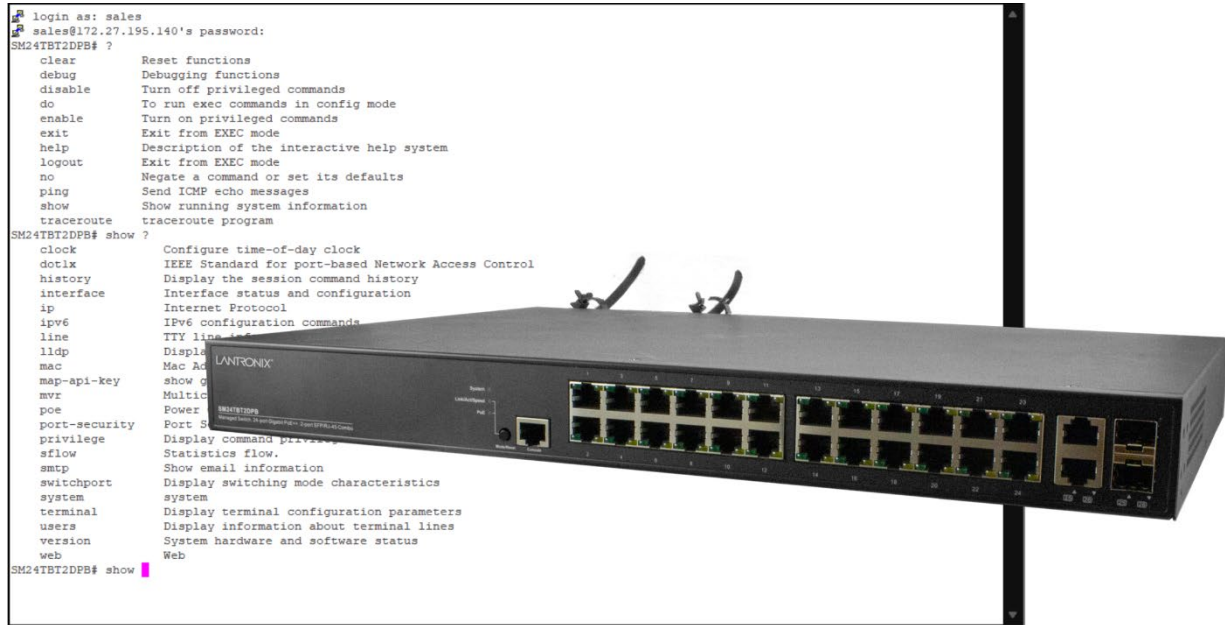


LANTRONIX®



SM24TBT2DPA and SM24TBT2DPB

Managed Gigabit Ethernet PoE++ Switch

CLI Reference

Part Number 33739
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Revision History

| Rev | Date | Description |
|-----|----------|---|
| G | 6/21/21 | FW vB6.64.0031: add PoE Force mode, support one VLAN interface gateway for the default route, add two device icons in DMS, and add API commands. Add note on the time it takes to have PoE++ power on the ports to power PDs again after a cold restart. |
| H | 4/26/22 | Initial Lantronix SM24TBT2DPB release at FW vB6.64.0045. SM24TBT2DPA FW vB6.64.0043. |
| J | 11/30/22 | FW vB6.64.0079: add DHCP per port function to select a particular IP interface. Change default settings: SNMP mode stays Disabled as factory default and change Auth Method Configuration default. Add DHCP option 229 support. In PoE schedule, if Start Time = End Time, reset PoE power on the ports. Add ConsoleFlow in web/cli/api, add CF On-premise support, add CF S/N and LPM MAC address, and support API in https. Note that SM24TBT2DPA is EoL. Note change to Power Supply monitoring. |
| K | 7/16/24 | FW VB6.64.0123: Update to TLSv1.2 ciphers. Allow special characters in Web PoE profile name. Change ConsoleFlow to PercepXion. Change self-signed certificates. Update LLDP-MED Neighbor Information. Allow dash (-) for status update interval and content check interval and switch disconnect from server. Automatically save Config changes to Start-Up Config in PercepXion server. Add a Caution that Forcing the switch to send POE to non-POE devices can physically damage those devices. Modify Device/Product type API format. Add Capability Negotiation Definition with PercepXion Server. Fix show SNMP user command and PercepXion telemetry exchange issues. See the Release Notes for details. |

Contents

| | |
|---|-----|
| 1. CLI Management | 6 |
| 1-1 Introduction | 6 |
| 1-2 CLI Connection | 6 |
| 1-3 Login..... | 7 |
| 1-5 Command Modes | 8 |
| 1-6 Related Manuals | 9 |
| 1-7 Exec Mode CLI Commands | 10 |
| 2. Clear Commands | 13 |
| 3. Config Mode Commands | 22 |
| 3-1 Power Module Monitoring Change..... | 27 |
| 3-2 access-list | 97 |
| 3-3 no | 102 |
| 3-4 qos..... | 139 |
| 3-5 snmp-server | 146 |
| 3-6 spanning-tree | 153 |
| 4. Copy Commands | 156 |
| 5. Debug Commands | 157 |
| 6. Delete Commands | 159 |
| 7. DIR Commands | 160 |
| 8. Disable Commands | 160 |
| 9. Do Commands..... | 161 |
| 10. DOT1x Commands | 162 |
| 11. Enable Commands | 164 |
| 12. Firmware Commands | 165 |
| 13. No Commands..... | 167 |
| 14. PING Commands..... | 168 |
| 15. Reload Commands | 169 |
| 16. Send Commands | 170 |

| | |
|--|-----|
| 17. Show Commands | 171 |
| 18. Terminal Commands | 263 |
| 19. IP Commands | 264 |
| 20. Interface Config Mode Commands..... | 265 |
| 21. Traceroute Commands | 305 |
| 22. Cable Diagnostic Commands | 306 |
| 23. Configure DHCP per Port | 308 |
| 23-1 DHCP IP per Port..... | 312 |
| 23-1.1 DHCP Per Port VLAN Command..... | 312 |
| Appendix A. Service, Warranty & Tech Support | 314 |
| Appendix B. Compliance Information | 314 |

1. CLI Management

1-1 Introduction

This manual gives specific information on how to operate and use the Command Line Interface (CLI) of the SM24TBT2DPA and SM24TBT2DPB switches. This manual is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of Ethernet switch functions, the Internet Protocol (IP), and Simple Network Management Protocol (SNMP).

1-2 CLI Connection

This section provides a brief description of the network connection.

1. Locate the correct DB-9 (RS-232) cable with female DB-9 connector. RS-232 cable is used for connecting a terminal or terminal emulator to the Managed Switch's RJ45 port to access the command-line interface.
2. Attach the RJ45 serial port on the switch's front panel which used to connect to the switch for console configuration.
3. Attach the other end of the DB-9 cable to an ASCII terminal emulator or PC Com-1 or Com-2 port. For example, a PC running Microsoft Windows HyperTerminal utility.
4. At "Com Port Properties" Menu, configure the parameters as below: (see the next section).

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

1-3 Login

The command-line interface (CLI) is a text-based interface. You can access the CLI through either a direct serial connection to the device or a Telnet session. The default username and password to login into the Switch are:

Username: admin

Password: admin

After you login successfully, the prompt will be shown as “<sys_name>#” . This means you are treated as an administrator and have the privilege for setting the Managed Switch. If logged in as other than the administrator, the prompt will be shown as “<sys_name>>”, meaning you are treated as a guest and are only allowed for setting the system under the administrator. Each CLI command has its own privilege level.

```
Username: admin
```

```
Password: admin
```

```
SM24TBT2DPA#
```

1-4 Privilege Levels

Every command has a privilege level of 0-15. You can run a command if the session’s privilege level is greater than or equal to the command’s privilege level. The session’s privilege level initially comes from the login account’s privilege level; it is possible to change the session’s privilege level after logging in.

| Privilege Level | Types of Commands at This Privilege Level |
|-----------------|--|
| 0 | Display basic system information. |
| 13 | Configure features except for login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords. |
| 15 | Configure login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords. |

1-5 Command Modes

The CLI is divided into several modes. If a user has enough privilege to run a particular command, they have to run the command in the correct mode. The modes available depend on the session's privilege level.

