switchport [<*slot/port*> | lag <*lag-intf-num*>]	
Parameter	<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
	lag <*lag-intf-num*>	Use the **lag** keyword and specify the LAG ID. The <*lag-intf-num*> parameter represents the LAG number. The number of LAGs that can be supported depends on the switch model.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show switchport information for one or more interfaces or lags	
Example	This example shows how to display switchport information for interface xg10:	

```
(Switch)#show interfaces switchport xg7

Port: xg7
VLAN Membership Mode: General
Access Mode VLAN: 1 (default)
General Mode PVID: 1 (default)
General Mode Ingress Filtering: Disabled
General Mode Acceptable Frame Type: Admit all
General Mode Dynamically Added VLANs:
General Mode Untagged VLANs: 1
General Mode Tagged VLANs:
General Mode Forbidden VLANs:
Trunking Mode Native VLAN: 1 (default)
Trunking Mode Native VLAN tagging: Disable
Trunking Mode VLANs Enabled: All
Protected Port: False
```

Voice VLAN and Auto-VoIP commands

voice vlan

Syntax	voice vlan <*id*> no voice-vlan	
Parameter	<*id*>	The VLAN ID to which the interface must be added. The <*id*> parameter represents a single VLAN ID (for example: 3).
Default	No interfaces are members of the voice VLAN.	
Mode	Interface Configuration	
Usage	Use the **voice vlan** command to add interface to a voice VLAN Use the **no voice vlan** command to remove an interface from a voice VLAN.	

Example	This example shows how to add interfaces 1, 2, and 3 to voice VLAN 100:
	`(Switch)(Config)#interface xg1-xg3`
	`(Switch)(Interface xg1-xg3)#voice vlan 100`
	This example shows how to remove interface 3 from voice VLAN 100:
	`(Switch)(Config)#interface xg3`
	`(Switch)(Interface xg3)#no voice vlan`	

voice vlan dot1p

Syntax	voice vlan dot1p <*0-7*>	
Parameter	<*0-7*>	Set the class of service (CoS) value for the voice VLAN. The value must be a number from 0 to 7.
Default	CoS value 6	
Mode	Interface Configuration	

Usage	Use this command to configure the dot1p value for the voice VLAN.

Example

This example shows how to add interface xg3 to voice VLAN 100 and set the dot1p value for the voice VLAN to 7:

```
(Switch)(Config)#interface xg3
(Switch)(Interface xg3)#voice vlan 100
(Switch)(Interface xg3)#voice vlan dot1p 7
```

voice vlan dscp

Syntax	voice vlan dscp <*0-64*>

Parameter		
	<*0-64*>	Set the Differentiated Services Code Point (DSCP) value for the voice VLAN. The value must be a number from 0 to 64.

Default	DSCP value 0
Mode	Interface Configuration
Usage	Use this command to configure the DSCP value for the voice VLAN.

Example

This example shows how to add interface xg3 to voice VLAN 100 and set the DSCP value for the voice VLAN to 46:

```
(Switch)(Config)#interface xg3
(Switch)(Interface xg3)#voice vlan 100
(Switch)(Interface xg3)#voice vlan dscp 64
```

auto-voip oui

Syntax	auto-voip oui <*oui-prefix*> [oui-desc <*string*>] no voice- voip oui <*prefix*>

Parameter		
	<*oui-prefix*	The OUI address in the 24-bit number format. For example, 00:11:22 or 00:A1:B2.
	oui-desc <*string*>	As an option, use the **oui-desc** keyword and <*string*> parameter to add a text as a description of the OUI

Default	Multiple default OUI entries exist for an OUI-based Auto-VoIP.
Mode	Global Configuration
Usage	Use the **auto-voip oui** command to add an OUI entry to an OUI-based Auto-VoIP. Use the **no auto-voip oui** command to remove an OUI entry from an OUI-based Auto-VoIP. You can verify the OUI settings in the output of the **show running-config** command.
Example	This example shows how to add a new OUI entry 00:11:22 with a description of test: `(Switch)(Config)#auto-voip oui 00:11:22 oui-desc test`

auto-voip oui-based priority

Syntax	auto-voip oui-based priority [*<0-7>*] no auto-voip oui-based piority	
Parameter	*<0-7>*	Set the priority value for the Auto-VoiP in OUI-based mode. The value must be a number from 0 to 7.
Default	The default is priority 7.	
Mode	Global Configuration	
Usage	Use the **auto-voip oui-based priority** command to set the priority value for the Auto-VoiP in OUI-based mode. Use the **no auto-voip oui-based priority** command to set the default priority value for the Auto-VoiP in OUI-based mode.	
Example	This example shows how to set the priority value for the Auto-VoiP in OUI-based mode to 6: `(Switch)(Config)#auto-voip oui-based priority 6`	

auto-voip protocol-based {traffic class | remark}

Syntax	auto-voip protocol-based {traffic-class <*0-7*> | remark <*0-7*>} no auto-voip protocol-based {traffic-class | remark}	
Parameter	traffic class <*0-7*>	Use the **traffic class** keyword to set the traffic class value for the Auto-VoiP in protocol-based mode. The traffic class must be a number from 0 to 7. The traffic class is applied to tagged or untagged VoIP packets that are detected by Auto-VoIP in protocol-based mode.
	remark <*0-7*>	Use the **remark** keyword to set the remark value for the Auto-VoiP in protocol-based mode. The remark value must be a number from 0 to 7. The remark flag is applied to tagged VoIP packets that are detected by Auto-VoIP in protocol-based mode. For untagged VoIP packets, the remark flag is ignored, so the behavior is the same as when you set the **traffic-class** keyword and traffic class.
Default	The default action is to apply traffic class 7.	
Mode	Global Configuration	
Usage	Use the **auto-voip protocol-based traffic-class** command to set the traffic class for the Auto-VoiP in protocol-based mode. Use the **no auto-voip protocol-based traffic-class** command to set the default traffic class for the Auto-VoiP in protocol -based mode. Use the **auto-voip protocol-based remark** command to set the remark value for the Auto-VoiP in protocol-based mode. Use the **no auto-voip protocol-based remark** command to set the default remark value for the Auto-VoiP in protocol -based mode.	

Example	This example shows how to set the traffic class for the Auto-VoiP in protocol-based mode to 6:
	`(Switch)(Config)#auto-voip protocol-based traffic-class 6`
	This example shows how to set the remark value for the Auto-VoiP in protocol-based mode to 5:
	`(Switch)(Config)#auto-voip protocol-based remark 5`	

auto-voip {oui-based | protocol-based}

Syntax	auto-voip {oui-based | protocol-based} no auto-voip {oui-based | protocol-based}	
Parameter	oui-based	Type the **oui-based** keyword to set the Auto-VoIP on the interface as OUI-based.
	protocol-based	Type the **protocol-based** keyword to set the Auto-VoIP on the interface as protocol-based.
Default	Disabled	
Mode	Interface Configuration	
Usage	Use the **auto-voip** command to enable Auto-VoIP in OUI-based or protocol-based mode on an interface. Use the **no auto-voip** command to disable Auto-VoIP in OUI-based or protocol-based mode on an interface.	

Example	This example shows how to enable Auto-VoiP in OUI-based mode on interface xg4:
	
	`(Switch)(Config)#interface xg4`
	`(Switch)(Interface xg4)#auto-voip oui-based`	

Spanning tree protocol commands

show spanning-tree

Syntax	show spanning-tree
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to display the spanning tree configuration.
Example	This example shows how to display the spanning tree configuration:

```
(Switch)#show spanning-tree

Bridge Priority.............................. 32768
Bridge Identifier.............................
80:00:E0:46:EE:3A:6C:35
Time Since Topology Change..................... 0 day 4 hr 11 min
54 sec
Topology Change Count.......................... 1
Topology Change in progress.................... False
Designated Root...............................
80:00:44:A5:6E:59:38:D0
Root Path Cost................................. 20000
Root Port Identifier........................... 80:03
Bridge Max Age................................. 20
Bridge Max Hops................................ 20
Bridge Tx Hold Count........................... 6
Bridge Forwarding Delay........................ 15
Hello Time..................................... 2
Bridge Hold Time............................... 6
CST Regional Root.............................
80:00:E0:46:EE:3A:6C:35
Regional Root Path Cost........................ 0
Port Triggered TC.............................. xg3

     Associated FIDs           Associated VLANs
     ---------------           ----------------
     1                         1
     100                       100
     3600                      3600
     4086                      4086
     4087                      4087
     4088                      4088
     4089                      4089
```

show spanning-tree interface

Syntax

show spanning-tree interface [<*slot/port*> | lag <*lag-intf-num*>| all]

Parameter

<*slot/port*>	Specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
lag <*lag-intf-num*>	Use the **lag** keyword and specify the LAG ID for the interface. The <*lag-intf-num*> parameter represents the LAG number. The number of LAGs that can be supported depends on the switch model.
all	Use the **all** keyword to display the status for all interfaces and LAGs.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to show the STP configuration and statistics for an interface, LAG, or all interfaces and LAGs.

Example

This example shows how to display the STP configuration for interface xg6:

```
(Switch)#show spanning-tree interface xg6

Hello Time..................................... Not
Configured
Port Mode...................................... Enabled
BPDU Guard Effect.............................. Disabled
Root Guard..................................... False
TCN Guard...................................... False
BPDU Filter Mode............................... Disabled
BPDU Flood Mode................................ Disabled
Auto Edge...................................... TRUE
Port Up Time Since Counters Last Cleared....... 1 day 4 hr
57 min 12 sec
STP BPDUs Transmitted.......................... 0
STP BPDUs Received............................. 0
RSTP BPDUs Transmitted......................... 0
RSTP BPDUs Received............................ 0
MSTP BPDUs Transmitted......................... 0
MSTP BPDUs Received............................ 0
```

```
SSTP BPDUs Transmitted..................... 0
SSTP BPDUs Received........................ 0
```

show spanning-tree mst

Syntax

show spanning-tree mst {detailed {*<0-4094>* | all} | port {detailed *<0-4094>* | summary *<0-4094>* } | summary}

Parameter

detailed *<0-4094>*	Use the **detailed** keyword and specify the ID of the MST instance to display detailed information for the MST instance. The *<0-4094>* parameter represents a value from 0 to 4094.
detailed all	Use the **detailed** and **all** keywords to display detailed information for all MST instances.
port detailed *<0-4094>*	Use the **port** and **detailed** keywords and specify the ID of the MST instance to display detailed information for a port within the MST instance. The *<0-4094>* parameter represents a value from 0 to 4094.
port summary *<0-4094>*	Use the **port** and **summary** keywords and specify the ID of the MST instance to display summary information for a port within the MST instance. The *<0-4094>* parameter represents a value from 0 to 4094.
summary	Use the **summary** keyword to display summary information for all MST instances.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to show the MST configuration.