To see the commands of a mode, enter a "?" after the system prompt, then all commands will be listed in the screen. The command modes are listed below:

| Mode | Prompt | Command Function in This Mode |
|------------------------|-------------------------------------|--|
| exec | <sys_name># | Display current config, diagnostics, maintenance |
| config | <sys_name>(config)# | Configure features other than those below |
| Config-if | <sys_name>(config-interface)# | Configure ports |
| Config-if-vlan | <sys_name>(config-if-vlan)# | Configure static vlan |
| Config-line | <sys_name>(config-line)# | Line Configuration |
| Config-impc-profile | <sys_name>(config-impc-profile)# | IPMC Profile |
| Config-snmp-host | <sys_name>(config-snmp-host)# | SNMP Server Host |
| Config-stp-aggr | <sys_name>(config-stp-aggr)# | STP Aggregation |
| Config-dhcp-pool | <sys_name>(config-dhcp-pool)# | DHCP Pool Configuration |
| Config-rfc2544-profile | <sys_name>(config-rfc2544-profile)# | RFC2544 Profile |

CLI commands exist in various modes and can be run only in that mode. To run a particular command, you must change to the appropriate mode. The following table explains how to change from one mode to another.

Change Between Command Modes

| Mode | Enter Mode | Leave Mode |
|------------------|--|------------|
| exec | -- | -- |
| config | Configure terminal | exit |
| config-interface | Interface <port-type> <port-type-list> | exit |
| config-vlan | Interface vlan <vlan_list> | exit |

Controls

```
-- more --, next page: Space, continue: g, quit: ^C
```

| Control | Function |
|------------------|--|
| -- more -- | Indicates that more page info can be displayed. |
| next page: Space | Hit the space key to display additional page data. |
| continue: g | Press the g key to display additional page data. |
| quit: ^C | Press Ctrl and C keys together to return to the command prompt. |
| ? | Press the ? key to display available commands in a list. |
| ?? | Press the ? key twice to display available commands' syntax. |
| <Tab> | Press the TAB key to display available commands in table format. |

1-6 Related Manuals

These manuals give specific information on how to operate switch functions:

- SM24TBT2DPA Quick Start Guide, 33736
- SM24TBT2DPA Install Guide, 33737
- SM24TBT2DPB Quick Start Guide, 33844
- SM24TBT2DPB Install Guide, 33845
- SM24TBT2DPA and DPB Web User Guide, 33738
- SM24TBT2DPA and DPB API User Guide, 33822
- Release Notes (version specific)

For Lantronix Drivers, Firmware, Manuals, Product Notifications, Warranty Policy & Procedures, etc. go to the Lantronix [Technical Resource Center](#).

Note that this manual provides links to third party web sites for which Lantronix is not responsible.

The following sections introduce CLI privilege levels and command modes.

- The privilege level determines whether or not the user can run a particular command;
- If you have sufficient privilege level to run a particular command, then you must run the command in the correct mode.

1-7 Exec Mode CLI Commands

The Exec mode (global) CLI commands are shown below:

```
SM24TBT2DPB# ?
  CableDiag      Cable Diagnostic keyword
  clear          Reset functions
  configure      Enter configuration mode
  copy           Copy from source to destination
  debug         Debugging functions
  delete        Delete one file in flash: file system
  dir           Directory of all files in file system
  disable       Turn off privileged commands
  do            To run exec commands in config mode
  dot1x        IEEE Standard for port-based Network Access Control
  enable       Turn on privileged commands
  exit         Exit from EXEC mode
  firmware     Firmware upgrade/swap
  help        Description of the interactive help system
  ip         IPv4 commands
  logout     Exit from EXEC mode
  more      Display file
  no       Negate a command or set its defaults
  ping    Send ICMP echo messages
  reload  Reload system.
  send   Send a message to other tty lines
  show   Show running system information
  terminal Set terminal line parameters
  traceroute  traceroute program
SM24TBT2DPB#
```

exit

Exit from EXEC mode.

Syntax: exit

Parameters: None.

Example:

```
SM24TBT2DPA# exit

Username:
Password:
Wrong username or password!
Username: admin
Password: admin
SM24TBT2DPA#
```

help

Description of the interactive help system.

Syntax: help

Parameters: None.

Example:

```
SM24TBT2DPB# help

Help may be requested at any point in a command by entering
a question mark '?'. If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.

Two styles of help are provided:

1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.

2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

SM24TBT2DPB#
```

logout

Exit from EXEC mode. Press ENTER and then log back in.

Syntax: `logout`

Parameters: none

Example:

```
SM24TBT2DPA# logout
```

```
Username: admin
```

```
Password: admin
```

```
SM24TBT2DPA#
```

end

Go back to EXEC mode from Config mode.

Syntax: `end`

Parameters: none

Example:

```
SM24TBT2DPA# con ter
```

```
SM24TBT2DPA(config)# end
```

```
SM24TBT2DPA#
```

2. Clear Commands

Table : Clear Command Parameters

| Command | Function |
|-----------------|---|
| access | Access management |
| access-list | Access list |
| dot1x | IEEE Standard for port-based Network Access Control |
| ip | Interface Internet Protocol config commands |
| ipv6 | IPv6 configuration commands |
| lACP | Clear LACP statistics |
| lldp | Clears LLDP statistics. |
| logging | Syslog |
| mac | MAC Address Table |
| mvr | Multicast VLAN Registration configuration |
| port-security | Enable/disable port security globally. |
| sflow | Statistics flow. |
| spanning-tree | STP Bridge |
| statistics | Clear statistics for a given interface |
| management | Access management configuration |
| statistics | Statistics data |
| ace | Access list entry |
| statistics | Traffic statistics |
| arp | Clear ARP cache |
| dhcp | Dynamic Host Configuration Protocol |
| igmp | Internet Group Management Protocol |
| statistics | Traffic statistic |
| detailed | Detailed statistics |
| relay | DHCP relay agent configuration |
| server | Miscellaneous DHCP server information |
| snooping | DHCP snooping |
| all | Clear all DHCP related statistics |
| client | DHCP client |
| helper | DHCP normal L2 or L3 forward |
| relay | DHCP relay |
| server | DHCP server |
| snooping | DHCP snooping |
| mld | Multicast Listener Discovery |
| neighbors | IPv6 neighbors |
| statistics | Traffic statistics |
| interface | Interface |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| snooping | Snooping MLD |
| statistics | Running MLD snooping counters |
| vlan | Search by VLAN |
| <vlan_list> | VLAN identifier(s): VID |

| | |
|---------------------|--|
| statistics | Clear all LACP statistics |
| statistics | Clears LLDP statistics. |
| error | Error |
| info | Information |
| warning | Warning |
| address-table | Flush MAC Address table |
| name | MVR multicast name |
| statistics | Running MVR protocol counters |
| vlan | MVR multicast vlan |
| <MvrName : word16> | MVR multicast VLAN name |
| <vlan_list> | MVR multicast VLAN list |
| sticky | port security sticky function per interface. |
| All | clear all sticky mac at all ports |
| interface | Choose port |
| receiver | Clear statistics for receiver. |
| <Samplers : option> | runtime, see sflow_icli_functions.c |
| detected-protocols | Set the STP migration check |
| statistics | STP statistics |

access

Clear Access management.

Syntax: `clear` access management statistics

Parameters:

| | |
|-------------------|----------------------------------|
| management | Access management configuration. |
| statistics | Statistics data. |

Example:

```
SM24TBT2DPA # clear access management statistics
SM24TBT2DPA #
SM24TBT2DPB# clear sflow statistics interface GigabitEthernet 1/9
E sflow 00:33:33 13.800,000 153/sflow_icli_statistics#810: Error: Sorry don't
know what to do
SM24TBT2DPB# clear access-list ace statistics
SM24TBT2DPB# clear ip dhcp detailed statistics client
SM24TBT2DPB# clear ipv6 mld snooping vlan 100 statistics
SM24TBT2DPB# clear lacp statistics
SM24TBT2DPB# clear spanning-tree statistics
SM24TBT2DPB#
```

access-list

Clear Access list.

Syntax: **Clear** access-list ace statistics

Parameters:

ace Access list entry
statistics Traffic statistics

Example:

```
SM24TBT2DPA# clear access-list ace statistics
SM24TBT2DPA#
```

dot1x

Clear IEEE Standard for port-based Network Access Control.