Example

This example shows how to display the detailed information for all MST instances:

```
(Switch)#show spanning-tree mst detailed all

MST Instance ID.............................. 0
MST Bridge Priority.......................... 32768
MST Bridge Identifier.....................
80:00:E0:46:EE:3A:6C:35
Time Since Topology Change................... 0 day 0 hr
1 min 3 sec
Topology Change Count........................ 3
```

```
Topology Change in progress..................... False
Designated Root..............................
80:00:44:A5:6E:59:38:D0
Root Path Cost.................................. 20000
Root Port Identifier............................ 80:03

     Associated FIDs           Associated VLANs
     ---------------           ----------------
     100                       100
     3600                      3600
     4086                      4086
     4087                      4087
     4088                      4088
     4089                      4089
MST Instance ID................................. 1
MST Bridge Priority............................. 28672
MST Bridge Identifier........................
70:01:E0:46:EE:3A:6C:35
Time Since Topology Change...................... 0 day 0 hr
1 min 3 sec
Topology Change Count........................... 1
Topology Change in progress..................... False
Designated Root..............................
70:01:E0:46:EE:3A:6C:35
Root Path Cost.................................. 0
Root Port Identifier............................ 00:00

     Associated FIDs           Associated VLANs
     ---------------           ----------------
     1                         1
```

MAC address table commands

show mac-addr-table

Syntax

show mac-addr-table [<*macaddr*> | all | count | interface <*slot/port*> | vlan <*1-4093*>]

Parameter

<*macaddr*>	As an option, specify a MAC address for which the entries in the MAC address table must be displayed. The [<*macaddr*> parameter represents the MAC address in the standard xx.xx.xx.xx.xx.xx format.
<*slot/port*>	As an option, use the **interface** keyword and specify an interface for which the entries in the MAC address table must be displayed.
<*1-4093*>	As an option, use the **vlan** keyword and specify a VLAN ID for which the entries in the MAC address table must be displayed.

	all	As an option, use the **all** keyword to display all entries in the MAC address table.
	count	As an option, use the **count** keyword to display the totals number of entries for each type of MAC address.

Default No default value.

Mode Privileged EXEC

Usage Use this command to show the entries in the MAC address table. As an option, you can specify a single MAC address for which entries in the MAC address table must be displayed.

Example This example shows how to display the entire MAC address table:

```
(Switch)#show mac-addr-table

Address Entries Currently in Use.............. 17

VLAN ID  MAC Address         Interface              IfIndex  Status
-------  ------------------  ---------------------  -------  ------------
1        00:11:32:86:55:CF   xg3                    3        Learned
1        00:4E:01:B4:A4:C1   xg3                    3        Learned
1        02:0F:B5:3A:3C:46   xg3                    3        Learned
1        02:0F:B5:CA:0F:C3   xg3                    3        Learned
1        04:0E:3C:22:2E:BD   xg3                    3        Learned
1        42:A1:0A:14:B8:8B   xg3                    3        Learned
1        44:A5:6E:59:38:D3   xg3                    3        Learned
1        54:60:09:61:2C:4C   xg3                    3        Learned
1        60:22:32:B1:11:29   xg3                    3        Learned
1        78:CA:39:F9:AA:DC   xg3                    3        Learned
1        94:18:65:D3:B4:3F   xg3                    3        Learned
1        A0:04:60:05:07:F5   xg3                    3        Learned
1        A4:77:33:F9:6B:F8   xg3                    3        Learned
1        B8:3E:59:DB:F1:AF   xg3                    3        Learned
1        DC:85:DE:59:C6:A7   xg3                    3        Learned
1        E0:46:EE:3A:6C:35   CPU Interface:  5/1     29       Management
1        FC:44:82:AE:AF:E7   xg3                    3        Learned
```

clear mac-addr-table

Syntax clear mac addr-table {<*macaddr*> | all | interface <*slot/port*> | vlan <*1-4093*>}

Parameter	<*macaddr*>	Specify the MAC address. The <*macaddr*> parameter represents a single MAC address.that must be deleted.
	interface <*slot-port*>	Specify the interface, LAG, a range of interfaces, or a range of LAGs from which all dynamically learned addresses must be deleted. The <*slot-port*> parameter represents the interface or LAG

		number or a range of interface numbers or LAG numbers. Use a hyphen to indicate a range. Use a comma to separate individual interfaces, ranges, or a combination of both.
	vlan *<1-4093>*	Specify the VLAN ID from which all dynamically learned addresses must be deleted. The *<1-4093>* parameter represents the VLAN ID.
	all	Use the **all** keyword to delete all dynamically learned addresses.

Default No default value.

Mode Privileged EXEC

Usage Use this command to delete the dynamically learned MAC entries from the MAC address table. As an option, you can specify an interface, LAG, or VLAN from which the dynamically learned address entries must be cleared. If you do not specify an interface or a VLAN, all dynamically learned address entries on the switch are deleted.

Example This example deletes the dynamically learned MAC addresses on interface xg5:

```
(Switch)#clear mac-addr-table interface xg5
```

Routing Commands

IP routing commands

show network

Syntax	show network [ipv6 dhcp statistics | ipv6 neighbors]	
Parameter	ipv6 dhcp statistics	As an option, use the **ipv6 dhcp statistics** keywords to display the IPv6 DHCP statistics.
	ipv6 neighbors	As an option, use the **ipv6 neighbors** keywords to display the IPv6 neighbors.
Default	No default value.	
Mode	User EXEC Privileged EXEC	
Usage	Use this command to show the management network information.	

Example

This example shows how to display the network information:

```
(Switch)#show network

Interface Status.............................. Up
IP Address.................................... 192.168.100.174
Subnet Mask................................... 255.255.255.0
Default Gateway............................... 192.168.100.1
IPv6 Administrative Mode...................... Enabled
IPv6 Prefix is ............................... fe80::e246:eeff:fe3a:6c35/64
Burned In MAC Address......................... E0:46:EE:3A:6C:35
Locally Administered MAC address.............. 00:00:00:00:00:00
MAC Address Type.............................. Burned In
Configured IPv4 Protocol...................... DHCP
Configured IPv6 Protocol...................... None
IPv6 AutoConfig Mode.......................... Disabled
Management VLAN ID............................ 1
```

Routing table commands

show ip route

Syntax	show ip route
Parameter	
Default	No default value.
Mode	User EXEC Privileged EXEC
Usage	Use this command to show the route entries on the switch.

Example	This example shows how to display the route entries on the switch:
	`(Switch)#show ip route`
	
	`Route Codes: C - Connected, S - Static`
	`SR - Static Recursive Route`
	
	`C 192.56.0.0/24 [0/0] directly connected, vlan 56`

ARP commands

clear arp-cache

Syntax	clear arp-cache [gateway]	
Parameter	gateway	As an option, use the **gateway** keyword to clear the dynamic and gateway entries from the ARP cache.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to delete the dynamic ARP entries from the ARP cache.	

Example	This example shows how to delete the dynamic ARP entries from the ARP cache. `(Switch)#clear arp-cache`

show arp

Syntax	show arp [brief | switch]	
Parameter	brief	As an option, use the **brief** keyword to display the ARP settings and cache.
	switch	As an option, use the **switch** keyword to display the ARP cache on the switch.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the ARP entries on the switch.	

Example

This example shows how to display the ARP cache on the switch:

```
(Switch)#show arp switch

    MAC Address        IP Address     Interface
------------------- ---------------- ------------
00:4E:01:B4:A4:C1   192.168.100.127  xg3
04:0E:3C:22:2E:BD   192.168.100.100  xg3
60:22:32:B1:11:29   192.168.100.1    xg3
FC:44:82:AE:AF:E7   192.168.100.106  xg3
02:02:BC:80:00:02   250.251.252.254  Management
```

Security Commands

Management security commands

username

Syntax	username <*name*> password <*password*> [encryption-type {sha256 | sha512}] level <*level*> encrypted [override-complexity-check]	
Parameter	<*name*>	The user name that must be added or changed. The *name* parameter represents the user name and can consist of a maximum number of 32 characters. You can use alphabetical and digital characters and the following special characters: ! # $ % & ( ) * + , - / ; < = > @ [ ] ^ _ ` { | } ~ \
	<*password*>	The password that must be associated with the user name. The *password* parameter represents the password in non-encrypted format. The password can be from 8 to 20 characters, and must include at least one uppercase letter, one lowercase letter, and one number. You can use alphabetical and digital characters and the following special characters: ! # $ % & ( ) * + - . / : ; < = > @ [ ] ^ _ ` { | } ~
	sha256 | *sha512*	Use the optional **encryption-type** keyword to set the encryption to either SHA256 or SHA512.
	<*level*>	The <*level*> parameter sets the switch access: 0: Blocks access to the switch. 1: Sets Privilege 1 access. 15: Sets Privilege15 access.
	override-complexity-check	Use the optional **override-complexity-check** keyword to disable password validation.
Default	User name "admin" with password "password" and privilege level 15.	
Mode	Global Configuration	
Usage	Use the **username** command to add a new user account or change an existing user account.	

Use the **no username** command to delete an existing user account. You cannot remove the default admin account.

The user accounts are stored in the local database for login authentication.

Example

This example shows how to add a new user account with the name johndoe, password abcde?12345!, encryption type SHA-512, privileged access, and the password in encrypted format:

```
(Switch)(Config)#username johndoe password abcde?12345!
encryption-type sha512 level 1 encrypted
```

show users

Syntax

show users [accounts [detail] | long | login-history {<username> | long}]

Parameter

accounts [detail]	Use the optional **accounts** keyword to display the accounts in the local database. Add the **detail** keyword to display details about the accounts.
long	Use the optional **long** keyword to display the full names of the users.
login-history	Use the optional **login-history** keyword to display the login history for the users.
<username>	The user name for which the login history must be displayed.

Default

No default value.

Mode

Privileged EXEC

Usage

Use this command to show all user accounts and details about the user accounts in the local database.

Example

This example shows the detailed output for all users accounts (while there is only a single account):

```
(Switch)#show users accounts detail

UserName..................................... admin
Privilege.................................... 15
Password Aging............................... ---
Password Expiry.............................. ---
Lockout...................................... False
Override Complexity Check.................... Disable
Encryption Type.............................. SHA512(10)
```

Access commands

ip ssh [server enable]

Syntax	ip ssh [server enable] no ip ssh [server enable]	
Parameter	server enable	Use the optional **server enable** keywords to enable or disable the SSH server.
Default	Enabled, both SSH access and the SSH server	
Mode	Global Configuration	
Usage	Use the **ip ssh** command to enable SSH access to the switch. Use the **no ip ssh** command to disable SSH access to the switch. Use the **ip ssh server enable** command to enable the SSH server. Use the **no ip ssh server enable** command to disable the SSH server. **Warning**: If you disable SSH access, all current SSH sessions are terminated, and you can no longer access the switch over the CLI. To restore SSH access, log in to the device UI, and reenable SSH access.	
Example	This example shows how to disable SSH service: `Switch(Config)# no ip ssh`	

ip ssh port

Syntax	ip ssh port *<1 - 65535>* no ip ssh port	
Parameter	*<1 - 65535>*	Set the secure shell (SSH) TCP service port, which can be a number in the range from <1 - 65535>.
Default	22	
Mode	Global Configuration	

Usage	Use the **ip ssh port** command to set the TCP port number on which the switch can detect SSH requests. Use the **no ip ssh port** command to reset the port number to the default.
Example	This example shows how to set the SSH TCP port number to port 1025: `Switch(Config)# ip ssh port 1025`

sshcon timeout

Syntax	sshcon timeout *<1-160>*	
Parameter	*<1-160>*	Set the SSH session time-out period in minutes, from 1 to 160 minutes.
Default	5 minutes	
Mode	Global Configuration	
Usage	Use this command to set the SSH session time-out period in minutes. If a user is logged in to the CLI, but does not take action, the user is automatically logged out from the CLI when the time-out period is reached.	
Example	This example shows how to set the SSH session time-out period to 25 minutes: `Switch(Config)# sshcon timeout 25`	

sshcon maxsessions

Syntax	sshcon maxsessions *<0-4>*	
Parameter	*<0-4>*	Set the maximum number of simultaneous SSH sessions, from 0 to 4.
Default	4	
Mode	Global Configuration	