Syntax

Clear dot1x statistics

Clear dot1x statistics interface GigabitEthernet < PORT_TYPE_LIST >

Parameters

statistics Clears the statistics counters
interface Interface
GigabitEthernet 1 Gigabit Ethernet Port
PORT_TYPE_LIST Port list in 1/1-24 for Gigabit Ethernet

EXAMPLE

```
SM24TBT2DPA# clear dot1x statistics interface GigabitEthernet 1/1-24
SM24TBT2DPA#
```

ip

Clear Interface Internet Protocol config commands

Syntax

```
clear ip arp
clear ip dhcp detailed statistics { server | client | snooping | relay | helper | all } [ interface ( <port_type>
[ <in_port_list> ] ) ]
clear ip dhcp relay statistics
clear ip dhcp server binding <ip>
clear ip dhcp server binding { automatic | manual | expired }
clear ip dhcp server statistics
clear ip dhcp snooping statistics [ interface ( <port_type> [ <in_port_list> ] ) ]
clear ip igmp snooping [ vlan <v_vlan_list> ] statistics
clear ip statistics [ system ] [ interface vlan <v_vlan_list> ] [ icmp ] [ icmp-msg <type> ]
```

Parameters

| | |
|--------------------------|-------------------------------------|
| arp | Clear ARP cache |
| dhcp | Dynamic Host Configuration Protocol |
| igmp | Internet Group Management Protocol |
| statistics | Traffic statistics |
| relay | DHCP relay agent configuration |
| snooping | DHCP snooping |
| interface | Select an interface to configure |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| vlan | IPv4 traffic interface |
| <vlan_list> | VLAN identifier(s): VID |

EXAMPLE

```
SM24TBT2DPA# clear ip arp
SM24TBT2DPA# clear ip dhcp detailed statistics all interface GigabitEthernet 1/1-24
SM24TBT2DPA# clear ip dhcp relay statistics
SM24TBT2DPA# clear ip dhcp server binding 192.168.1.11
SM24TBT2DPA# clear ip dhcp server binding automatic
SM24TBT2DPA# clear ip dhcp server statistics
SM24TBT2DPA# Clear ip dhcp snooping statistics interface GigabitEthernet 1/1-24
SM24TBT2DPA# clear ip igmp snooping vlan 1 statistics
SM24TBT2DPA# clear ip statistics system interface
SM24TBT2DPA# clear ip statistics system interface vlan 1 icmp icmp-msg 2
```


ipv6

Clear IPv6 configuration commands.

Syntax

clear ipv6 mld snooping [vlan <v_vlan_list>] statistics

clear ipv6 neighbors

clear ipv6 statistics [system] [interface vlan <v_vlan_list>] [icmp] [icmp-msg <type>]

Parameters

| | |
|--------------------------|---|
| mld | Multicast Listener Discovery |
| neighbors | Ipv6 neighbors |
| statistics | Traffic statistics |
| snooping | Snooping MLD |
| statistics | Running MLD snooping counters |
| vlan | Ipv6 interface traffic |
| <vlan_list> | VLAN identifier(s): VID |
| icmp | IPv6 ICMP traffic |
| icmp-msg | IPv6 ICMP traffic for designated message type |
| interface | Select an interface to configure |
| system | IPv6 system traffic |
| < 0~255> | ICMP message type ranges from 0 to 255 |

EXAMPLE

```
SM24TBT2DPA# clear ipv6 mld snooping vlan 3 statistics
SM24TBT2DPA# clear ipv6 neighbors
SM24TBT2DPA# clear ipv6 statistics system icmp icmp-msg 2
```

larp

Clear LACP statistics.

Syntax: Clear **larp** statistics

Parameters :

statistics Clear all LACP statistics

EXAMPLE

```
SM24TBT2DPA# clear ipv6 mld snooping vlan 3 statistics
SM24TBT2DPA# clear ipv6 neighbors
SM24TBT2DPA# Clear ipv6 statistics system icmp icmp-msg 2
```

lldp

Clears LLDP statistics.

Syntax

Clear lldp statistics

Clear lldp statistics| begin | exclude | include >> LINE >

Parameters

statistics Clears LLDP statistics.
| Output modifiers
begin Begin with the line that matches
exclude Exclude lines that match
include Include lines that match
<LINE> String to match output lines

EXAMPLE

```
SM24TBT2DPA# clear lldp statistics | begin LINE
SM24TBT2DPA#
```

logging

Clear Syslog (system logging).

Syntax

```
clear logging [ info ] [ warning ] [ error ] [ switch <switch_list> ]
```

Parameters

| | |
|----------------|-------------|
| error | Error |
| info | Information |
| warning | Warning |

EXAMPLE

```
SM24TBT2DPA# clear logging info error warning  
SM24TBT2DPA#
```

mac

Clear MAC Address Table.

Syntax

```
Clear mac address-table
```

Parameter

| | |
|----------------------|--------------------------|
| address-table | Flush MAC Address table. |
|----------------------|--------------------------|

EXAMPLE

```
SM24TBT2DPA# clear mac address-table  
SM24TBT2DPA#
```

mvr

Clear Multicast VLAN Registration configuration.

Syntax

```
clear mvr [ vlan <v_vlan_list> | name <mvr_name> ] statistics
```

Parameters

| | |
|--------------------------|-------------------------------|
| name | MVR multicast name |
| statistics | Running MVR protocol counters |
| vlan | MVR multicast vlan |
| < word16 > | MVR multicast VLAN name |
| <vlan_list> | MVR multicast VLAN list |

EXAMPLE

```
SM24TBT2DPA# clear mvr vlan 25 statistics  
SM24TBT2DPA#
```

port-security

Clear port security globally.

Syntax

```
clear port-security sticky { All | interface ( <port_type> [ <plist> ] ) }
```

Parameters

| | |
|-----------------|--|
| sticky | port security sticky function per interface. |
| All | clear all sticky mac at all ports |
| interface | Choose port |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| PORT_LIST | Port list in 1/1-26 |

EXAMPLE

```
SM24TBT2DPA# clear port-security sticky interface GigabitEthernet 1/2-8
SM24TBT2DPA# clear port-security sticky all
SM24TBT2DPA#
```

sflow

Clear Statistics flow.

Syntax

```
clear sflow statistics { receiver [ <receiver_index_list> ] | samplers [ interface [ <samplers_list> ] ( <port_type> [ <v_port_type_list> ] ) ] }
```

Parameters

| | |
|---------------------|--|
| interface | Interface |
| receiver | Clear statistics for receiver. |
| <port_type> | GigabitEthernet |
| <Samplers : option> | runtime |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA# clear sflow statistics interface GigabitEthernet 1/1-24
E sflow 20:37:43 63.950,000 146/sflow_icli_statistics#810: Error: Sorry don't know what to do
SM24TBT2DPA# clear sflow statistics receiver
SM24TBT2DPA#
```

spanning-tree

Clear Spanning Tree Protocol Bridge.

Syntax

```
clear spanning-tree { { statistics [ interface ( <port_type> [ <v_port_type_list> ] ) ] } | { detected-protocols  
[ interface ( <port_type> [ <v_port_type_list_1> ] ) ] } } }
```

Parameters

| | |
|-------------------------------|--|
| detected-protocols | Set the STP migration check |
| statistics | STP statistics |
| interface | Choose port |
| <port_type> | GigabitEthernet |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA# clear spanning-tree detected-protocols interface GigabitEthernet 1/1-8  
SM24TBT2DPA#
```

statistics

Clear statistics for a given interface

Syntax

```
clear statistics interface <port_type> <port_type_list>  
clear statistics <port_type> <port_type_list>
```

Parameters

| | |
|-------------------------------|---|
| <port_type> | GigabitEthernet |
| <port_type_list> | Port list in 1/1-8 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA# clear statistics GigabitEthernet 1/1-24  
SM24TBT2DPA#
```

3. Config Mode Commands

The set of supported Config mode commands is shown below. To enter Config mode from Exec mode, type `configure terminal` and hit Enter. To display the set of Config Mode commands, enter a `?` and hit Enter:

```
SM24TBT2DPA(config)# ?
  Power                Power
  aaa                  Authentication, Authorization and Accounting
  access               Access management
  access-list          Access list
  aggregation          Aggregation mode
  always-on-poe        Enable Always On PoE
  banner               Define a login banner
  clock                Configure time-of-day clock
  default              Set a command to its defaults
  dms                  Enable DMS Master
  do                   To run exec commands in config mode
  dot1x                IEEE Standard for port-based Network Access Control
  enable               Modify enable password parameters
  end                  Go back to EXEC mode
  event                Trap event severity level
  exec-timeout         autologout
  exit                 Exit from current mode
  green-ethernet       Green ethernet (Power reduction)
  gvrp                 Enable GVRP feature
  help                 Description of the interactive help system
  hostname             Set system's network name
  interface            Select an interface to configure
  ip                   Internet Protocol
  ipmc                 IPv4/IPv6 multicast configuration
  ipv6                 IPv6 configuration commands
  lacp                 LACP settings
  line                 Configure a terminal line
  lldp                 LLDP configurations.
  logging              Syslog
  loop-protect         Loop protection configuration
```

| | |
|---------------|---|
| mac | MAC table entries/configuration |
| map-api-key | Set Google map key string |
| monitor | Set monitor configuration. |
| mvr | Multicast VLAN Registration configuration |
| no | Negate a command or set its defaults |
| ntp | Configure NTP |
| percepixon | Configure Percepixon parameters |
| poe | Power Over Ethernet. |
| port-security | Enable/disable port security globally. |
| privilege | Command privilege parameters |
| qos | Quality of Service |
| radius-server | Configure RADIUS |
| rapid-ring | Set Rapid Ring's configurations |
| rmon | Remote Monitoring |
| sflow | Statistics flow. |
| smtp | Set email information |
| snmp-server | Set SNMP server's configurations |
| spanning-tree | Spanning Tree protocol |
| system | Set Board Configuration |
| tacacs-server | Configure TACACS+ |
| upnp | Set UPnP's configurations |
| username | Establish User Name Authentication |
| vlan | VLAN commands |
| voice | Voice appliance attributes |
| web | Web |

power

Configure redundant power and power boost modes.

Syntax

Power { Redundant | Boost }

Parameters (SM24TBT2DPA)

Redundant: Only provide Primary Power Supply up to 820W when two power supply modules are installed. If one power supply crashes, it can still provide enough power for system operation and also PD's operation. This is the default.

Boost: Provide Primary Power Supply up to 1640W when two power supply modules are installed. When the application total PDs' power use is over 820W, if one power supply crashes, system will be automatically rebooted due to power loading influence. After the switch finishes rebooting, it will only provide 820W to PDs.

Parameters (SM24TBT2DPB)

Redundant: Only provide Primary Power Supply up to 820W when two power supply modules are installed. If one power supply crashes, it can still provide enough power for system operation and also PD's operation. This is the default.

Boost: Provide Primary Power Supply up to 1640W when two power supply modules are installed. When the application total PDs' power use is over 820W, if one power supply crashes, system will be automatically rebooted due to power loading influence. After the switch finishes rebooting, it will only provide 820W to PDs.

EXAMPLE 1: SM24TBT2DPA with one PSU-820 power supply installed:

```

SM24TBT2DPA(config)# power boost
SM24TBT2DPA(config)# do show power management
Power Management
=====
Power                : A          B
Detected PSU         : PSU-820   None
Power Good           : Good      Fail
FAN Speed (RPM)      : 8892     0
Temperature (Degree C) : 31       0
Operating Mode       : Boost
SM24TBT2DPA(config)# power Redundant
SM24TBT2DPA(config)# do show power management
Power Management

```



```

=====
Power                : A          B
Detected PSU        : PSU-820    None
Power Good          : Good       Fail
FAN Speed (RPM)     : 8892      0
Temperature (Degree C) : 30      0
Operating Mode      : Redundant
SM24TBT2DPA(config)#

```

EXAMPLE 2: SM24TBT2DPA with two PSU-820 power supplies installed:

```

SM24TBT2DPA# show power management
Power Management
=====
Power                : A          B
Detected PSU        : PSU-820    PSU-820
Power Good          : Good       Good
FAN Speed (RPM)     : 8898      8867
Temperature (Degree C) : 31      27
Operating Mode      : Boost
SM24TBT2DPA#

```

```

SM24TBT2DPA# show power management
Power Management
=====
Power                : A          B
Detected PSU        : PSU-820    PSU-820
Power Good          : Good       Good
FAN Speed (RPM)     : 8885      8867
Temperature (Degree C) : 30      27
Operating Mode      : Boost
SM24TBT2DPA#

```

EXAMPLE 3: SM24TBT2DPB with one PSU-HV power supply installed:

```
SM24TBT2DPB# show power management
Power Management
=====
Power                : A          B
Detected PSU         : PSU-HV    PSU-HV
Power Good           : Fail      Good
Power Input(AC/DC)   : ---      AC
Power Input Voltage (V) : 0       121
FAN Speed (RPM)      : 0        4844
Temperature (Degree C) : 28     47
Operating Mode       : Boost
SM24TBT2DPB#
```

EXAMPLE 4: SM24TBT2DPB with two PSU-HV power supplies installed:

```
SM24TBT2DPB# show power management
Power Management
=====
Power                : A          B
Detected PSU         : PSU-HV    PSU-HV
Power Good           : Good      Good
Power Input(AC/DC)   : AC        AC
Power Input Voltage (V) : 121     121
FAN Speed (RPM)      : 2920     4710
Temperature (Degree C) : 32     52
Operating Mode       : Boost
SM24TBT2DPB#
```

3-1 Power Module Monitoring Change

SM24TBT2DPB FW VB6.64.0079 changed the way that switch power supplies are monitored:

1. When the system is turned on and the switch finds that Power A and B are different PSUs, the management software will turn off 920W PSU output power.
2. When the system has just one PSU working, and then insert a second PSU is inserted into a power slot, if the second PSU inserted is a different than the existing PSU, the second PSU inserted will have its output power turned off.
3. When Power A and B are different PSUs, the PoE Power Budget will maintain the status quo and will not be recalculated and adjusted.
4. When Power A and B are different, then the power module Event Log/Trap are different for Power A and Power B.

terminal

Configure from the terminal (Config) mode. Enter Config mode from Exec mode.

Syntax `configure terminal <cr>`

EXAMPLE

```
SM24TBT2DPA# configure terminal
SM24TBT2DPA(config)#
```

aaa

Configure Authentication, Authorization and Accounting. **Note:** at FW vB6.64.0062 the default is HTTPS, and HTTP is redirected to HTTPS. Also, SSH is always enabled, the Telnet default is disabled, and you are given the option to enable Telnet.

SYNTAX

```
aaa authentication login { http } { { redirect | local | radius | tacacs } [ { redirect | local | radius | tacacs }
[ { redirect | local | radius | tacacs } [ { redirect | local | radius | tacacs } ] ] ] }
```

Parameters

| | |
|-----------------------|---------------------------------------|
| authentication | Authentication |
| login | Login |
| console | Configure Console |
| http | Configure HTTP |
| https | Configure HTTPS |
| ssh | Configure SSH |
| telnet | Configure Telnet |
| local | Use local database for authentication |
| radius | Use RADIUS for authentication |
| tacacs | Use TACACS+ for authentication |

EXAMPLE

```
SM24TBT2DPA(config)# aaa authentication login http radius
SM24TBT2DPB(config)# aaa authentication login https local
SM24TBT2DPB(config)# aaa authentication login https radius radius radius
SM24TBT2DPB(config)# aaa authentication login console local tacacs
SM24TBT2DPB(config)# aaa authentication login ssh local radius tacacs
SM24TBT2DPB(config)#
```

access

Configure Access management.

SYNTAX

access management

access management <access_id> <access_vid> <start_addr> [to <end_addr>] { [web] [snmp] [telnet] | all }

Parameters

| | |
|---|---|
| management | Access management configuration |
| < 1-16> | ID of access management entry |
| <AccessVid : 1-4095> | The VLAN ID for the access management entry |
| <AddrRangeStart : ipv4_addr> | Start IPv4 address |
| <AddrRangeStart : ipv6_addr> | Start IPv6 address |
| all | All services |
| snmp | SNMP service |
| telnet | TELNET/SSH service |
| to | End address of the range |
| web | Web service |
| <AddrRangeEnd : ipv4_addr> | End IPv4 address |

EXAMPLE