Usage	Use this command to set the maximum number of simultaneous SSH sessions on the switch.
Example	This example shows how to set the maximum number of SSH sessions to 3: `Switch(Config)# sshcon maxsessions 3`

crypto key generate rsa

Syntax	crypto key generate rsa [<*key-len*>] No crypto key generate rsa
Parameter	<*key-len*> — As an option, set the RSA key length to RSA key length to 1024, 2048 or 3072 bits, by entering 1024, 2048, or 3072.
Default	A default RSA key with a length of 2028 bits exists.
Mode	Global Configuration
Usage	Use the **crypto key generate rsa** command to generate a new RSA key or replace the existing RSA key. Use the **no crypto key generate rsa** command to delete the existing RSA key. This process may take a few minutes. **Warning**: You must disable SSH before you can generate or delete an RSA key.
Example	This example shows how to generate a new RSA key: `Switch# crypto key generate rsa`

show ip ssh

Syntax	show ip ssh
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to display the SSH configuration and status.
Example	This example shows how to display the configuration and status of SSH:

```
(Switch)#show ip ssh

SSH Configuration

Administrative Mode: ......................... Enabled
SSH Port: ..................................... 22
Protocol Level: ............................... Version 2
SSH Sessions Currently Active: ................ 1
Max SSH Sessions Allowed: ..................... 4
SSH Timeout (mins): ........................... 60
Keys Present: ................................. DSA(1024)
                                                RSA(2048)

Key Generation In Progress: ................... None
SSH Public Key Authentication Mode: ........... Disabled
SCP server Administrative Mode: ............... Disabled
Max SSH authentication tries:.................. 4
Encryption Algorithms:......................... aes128-ctr
                                                aes192-ctr
                                                aes256-ctr
                                                chacha20-
poly1305@openssh.com

MAC Algorithms:................................ hmac-sha2-256
                                                hmac-sha2-512
                                                hmac-sha2-256-
etm@openssh.com
                                                hmac-sha2-512-
etm@openssh.com

KEX Algorithms:................................ curve25519-sha256
                                                curve25519-
sha256@libssh.org
                                                ecdh-sha2-nistp256
                                                ecdh-sha2-nistp384
                                                ecdh-sha2-nistp521
                                                diffie-hellman-group-
exchange-sha256
                                                diffie-hellman-group16-
sha512
                                                diffie-hellman-group18-
sha512
                                                diffie-hellman-group14-
sha256
```

```
HostKey Algorithms:.......................... rsa-sha2-256
                                              rsa-sha2-512
                                              ecdsa-sha2-nistp256
                                              ecdsa-sha2-nistp384
                                              ecdsa-sha2-nistp521
```

Traffic control commands

storm-control {broadcast | multicast | unicast} level

Syntax

storm-control {broadcast | multicast | unicast} [level <*0-100*>]
no storm-control {broadcast | multicast | unknown-unicast}

Parameter

broadcast	Sets broadcast as the storm control type.
multicast	Sets multicast as the storm control type.
unicast	Sets unicast as the storm control type.
<*0-100*>	As an option, set a percentage rate value from 1 to 100.

Default

All types of storm control are disabled.
If you enable any type of storm control, the default level is 5 (that is, 5 percent).

Mode

Global Configuration for all interfaces
Interface Configuration for one interface or select interfaces

Usage

Use the **storm-control {broadcast| multicast | unicast} level** command to enable storm control of a specific type, and as an option, at a specific percentage.
The different types of storm control (broadcast, multicast, and unknown unicast) are not mutually exclusive, but can each be enabled by issuing the command several times.
Use **no storm-control {broadcast| multicast | unicast}** command to disable storm control of a specific type.

Example

This example shows how to enable broadcast storm control on interface xg3 and set a broadcast storm control rate of 10 percent:

```
Switch(Config)# interface xg3
Switch(Interface xg3)# storm-control broadcast level 10
```

storm-control {broadcast | multicast | unicast} action

Syntax	storm-control {broadcast | multicast | unicast} action {trap | shutdown} no storm-control {broadcast | multicast | unknown-unicast} action	
Parameter	broadcast	The action must apply to broadcast traffic that exceeds the threshold.
	multicast	The action must apply to multicast traffic that exceeds the threshold.
	unicast	The action must apply to unknown unicast traffic that exceeds the threshold.
	trap	Discards the frames that exceed the threshold and send an SNMP trap.
	shutdown	Shuts down the interface.
Default	All frames that exceed the threshold are discarded (dropped).	
Mode	Global Configuration for all interfaces Interface Configuration for one interface or select interfaces	
Usage	Use the **storm-control {broadcast | multicast | unicast} action** command to set the action that must occur when the received storm control packets exceed the maximum rate. Use **no storm-control {broadcast | multicast | unicast} action** command to reset the action to the default.	
Example	This example shows how to set the action for broadcast storm control to shut down the interface on which the maximum rate is exceeded and apply this setting to all interfaces: `Switch(Config)# storm-control broadcast action shutdown`	

show storm-control

Syntax	show storm-control [<*slot/port*> | all]	
Parameter	<*slot/port*>	As an option, specify an interface for which the storm control configurations must be displayed. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).

	all	As an option, use the **all** keyword to display the storm control configurations for all interfaces.

Default No default value.

Mode Privileged EXEC

Usage Use this command to show all storm control configurations, including the global configuration and the per-interface configurations.