```
SM24TBT2DPA(config)# access management 10 3 192.168.1.1 ?
  all      All services
  snmp     SNMP service
  telnet   TELNET/SSH service
  to       End address of the range
  web      Web service
  <cr>

SM24TBT2DPA(config)# access management 10 3 192.168.1.1 all
SM24TBT2DPB(config)# access management 1 100 1.2.3.4 to 1.2.3.44 telnet web
SM24TBT2DPA(config)#
```

access-list

Configure Access List parameters. See [access-list ace](#) and [access-list-rate](#) commands on page 98.

aggregation

Configure Aggregation mode.

SYNTAX

```
aggregation mode { [ smac ] [ dmac ] [ ip ] [ port ] }
```

Parameters

| | |
|-------------|--|
| mode | Traffic distribution mode |
| dmac | Destination MAC affects the distribution |
| ip | IP address affects the distribution |
| port | IP port affects the distribution |
| smac | Source MAC affects the distribution |

EXAMPLE

```
SM24TBT2DPA(config)# aggregation mode ip port dmac smac
SM24TBT2DPA(config)# aggregation mode dmac smac
SM24TBT2DPA(config)# do show aggregation mode
Aggregation Mode:

SMAC  : Enabled
DMAC  : Enabled
IP    : Disabled
Port  : Disabled
SM24TBT2DPA(config)#
```

always-on-poe

Enable Always On PoE. **When enabled, during a switch warm restart, it will continue providing PoE power to the PDs.** Note that It will take 75 - 80 seconds to have PoE++ power on the ports to power PDs again if the switch makes a cold restart. This "Always on PoE" command has no effect on this time.

SYNTAX

```
always-on-poe <cr>
```

Parameters

```
|      Output modifiers  
<cr>
```

EXAMPLE

```
SM24TBT2DPA(config)# always-on-poe  
Always On PoE Status : Enable  
SM24TBT2DPA(config)# always-on-poe  
Always On PoE Status : Enable  
SM24TBT2DPA(config)#
```

banner

Define a login banner

SYNTAX

```
banner [ motd ] <banner>  
banner exec <banner>  
banner login <banner>
```

Parameters

```
<LINE>      c banner-text c, where 'c' is a delimiting character  
exec       Set EXEC process creation banner  
login      Set login banner  
motd       Set Message of the Day banner
```

EXAMPLE

```
SM24TBT2DPA(config)# banner exec LINE  
Enter TEXT message. End with the character 'L'.  
L  
SM24TBT2DPA(config)#
```

clock

Configure time-of-day clock.

SYNTAX

```

clock set <icliDateWord> { <icliTimeWord24> | <icliTimeWord12> { AM | PM } }
clock summer-time <word16> date [ <start_month_var> <start_date_var> <start_year_var> <start_hour_var>
<end_month_var> <end_date_var> <end_year_var> <end_hour_var> [ <offset_var> ] ]
clock summer-time <word16> recurring [ <start_week_var> <start_day_var> <start_month_var>
<start_hour_var> <end_week_var> <end_day_var> <end_month_var> <end_hour_var> [ <offset_var> ] ]
clock timezone <word_var> <hour_var> [ <minute_var> ]

```

Parameters

| | |
|--------------------------|--|
| set | set clock |
| summer-time | Configure summer (daylight savings) time |
| timezone | Configure time zone |
| <date> | yyyy/mm/dd |
| <time> | hh:mm:ss |
| <2000-2097> | Year to start |
| hh:mm | Time to start (hh:mm) |
| <1-12> | Month to end |
| <1-31> | Date to end |
| <2000-2097> | Year to end |
| hh:mm | Time to end (hh:mm) |
| <1-1440> | Offset to add in minutes |
| <1-5> | Week number to start |
| <1-7> | Weekday to start |
| <1-12> | Month to start |
| WORD | name of time zone in summer |
| WORD | name of time zone |
| <-23-23> | Hours offset from UTC |
| <-59-59> | Minutes offset from UTC |
| date | Configure absolute summer time |
| recurring | Configure recurring summer time |

EXAMPLE

```

SM24TBT2DPA(config)# clock set 2018/02/14 2:56:00
2018-02-14T02:56:00+00:00
SM24TBT2DPA(config)# clock timezone Arizona -4 0

```



```
SM24TBT2DPA(config)# clock summer-time Azores date 6 1 2022 12:00 10 1 2022
12:0
0 60
SM24TBT2DPA(config)#
SM24TBT2DPB(config)# clock set 2022/09/07 11:52:30
System automatically stop NTP service
2022-09-07T11:52:30+00:00
SM24TBT2DPB(config)#
```

default

Set access list rate limiter to its defaults.

SYNTAX

```
default access-list rate-limiter [ <rate_limiter_list> ]
```

Parameters

| | |
|-------------------------------------|-----------------|
| access-list | Access list |
| rate-limiter | Rate limiter |
| <RateLimiterId : 1-16> | Rate limiter ID |

EXAMPLE

```
SM24TBT2DPA(config)# default access-list rate-limiter 3
SM24TBT2DPA(config)# default access-list rate-limiter ?
  <RateLimiterId : 1-16>  Rate limiter ID
  <cr>
SM24TBT2DPA(config)#
```

dms

Enable DMS mode and set DMS controller priority. Lantronix' DMS (Device Management System) is an intelligent management tool embedded in the switch to help reduce support time, cost, and effort.

DMS operates by a "Master" switch elected from one of the switches. The Master switch automatically discovers all types of IP device information and diagnoses all cable and device status in the topology. Any member of the DMS switch can be the Master switch. **Note:** at FW v6.54.3104 the DMS mode behavior was changed to default Mode = Enabled and default Priority = Low. At FW v v6.54.3135 Controller Priority modes (high/low/mid/non) were introduced.

SYNTAX

```
dms service-mode { disabled | enabled [ priority { high | mid | low | non } ] }
```

Parameters

| | |
|--------------|---|
| service-mode | DMS mode |
| disabled | DMS mode is disabled |
| enabled | DMS mode is enabled |
| priority | DMS priority. You can choose the priority to change the DMS priority of the switch. |
| high | DMS priority is high priority; the switch will be the Controller (Master) switch. |
| low | DMS priority is low level priority. |
| mid | DMS priority is mid level priority. |
| non | DMS priority is non; the switch will never become the Controller (Master) switch. |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config)# dms service-mode enabled priority high  
SM24TBT2DPA(config)# dms service-mode disabled  
SM24TBT2DPA(config)# dms service-mode enabled  
SM24TBT2DPA(config)#
```

do

Run Exec mode commands in Config mode.

SYNTAX

do <LINE >{[< LINE >]}

Parameters

<LINE> Exec Command

EXAMPLE

```
SM24TBT2DPA(config)# do show vlan
VLAN  Name                               Interfaces
-----
1     default                               Gi 1/1-26

SM24TBT2DPA(config)# do show ip interface brief
Vlan Address                Method  Status
-----
1 192.168.1.77/24        Manual  UP
SM24TBT2DPA(config)#
```

dot1x

Configure IEEE Standard for port-based Network Access Control.

SYNTAX

```

dot1x authentication timer inactivity <v_10_to_100000>
dot1x authentication timer re-authenticate <v_1_to_3600>
dot1x feature { [ guest-vlan ] [ radius-qos ] [ radius-vlan ] }*1
dot1x guest-vlan <value>
dot1x guest-vlan supplicant
dot1x max-reauth-req <value>
dot1x re-authentication
dot1x system-auth-control
dot1x timeout quiet-period <v_10_to_1000000>
dot1x timeout tx-period <v_1_to_65535>

```

Parameters

| | |
|----------------------------|--|
| authentication | Authentication |
| feature | Globally enables/disables a dot1x feature functionality |
| guest-vlan | Guest VLAN |
| max-reauth-req | Guest VLAN ID used when entering the Guest VLAN. |
| re-authentication | Set Re-authentication state |
| system-auth-control | Set the global NAS state |
| timeout | timeout |
| timer | timer |
| inactivity | Time in seconds between check for activity on successfully authenticated MAC addresses. |
| re-authenticate | The period between re-authentication attempts in seconds |
| <10-1000000> | seconds |
| <1-3600> | seconds |
| guest-vlan | Globally enables/disables state of guest-vlan |
| radius-qos | Globally enables/disables state of RADIUS-assigned QoS. |
| radius-vlan | Globally enables/disables state of RADIUS-assigned VLAN. |
| <1-4095> | The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN. |
| supplicant | The switch remembers if an EAPOL frame has been received on the port for the life-time of the port. Once the switch considers whether to enter the Guest VLAN, it will first |

check if this option is enabled or disabled. If disabled (unchecked; default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for the life-time of the port.

| | |
|---------------------------|---|
| <1-255> | number of times |
| quiet-period | Time in seconds before a MAC-address that failed authentication gets a new authentication chance. |
| tx-period | the time between EAPOL retransmissions. |
| <10-1000000> | seconds |
| <1-65535> | seconds |

EXAMPLE

```
SM24TBT2DPA(config)# dot1x authentication timer inactivity 1000
SM24TBT2DPA(config)# dot1x feature guest-vlan radius-qos radius-vlan
SM24TBT2DPA(config)# dot1x guest-vlan 33
SM24TBT2DPA(config)# dot1x max-reauth-req 3
SM24TBT2DPA(config)# dot1x re-authentication
SM24TBT2DPA(config)# dot1x system-auth-control
SM24TBT2DPA(config)# dot1x timeout quiet-period 3000
SM24TBT2DPA(config)#
```

enable

Modify enable password parameters.