Example This example shows how to display the storm control configurations on the switch.

```
(Switch)#show storm-control

Broadcast Storm Control Mode.................. Disable
Broadcast Storm Control Level................. 5
percent
Broadcast Storm Control Action................ None
Multicast Storm Control Mode.................. Disable
Multicast Storm Control Level................. 5
percent
Multicast Storm Control Action................ None
Unicast Storm Control Mode.................... Disable
Unicast Storm Control Level................... 5
percent
Unicast Storm Control Action.................. None
```

Monitoring Commands

Port commands

cablestatus

Syntax	cablestatus <*slot/port*>	
Parameter	<*slot/port*>	Specify the interface for which the diagnostic information must be displayed. The <*slot/port*> parameter represents the interface number.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the estimated length of the Ethernet cable that is attached to an interface. The interface must be active, and in the link-up state.	

Example	This example shows how to display the diagnostic information for the cable that is attached to interfaces xg3:
	
	`(Switch)#cablestatus xg3`
	
	`Cable Status..... Normal`
	`Cable Length..... 0m - 10m`	

Logging commands

clear logging buffered

Syntax	clear logging buffered
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to clear the log messages from the internal logging buffer in the RAM.
Example	This example first clears the log messages stored in RAM: `Switch# clear logging buffered`

show logging

Syntax	show logging [buffered | persistent | traplogs}	
Parameter	buffered	Displays the log messages stored in RAM.
	persistent	Displays the log messages stored in flash memory.
	traplogs	Displays the log messages for SNMP traps.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to show the log messages in RAM, flash memory, or the SNMP trap logs.	
Example	This example shows the log messages stored in the RAM (only three messages are displayed): `(Switch)#show logging buffered`	

```
Buffered (In-Memory) Logging        : enabled
Buffered Logging Wrapping Behavior  : On
Buffered Log Count                  : 298
Buffered Log Threshold (lines)      : 160

<189>1 2024-07-17T22:00:13.035Z 192.168.100.172 TRAPMGR
lldpTask traputil.c(834) 20303 [stk@4526 unit:1][sev@4526
NOTE] %% LLDP-MED Topology Change Detected:
ChassisIDSubtype: 4, ChassisID: 44:A5:6E:59:38:D0,
DeviceClass: 4, Interface: xg3
<190>1 2024-07-17T22:00:03.319Z 192.168.100.172 BONJOUR
bonjourTask bonjour_control.c(521) 20299 [stk@4526
unit:1][sev@4526 INFO] %% Bonjour received IP Address
CHANGED event
<189>1 2024-07-17T22:00:02.688Z 192.168.100.172 SIM
DHCPv4_Client_T sim_net_port.c(232) 20298 [stk@4526
unit:1][sev@4526 NOTE] %% Network port IPv4 address has
been set to 192.168.100.172.
…
```

Mirroring commands

monitor session source interface

Syntax

monitor session <*1-4*> source interface <*slot/port*> [rx | tx]
no monitor session <*1-4*> source interface <*slot/port*>

Parameter

<*1-4*>	Specify the mirror session, which can be a number from 1 to 4. The switch can support a total of four simultaneous mirroring sessions.
<*slot/port*>	Specify the source interface, which is a physical port from which traffic is mirrored. The <*slot/port*> parameter represents the interface number.
rx	As an option, apply mirroring to incoming traffic only. (Without an option, mirroring applies to both directions.)
tx	As an option, apply mirroring to outgoing traffic only. (Without an option, mirroring applies to both directions.)

Default

No monitor sessions are configured for any source interfaces.

Mode

Global Configuration

Usage	Use the **mirror session source interface** command to configure a source interface for a port mirroring session. You can configure several source interfaces for a single session. Use the **no mirror session source interface** command to remove a source interface for a port mirroring session.
Example	This example shows how to configure port mirroring session 1 to mirror incoming traffic only on interface xg2: `Switch(Config)# monitor session 1 source interface xg2 rx`

monitor session destination interface

Syntax	monitor session <*1-4*> destination interface <*slot/port*> no monitor session <*1-4*> destination interface <*slot/port*>	
Parameter	<*1-4*>	Specify the mirror session, which can be a number from 1 to 4. The switch can support a total of four simultaneous mirroring sessions.
	<*slot/port*>	Specify the destination interface, which is a physical port from which traffic is mirrored. The <*slot/port*> parameter represents the interface number.
Default	No monitor sessions are configured for any destination interface.	
Mode	Global Configuration	
Usage	Use the **mirror session destination interface** command to configure a destination interface for a port mirroring session. You can configure a single destination interface only for a single session. Use the **no mirror session destination interface** command to remove a destination interface for a port mirroring session.	
Example	This example shows how to configure port mirroring session 1 to mirror traffic to interface xg6: `Switch(Config)# monitor session 1 destination interface xg6`	

monitor session mode

Syntax	monitor session <*1-4*> mode no monitor session <*1-4*> mode	
Parameter	<*1-4*>	Specify the mirror session, which can be a number from 1 to 4. The switch can support a total of four simultaneous mirroring sessions.
Default	No monitor sessions are enabled.	
Mode	Global Configuration	
Usage	Use the **mirror session mode** command to start a configured port mirroring session. Use the **no mirror session mode** command to stop a configured port mirroring session.	
Example	This example shows how to start port mirroring session 2: `Switch(Config)# monitor session 2 mode`	

Maintenance Commands

Reset commands

reload

Syntax	Reload [configuration]	
Parameter	configuration	As an option, use the **configuration** keyword to initiate a graceful reload, which first allows processes to terminate before rebooting the switch.
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to reboot the switch without powering down the switch. If you reboot the switch, all network connections are terminated. The switch uses the saved startup configuration to initialize the switch.	
Example	This example shows how to reboot the switch: `(Switch)#reload`	

clear config

Syntax	clear config [interface {<*intf-range*> | lag <*intf-range*>| vlan <*1-4093*>}]

Parameter	*<intf-range>*	Use the **interface** keyword and specify the interface. The *<intf-range>* parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
	<lag id>	Use the **interface lag** keywords and specify the LAG ID for the interface. The *<lag id>* parameter represents the LAG number. The number of LAGs that can be supported depends on the switch model.
	<1-4093>	Use the **interface vlan** keywords and specify the VLAN ID or list of IDs. The *<1-4093>* parameter represents a single VLAN ID (for example: 3).
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use this command to restore the switch to factory default settings, after which the switch automatically reboots. You can also use this command to reset an interface, LAG, or VLAN to default settings.	

Example	This example shows how to restore the switch to factory default settings and then reboot the switch:
	`(Switch)# clear config`
	This example shows how to reset VLAN 2 to default settings:
	`(Switch)#clear config interface vlan 2`	

erase startup-config

Syntax	erase startup-config
Parameter	
Default	No default value.

Mode	Privileged EXEC
Usage	Use this command to delete the startup configuration file.
Example	This example shows how to delete the startup configuration file: `(Switch)#erase startup-config`

delete {image1 | image2}

Syntax	delete {image1 | image2}
Parameter	image1 Deletes image1 from the flash memory. image2 Deletes image2 from the flash memory.
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to delete a firmware image that is stored in flash memory.
Example	This example shows how to delete firmware image1 from flash memory: `(Switch)#delete image1`

Copy, export, and update commands

Copy

The **copy** command uploads and downloads files to and from the switch. You can also use the **copy** command to update the firmware by uploading firmware (image) files and manage the dual images (image 1 and image 2) on the file system.

Upload and download files from a server using TFTP, FTP, SCP, SFTP, HTTP, HTTPS, Xmodem, Ymodem, or Zmodem.

Note: Multiple other options exist for the **copy** command. The following table lists only the essential information about the **copy** command.

Syntax	The basic command format is: **copy** <*source*> <*destination*> For the <*source*> and <*destination*> parameters, use one of the following values: • tftp://<*ipaddress*> | <*hostname*>/<*filepath*>/<*filename*> • ftp://<*user*>@<*ipaddr*> | <*hostname*>/<*path*>/<*filename*> • scp://<*user*>@<*ipaddr*> | <*hostname*>/<*path*>/<*filename*> • sftp://<*user*>@<*ipaddr*> | <*hostname*>/<*path*>/<*filename*> • http://<*user*>@}<*url*>/<*path*>/<*filename*> • https://<*user*>@}<*url*>/<*path*>/<*filename*> • xmodem • ymodem • zmodem	
Parameter	<*ipaddress*>, <*ipaddr*>, or <*hostname*>	For TFTP, FTP, SCP, and SFTP, the <*ipaddress*> or <*hostname*> parameter is the IP address or host name of the server.
	<*filepath*> or <path>	For TFTP, FTP, SCP, and SFTP, the <*filepath*> *or* <path> parameter is the path to the file that you want to upload or download.
	<*filename*>	For TFTP, FTP, SCP, and SFTP, the <*filename*> parameter is the name of the file you want to upload or download
	<*user*> and <*ipaddr*>	For SFTP and SCP, the <*user*> parameter is the user name for logging into the remote server via SSH, and the <*ipaddr*> parameter is the IP address of the remote server.
	<*user*> and <*url*>	For HTTP and HTTPS, the <*user*> parameter is the user name and <url> parameter is the URL of the remote server.
	system:running-config	Selects the running configuration file.
	nvram:startup-config	Selects the startup configuration file.
	nvram:backup-config	Selects the backup configuration file.
	nvram:tech-support	Selects the technical support file.
	image1	Select the image 1 firmware file.
	image2	Select the image 2 firmware file.
Default	No default value.	

Mode	Privileged EXEC
Usage	The switch includes multiple types of files, many of which are important for its management. The most common file operation is copy. The **copy** command lets you upgrade, back up, and copy the following types of files. • Firmware images • Configuration files • Syslog files

Example	This example shows how to copy the running configuration to the startup configuration:
	
	`(Switch)#copy system:running-config nvram:startup-config`
	`Are you sure you want to save? (y/n)`
	
	This example shows how to back up the running configuration to a file named test1.cfg on a remote TFTP server with IP address 192.168.1.123:
	
	`(Switch)#copy system:running-config`
	`tftp://192.168.1.123/test1.cfg`
	
	`Mode..... TFTP`
	`Set Server IP.....`
	`192.168.1.123`
	`Path..... ./`
	`Filename..... test1.cfg`
	`Data Type..... Text`
	`Configuration`
	`Source Filename..... running-`
	`config`
	
	`Management access will be blocked for the duration of the`
	`transfer`
	`Are you sure you want to start? (y/n)`
	
	This example shows how to upgrade the startup configuration from a file named test2.cfg on remote TFTP server with IP address 192.168.0.1:
	
	`(XS516TM)#copy tftp://192.168.0.1/test2.cfg nvram:startup-`
	`config`
	
	`Mode..... TFTP`
	`Set Server IP..... 192.168.0.1`
	`Path..... ./`
	`Filename..... test2.cfg`
	`Data Type..... Text`
	`Configuration`
	`Download configuration file. Current configuration will be`
	`cleared.`

```
Management access will be blocked for the duration of the
transfer
Are you sure you want to start? (y/n)
```

File management commands

save

Syntax	save
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to save the running configuration to the startup configuration file. Note: This command has the same effect as the **copy system:running-config nvram:startup-config** command. You can use the **show startup-config** command to display the startup configuration.
Example	This example shows how to save the running configuration to the startup configuration file:

```
(Switch)#save
This operation may take a few minutes.
Management interfaces will not be available during this
time.
Are you sure you want to save? (y/n)
```

boot system

Syntax	boot system {image1 | image2}	
Parameter	Image1	Boots the switch from flash image partition 1
	Image2	Boots the switch from flash image partition 2