SYNTAX

```
enable password [ level <priv> ] <password>
```

```
enable secret { 0 | 5 } [ level <priv> ] <password>
```

Parameters

password Assign the privileged level clear password

secret Assign the privileged level secret

WORD The UNENCRYPTED (cleartext) password

level Set exec level password

<1-15> Level number

0 Specifies an UNENCRYPTED password will follow

5 Specifies an ENCRYPTED secret will follow

EXAMPLE

```
SM24TBT2DPA(config)# enable password level 10 999  
SM24TBT2DPB(config)# enable password level 14 admin  
SM24TBT2DPA(config)# enable secret 5 level 15 ABCDabcd1234!@#  
SM24TBT2DPB(config)#
```

event

Configure Trap event severity level.

SYNTAX

```
event group { AC-Power | ACL | ACL-Log | Access-Mgmt | Auth-Failed | AUTO-SAVING | Cold-Start | Config-Info
| Firmware-Upgrade | Import-Export | LACP | Link-Status | Login | Logout | Loop-Protect | Mgmt-IP-Change |
Module-Change | NAS | Password-Change | Port-Security | Spanning-Tree | Warm-Start | DC-Power | Battery-P
ower | BCS-Protection | DMS | Advanced | Dying-Gasp | Temperature | Voltage | PoE-Auto-Check | Poe-Auto-
Power-Reset | Poe-Device-Guard | FAN | ZTU-FAIL | Surveillance | Power | SCP-Success | SCP-Fail | AGV-Car
| Robot-Arm | PoE-PD-On | PoE-PD-Off | Over-Max-PoE-Power-Limitation | PoE-PD-Over-Current } { level <lvl>
| syslog { enable | disable } | trap { enable | disable } | smtp { enable | disable } | ipush { enable | disable } }
```

Parameters

| | | | | |
|---------------|--|----------------------|------------------|--|
| Group | Configure trap event severity level | | | |
| <word32> : | | | | |
| ACL | ACL-Log | Access-Mgmt | Auth-Failed | |
| Cold-Start | Config-Info | DMS | Firmware-Upgrade | |
| Import-Export | LACP | Link-Status | Login | |
| Logout | Loop-Protect | Mgmt-IP-Change | Module-Change | |
| NAS | Over-Max-PoE-Power-Limitation | Password-Change | PoE-PD-Off | |
| PoE-PD-On | PoE-PD-Over-Current | Poe-Auto-Power-Reset | Port-Security | |
| Power | SCP-Fail | SCP-Success | Spanning-Tree | |
| Warm-Start | | | | |
| level | Severity level | | | |
| smtp | smtp mode | | | |
| syslog | syslog mode | | | |
| trap | trap mode | | | |
| <0-7> | <0> Emergency ,<1> Alert ,<2> Critical ,<3> Error ,<4> Warning ,<5> Notice, <6> Informationl ,<7> Debug | | | |

EXAMPLE

```
SM24TBT2DPA(config)# event group DMS trap enable
SM24TBT2DPA(config)# event group Auth-Failed level 3
SM24TBT2DPA(config)# event group DMS syslog enable
SM24TBT2DPA(config)#
```

exec-timeout

Set autologout timeout period.

SYNTAX

```
exec-timeout autologout { 0 | 1 | 2 | 3 | 4 | 5 | 10 | 20 | 30 | 40 | 50 | 60 }
```

Parameters

| | |
|----|----------------------|
| 0 | off (no auto-logout) |
| 1 | 1 minute |
| 10 | 10min (default) |
| 2 | 2 minutes |
| 20 | 20 minutes |
| 3 | 3 minutes |
| 30 | 30 minutes |
| 4 | 4 minutes |
| 40 | 40 minutes |
| 5 | 5 minutes |
| 50 | 50 minutes |
| 60 | 60 minutes |

EXAMPLE

```
SM24TBT2DPA(config)# exec-timeout autologout 3
SM24TBT2DPA(config)# exec-timeout autologout 60
SM24TBT2DPA(config)# exec-timeout autologout 0
SM24TBT2DPA(config)#
```

Auto-Logout Timeout: After you change the Auto-Logout timeout and then log out and log back in, the Auto-Logout timeout setting will be the setting saved to the start-up config file. When the Auto-Logout timeout setting is changed, it directly writes to running-config. To save the timeout change to start-up config, you must execute a save to startup-config. To examine the running-config, you can run the CLI command “showing running-config” or in the Web UI just log out and log back in again. To save the timeout change into startup-config, you must do a save to startup-config and then reboot the switch.

In summary:

- When you power on the switch, it will get the settings from startup-config.
- When you logout and login (without switch reboot), the switch will get the timeout settings from startup-config.
- When you reload defaults, the switch will get the timeout settings from default-config.

For the “Save to start-up config” behavior, if you don’t save the config, when you change the timeout setting but logout, at the next login the timeout setting remains unchanged as the setting in start-up config.

| If you save timeout setting to start-up config: | If you don’t save timeout setting to start-up config: |
|--|---|
| When you change the timeout setting and save to startup-config (click the disc icon), the changed timeout setting will be applied to running-config and start-up config immediately. | When the you change the timeout setting (without save to startup-config), the timeout change will be applied to running-config immediately. |
| After Logout and login, the timeout setting will be the setting saved in start-up config. | After Logout and login, the timeout setting will be the setting saved in start-up configure. |
| After a switch reboot, the timeout setting will be the setting saved in start-up config. | After you reboot the switch, the timeout setting will be the setting saved in start-up config. |

Green-ethernet

Configure Powering down of PHYs when there is no traffic.

SYNTAX

```
green-ethernet eee optimize-for-power
```

Parameters

| | |
|--------------------|--|
| eee | Powering down of PHYs when there is no traffic. |
| optimize-for-power | Set if EEE will be optimized for least power consumption (else optimized for least traffic latency). |

EXAMPLE

```
SM24TBT2DPA(config)# green-ethernet eee ?
  optimize-for-power    Set if EEE shall be optimized for least power
                        consumption (else optimized for least traffic
                        latency).
SM24TBT2DPA(config)# green-ethernet eee optimize-for-power
SM24TBT2DPA(config)#
```

gvrp

Configure GVRP feature

SYNTAX

gvrp

gvrp max-vlans <1-4095>

gvrp time { [join-time <1-20>] [leave-time <60-300>] [leave-all-time <1000-5000>] }*1

Parameters

| | |
|----------------------------|--|
| max-vlans | Number of simultaneous VLANs that GVRP can control <1-4095> |
| time | Configure GARP protocol timer parameters per IEEE 802.1D-2004, clause 12.11. Config gvrp timer value in units of centi seconds [cs]. |
| join-time | Set GARP protocol parameter JoinTime. |
| leave-all-time | Set GARP protocol parameter LeaveAllTime. |
| leave-time | Set GARP protocol parameter LeaveTime. |
| <Jointime : 1-20> | join-time in units of centi seconds. Range is 1-20. Default is 20. |
| <Leavealltime : 1000-5000> | leave-all-time in units of centi seconds. Range is 1000-5000. Default is 1000. |
| <Leavetime : 60-300> | leave-time in units of centi seconds. Range is 60-300. Default is 60. |

EXAMPLE

```
SM24TBT2DPA(config)# gvrp max-vlans 333
SM24TBT2DPA(config)# gvrp time join-time 13 leave-all-time 3000 leave-time 200
SM24TBT2DPA(config)#
```

hostname

Set system's network name.

SYNTAX

hostname < WORD >

Parameter

WORD This system's network name.

EXAMPLE

```
SM24TBT2DPA(config)# hostname abc
abc(config)#
```

interface

Select an interface to configure and enter Interface Config mode. See [Chapter 20. Interface Config Mode Commands](#) on page 267.

SYNTAX

```
interface ( <port_type> [ <plist> ] )
```

```
interface vlan <vlist>
```

Parameters

| | |
|-------------------------------|--|
| <port_type> | GigabitEthernet |
| vlan | VLAN interface configurations |
| <vlan_list> | List of VLAN interface numbers, 1-4095 |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA(config)# interface?
    interface    Select an interface to configure
SM24TBT2DPA(config)# interface ?
    *            All switches or All ports
    GigabitEthernet    1 Gigabit Ethernet Port
    vlan            VLAN interface configurations
SM24TBT2DPA(config)# interface GigabitEthernet 1/1-24
SM24TBT2DPA(config-if)# interface vlan 3
SM24TBT2DPA(config-if-vlan)# ip address dhcp
SM24TBT2DPA(config-if-vlan)#
```

ip

Configure Internet Protocol.

SYNTAX

```
ip arp inspection
ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>
ip arp inspection translate [ interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var> ]
ip arp inspection vlan <in_vlan_list>
ip arp inspection vlan <in_vlan_list> logging { deny | permit | all }
ip dhcp excluded-address <low_ip> [ <high_ip> ]
ip dhcp pool <pool_name>
ip dhcp relay
ip dhcp relay information option
ip dhcp relay information policy { drop | keep | replace }
ip dhcp server per-port [ vlan { <portVLAN> } ]
ip dhcp snooping
ip dns proxy
ip gateway interface <ifc>
ip helper-address <v_ipv4_ucast>
ip http port <1-65534>
ip http secure-certificate { upload <url_file> [ pass-phrase <pass_phrase> ] | generate }
ip http secure-server port <1-65534>
ip igmp host-proxy [ leave-proxy ]
ip igmp snooping
ip igmp snooping vlan <v_vlan_list>
ip igmp ssm-range <v_ipv4_mcast> <ipv4_prefix_length>
ip igmp unknown-flooding
ip link-local interface <ifc>
ip name-server { <v_ipv4_addr> | dhcp [ interface vlan <v_vlan_id> ] }
ip route <v_ipv4_addr> <v_ipv4_netmask> <v_ipv4_gw>
ip routing
ip scp server <enable | disable >
ip source binding interface <port_type> <in_port_type_id> <vlan_var> <ipv4_var> <mac_var>
ip ssh keyregen
ip ssh port <port>
ip telnet port <port no.>
```

ip verify source

ip verify source translate

Parameters

| | |
|-----------------------------|--|
| arp | Address Resolution Protocol |
| dhcp | Dynamic Host Configuration Protocol |
| dns | Domain Name System |
| gateway | Gateway address binding interface |
| helper-address | DHCP relay server |
| http | Hypertext Transfer Protocol |
| igmp | Internet Group Management Protocol |
| link-local | Link-Local address binding interface |
| name-server | Domain Name System |
| route | Add IP route |
| routing | Enable routing for IPv4 and IPv6 |
| scp | Secure copy function |
| source | source command |
| ssh | Secure Shell |
| telnet | Telnet |
| verify | verify command |
| inspection | ARP inspection |
| entry | arp inspection entry |
| interface | arp inspection entry interface config |
| <port_type> | Port type in Fast, Giga ethernet |
| <port_type_id> | Port ID in the format of switch-no/port-no |
| <vlan_id> | Select a VLAN id to configure |
| <mac_ucast> | Select a MAC address to configure |
| <ipv4_ucast> | Select an IP Address to configure |
| deny | log denied entries |
| permit | log permitted entries |
| all | log all entries |
| translate | arp inspection translate all entries |
| vlan | arp inspection vlan setting |
| <vlan_list> | arp inspection vlan list |
| relay | DHCP relay agent information |
| information | DHCP information option <Option 82> |
| option | DHCP option |

| | |
|-----------------------------|--|
| policy | Policy for handling the receiving DHCP packet already include the information option |
| drop | Drop the package when receive a DHCP message that already contains relay information |
| keep | Keep the original relay information when receive a DHCP message that already contains it |
| replace | Replace the original relay info when receive a DHCP message that already contains it |
| snooping | DHCP snooping |
| proxy | DNS proxy service |
| secure-redirect | Secure HTTP web redirection |
| secure-server | Secure HTTP web server |
| snooping | Snooping IGMP |
| <word16> | Profile name in 16 char's |
| vlan | IGMP VLAN |
| ssm-range | IPv4 address range of Source Specific Multicast |
| <ipv4_mcast> | Valid IPv4 multicast address |
| <4-32> | Prefix length ranges from 4 to 32 |
| unknown-flooding | Flooding unregistered IPv4 multicast traffic |
| <ipv4_ucast> | A valid IPv4 unicast address |
| dhcp | Dynamic Host Configuration Protocol |
| interface | Select an interface to configure |
| vlan | VLAN Interface |
| <vlan_id> | VLAN identifier(s): VID |
| <ipv4_addr> | Network |
| <ipv4_netmask> | Netmask |
| <ipv4_addr> | Gateway |
| binding | ip source binding |
| interface | ip source binding entry interface config |
| <port_type> | * or Gigabit Ethernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_id> | Port ID in the format of switch-no/port-no, ex 1/1-24 for Gigabit Ethernet |
| <vlan_id> | Select a VLAN id to configure |
| <ipv4_ucast> | Select an IP Address to configure |
| <ipv4_netmask> | Select a subnet mask to configure |
| <mac_ucast> | Select a MAC address to configure |
| source | verify source |
| limit | limit command |
| <0-2> | the number of limit |

| | |
|------------------------|---|
| translate | ip verify source translate all entries |
| logging | ARP inspection vlan logging mode config |
| link-local | Link-Local address binding interface |
| ssh | Regenerate ssh key |
| telnet port | Service port number |
| server | support scp server |
| disable | Set mode to scp Disable |
| enable | Set mode to scp Enable |
| port | Service port number |
| per-port | Enable DHCP server per port |
| vlan | DHCP server per port VLAN |
| <vlan_id> | Set DHCP server per port VLAN |

EXAMPLE 1

```
SM24TBT2DPA(config)# ip arp inspection
SM24TBT2DPA(config)# ip dhcp relay
SM24TBT2DPA(config)# ip dns proxy
SM24TBT2DPA(config)# ip helper-address 192.168.1.1
SM24TBT2DPA(config)# ip http secure-server port 600
SM24TBT2DPA(config)# ip igmp snooping vlan 3
SM24TBT2DPA(config)# ip name-server 192.168.1.6
SM24TBT2DPA(config)# ip routing
SM24TBT2DPA(config)# ip ssh port 600
SM24TBT2DPA(config)# ip verify source translate
SM24TBT2DPA(config)# ip dhcp server per-port vlan 10
SM24TBT2DPA(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  No VLANs are set.
  DHCP server per port is enabled.

SM24TBT2DPA(config)#
```

Message: % Duplicate server ports : TELNET (23), SSH (22), HTTP (80), HTTPS (600)

Message: IP Source Guard: Translate 0 dynamic entries into static entries.

EXAMPLE 2: Enable the SCP (Secure Copy Protocol) feature. After that, you can use a client to download config or upload config / firmware to the switch via SCP. See the Download and Upload commands

```
SM24DP4XA(config)# ip scp server ?
    disable    Set mode to scp Disable
    enable     Set mode to scp Enable
SM24DP4XA(config)# ip scp server enable
SM24DP4XA(config)#
```

EXAMPLE 3: After you have enabled the SCP feature (Example 2 above), use an SCP client to download config or upload config / firmware to the switch via SCP.