Default	The default boot image is image1.
Mode	Global Configuration
Usage	The switch supports two images, which lets you store a backup image in the flash memory of the switch. Use this command to select the active firmware image. If you select image1 to become the new active firmware, image2 becomes the new backup image.
Example	This example shows how to select image1 as the active image: `(Switch)#boot system image1`

show bootvar

Syntax	show bootvar
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to show the image information in both partitions of the flash memory. The output of the command also shows the currently active image and the image that will be the active image after the switch boots.
Example	This example shows how to display the dual image information on the switch:

```
(Switch)#show bootvar

Image Descriptions

 image1 :
 image2 :


 Images currently available on Flash

 ----  ------------  ------------  -----------------  -----------------
 unit        image1        image2     current-active        next-active
 ----  ------------  ------------  -----------------  -----------------

    1     7.8.11.15      1.0.1.63             image1             image1
```

show startup-config

Syntax	show startup-config
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to show the contents of the startup configuration for the switch. Note: The configuration file is text based.
Example	This example shows how to the display the startup configuration for the switch:

```
(Switch)#show startup-config

!Current Configuration:
!
!System Description "XS516TM S3600 Series 16-Port
10G/Multi-Gigabit Ethernet Smart Switch with 2 SFP+ Ports,
7.8.11.15, 1.0.0.2"
!System Software Version "7.8.11.15"
!System Up Time          "1 days 5 hrs 39 mins 40 secs"
!Additional Packages     QOS,IPv6,IPv6 Management,Routing
!Current System Time: Jul 14 01:23:57 2024
!
vlan database
vlan 100,3600

.....
```

show running-config

Syntax	show running-config [all | interface {<*slot/port*> | lag <*lag-intf-num*> | vlan <*1-4093*>}]	
Parameter	all	Use the **all** keyword to display the entire running configuration.
	<*slot/port*>	Use the **interface** keyword and specify the interface. The <*slot/port*> parameter represents the interface number, for example, xg1. Specify a port list by separating the interfaces by a comma (for example: xg1, xg3, xg7). Specify a port range by separating the interfaces by a hyphen (for example: xg6-xg8).
	<*lag-intf-num*>	Use the **interface lag** keywords and specify the LAG ID for the interface. The <*lag-intf-num*> parameter represents the LAG number. The number of LAGs that can be supported depends on the switch model.
	<*1-4093*>	Use the **interface vlan** keywords and specify the VLAN ID or list of IDs. The <*1-4093*> parameter represents a single VLAN ID (for example: 3).
Default	No default value.	
Mode	Privileged EXEC	
Usage	Use the **show running-config** command to show the running configuration for the switch. You can also use this command to show the running configuration for one or more interfaces or LAGs or a VLAN. **Note**: The configuration file is text based.	
Example	This example shows how to display the running configuration for interface XG3:	

```
(Switch)#show running-config interface xg3

!Current Configuration:
!
interface  xg3
voice vlan dot1p 7
no auto-voip oui-based
exit
```

This example shows how to display the running configuration for interface g1:

```
Switch# show running-config interfaces g1
interface g1
 speed 1000

……
```

show backup-config

Syntax	show backup-config
Parameter	
Default	No default value.
Mode	Privileged EXEC
Usage	Use this command to show the backup configuration for the switch. Note: The configuration file is text based.
Example	This example shows how to the display the backup configuration for the switch:

```
(Switch)#show backup-config

!Current Configuration:
!
!System Description "XS516TM S3600 Series 16-Port
10G/Multi-Gigabit Ethernet Smart Switch with 2 SFP+ Ports,
7.8.11.15, 1.0.0.2"
!System Software Version "7.8.11.15"
!System Up Time          "1 days 5 hrs 39 mins 40 secs"
!Additional Packages     QOS,IPv6,Ipv6 Management,Routing
!Current System Time: Jul 14 01:23:57 2024
!
vlan database
vlan 100,3600
.............
```

show tech-support

Syntax	show tech-support
Parameter	
Default	N/A
Mode	Privileged EXEC
Usage	Use this command to create a file with system and configuration information for technical support. The command has multiple options to narrow down the information.

Example	This example shows how to create a file with technical information for technical support:
	`(Switch)#show tech-support`
	`TechSupport File created successfully.`

Troubleshooting commands

ping

Syntax	ping {<*hostname*> | <*ip-address*> | <ip6addr>}{size <*0-13000*>} [count <*1-15*>] [interval <*1-60*>]	
Parameter	<*hostname*>	Sets the host name to be pinged.
	<*ip-address*>	Sets the IPv4 address to be pinged.
	<*ip6addr*>	Sets the IPv6 address to be pinged.
	size <*0-13000*>	Use the **size** keyword and specify the size of the ping packet. The <*0-13000*> parameter represents the size of the ping packets, which can be from 0 to 13000 bytes. By default, the size of the ping packets is 0 bytes.
	count <*1-15*>	As an option, use the **count** keyword and specify how many times the ping must be sent. The <*1-15*> parameter represents the number of times,

	which can be from 1 to 15. By default, the ping is sent three times.
interval *<1-60>*	As an option, use the **interval** keyword and specify how often the ping must be sent. The *<1-60>* parameter represents the interval in seconds, which can be from 1 to 60. By default, the ping is sent in intervals of three seconds.

Default

No default value.

Mode

User EXEC
Privileged EXEC

Usage

Use this command to ping a hostname, IPv4 address, or IPv6 address.

Example

This example shows how to ping a host with IPv4 address 192.168.0.111:

```
(Switch)>ping 192.168.100.103 size 56
 Pinging 192.168.100.103 with 56 bytes of data:

Reply From 192.168.100.103: icmp_seq = 0. time= 3 msec.
Reply From 192.168.100.103: icmp_seq = 1. time= 1 msec.
Reply From 192.168.100.103: icmp_seq = 2. time= 1 msec.

----192.168.100.103 PING statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (msec) min/avg/max = 1/2/3
```