```
Download Startup Config:
scp admin@192.168.1.77:config/startup.cfg admin.cfg

Upload Startup Config:
scp admin.cfg admin@192.168.1.77:config/startup.cfg

Upload firmware:
scp SM24DP4XA_v7.10.1721_201812038.imgs
admin@192.168.1.77:image/switch_firmware_upgrade
```

SCP Application Example: The examples below are for Windows 7 and Linux OS using the filename *startup.cfg*.

SM24TBT2DPA

Enable scp service via console on the switch first:

```
SM24TBT2DPA# configure terminal
SM24TBT2DPA(config)# ip scp server enable
SM24TBT2DPA#
```

Using pscp in Windows7

To download Startup Config to PC:

```
pscp.exe admin@192.168.1.77:config/startup.cfg admin.cfg
```

To upload Startup Config to switch:

```
pscp.exe admin.cfg admin@192.168.1.77:config/startup.cfg
```

In Linux (Mint 18.3 - based on Ubuntu 16.04.1)

To download Startup Config to PC:

```
scp -T admin@192.168.1.77:config/startup.cfg admin.cfg
```


To upload Startup Config to the switch:

```
scp -T admin.cfg admin@192.168.1.77:config/startup.cfg
```

Note: Add the `-T` flag to the Linux SCP command to disable its filename match checking.

After 5 failed attempts to transfer a file via SCP that failed due to not having the `-T` flag in the command, the switch's SCP feature stops working until the switch is rebooted.

EXAMPLE 4: Upload a certificate PEM file:

```
SM24TBT2DPA(config)# ip http secure-certificate generate ?
  <cr>
SM24TBT2DPA(config)# ip http secure-certificate upload ?
  <url_file> Uniform Resource Locator. It is a specific character string
             that constitutes a reference to a resource. Syntax:
             <protocol>://[<username>[:<password>]@]<host>[:<port>][/<path>
             ]/<file_name>
             If the following special characters: space
             !"#$%&'()*+,-/;<=>?@[\\]^`{|}~ need to be contained in the
             input url string, they should have percent-encoded. A valid
             file name is a text string drawn from alphabet (A-Z
SM24TBT2DPA(config)# ip http secure-certificate generate
SM24TBT2DPA(config)#
```

EXAMPLE 5: Regenerate an ssh key:

```
SM24TBT2DPA(config)# ip ssh keyregen
W ssh 02:21:44 131/ssh_change_key#508: Warning: It will take some time. Please wait for key generating complete...

W ssh 02:22:06 131/ssh_change_key#535: Warning: RSA : Public key portion is:
 2048 ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDA44pzkoBUqOXY+Bw52xFe2YAMhU+ockVM5n
9/vXWFHwCQ9G736p7PXLhv1Y4b6vGw1LDwuLL57jFyJ9CqQDsaVet0woHVXI2atjRrWzWrJyZKEyPGbH
hPFKYRHLuU13+wZDeNnt1RkDFGim2JmdI10mBwQj8Y/PLrMmYFkNzYEycD59UXAigZIE8BpMRPjgPuXn
Zg07KcHFcRpbsCGqRgqT7iCHiiUMFCyZyVl9lu0v+BA+2nBsPsUGsUBR3CkyYFQ016sP3bV0Dz8920um
jDOAVzRurfMFH+grprp7AyawwA57yPLZ+11c9BGskF/YB7nckDzIY/RQU2Sq1eYMLZ
RSA: md5 e3:c3:be:bd:b0:55:cd:47:f3:61:50:4c:c9:c7:cb:28

W ssh 02:22:06 131/ssh_change_key#537: Warning: DSA : Public key portion is:
 1024 ssh-dss AAAAB3NzaC1kc3MAAACBAPB4ogUjIeZ+YSN2mCjqcEF5mgTPzGCo4XyhWfgLBpmUdB
```

```
xfdnwwcIpStxz4GNDGiHLFFXLa1pXBWDGjmaTs0lot/XWa1jxndato8BBRP0m/rhh2xCXbFz4CUjScDf
pI2IbPXZ/hb4DJP+EetI1jD1H0Hm1EfyGLp9kQr01x/xG1AAAAFQCISV+Mys6an0Ab1RGI2BUtckhyTw
AAAIEAm2hnbaJ41Zk2Ax4k0J2AG/003fFzChYejr1A97Vxdo9gct60TLp1K9BF4MB5wpRrMd+SM9X+UD
V/p85cg+oBCm+UVp+7N26Rpp5Gd16sKK9ofNcaLEroQAdb5RizcXyn9t09r/CqHumfgU/ZH1gBNXGzDC
9Z0IjEEBnIo0Mn7KIAAACAO/xCQnVrK67ztyUZuSwsq35BkEUAfWSQz5LOUIJDfg2T41sGYewReT8Xbe
H/nNX5RYaa06haFPBEYFnpTx6DgNgwLPEZydy1udH9WTBztdB43A1Ef77UNf/XfeAsaYFAs7XZYfIcVH
5hGCzdfuBedZy2+Ky/Tf7a2JI5XGkZxSY=
```

```
DSA: md5 97:b5:1d:da:de:65:6f:aa:9e:ac:4a:d1:cf:2d:db:b6
```

```
W ssh 02:22:06 131/ssh_change_key#551: Warning: Key generation completed
```

```
SM24TBT2DPA(config)#
```

dhcp-pool

Configure DHCP pool. Configure a DHCP address pool on a DHCP server and enter DHCP pool configuration mode. According to the DHCP pool, a DHCP server will allocate IP addresses and deliver configuration parameters to a DHCP client. See the IANA [DHCP Parameters](#) webpage or the IETF [RFC 2132](#) webpage for DHCP option parameter descriptions.

SYNTAX

```
bootfile <bootFile>
broadcast <ip>
client-identifier { fqdn <identifier> | mac-address <mac> }
client-name <host_name>
default-router <ip> [ <ip1> [ <ip2> [ <ip3> ] ] ]
dns-server <ip> [ <ip1> [ <ip2> [ <ip3> ] ] ]
do <command>
domain-name <domain_name>
end
exit
hardware-address <mac>
help
host <ip> <subnet_mask>
lease { <day> [ <hour> [ <min> ] ] | infinite }
lighting server <ip>
netbios-name-server <ip> [ <ip1> [ <ip2> [ <ip3> ] ] ]
netbios-node-type { b-node | h-node | m-node | p-node }
netbios-scope <netbios_scope>
network <ip> <subnet_mask>
nis-domain-name <domain_name>
nis-server <ip> [ <ip1> [ <ip2> [ <ip3> ] ] ]
no <command>
ntp-server <ip> [ <ip1> [ <ip2> [ <ip3> ] ] ]
tftp-server <tftpServer>
vendor class-identifier <class_id> specific-info <hexval>
```

Parameters

| | |
|-------------------|---|
| bootfile | Boot file name |
| broadcast | Broadcast address in use on the client's subnet |
| client-identifier | Client identifier |

| | |
|---------------------|--|
| client-name | Client host name |
| default-router | Default routers |
| dns-server | DNS servers |
| do | To run exec commands in config mode |
| domain-name | Domain name |
| end | Go back to EXEC mode |
| exit | Exit from current mode |
| hardware-address | Client hardware address |
| help | Description of the interactive help system |
| host | Client IP address and mask |
| lease | Address lease time |
| lighting | Lighting server |
| netbios-name-server | NetBIOS (WINS) name servers |
| netbios-node-type | NetBIOS node type |
| netbios-scope | NetBIOS scope |
| network | Network number and mask |
| nis-domain-name | NIS domain name |
| nis-server | Network information servers |
| no | Negate a command or set its defaults |
| ntp-server | NTP servers |
| tftp-server | TFTP servers |
| vendor | Vendor configuration |
| <word128> | Boot file name |
| A.B.C.D | Broadcast IP address |
| fqdn | FQDN type of client identifier |
| mac-address | MAC address type of client identifier |
| WORD | Client host name in 32 characters |
| A.B.C.D | Router's IP address |
| <0-365> | Days |
| infinite | Infinite lease |
| <0-23> | Hours |
| STRING | Class identifier in 64 characters |
| A.B.C.D | Server's IP address |
| b-node | Broadcast node |
| h-node | Hybrid node |
| m-node | Mixed node |

| | |
|------------------|--|
| p-node | Peer-to-peer node |
| LINE | Netbios scope identifier, in 128 characters |
| A.B.C.D | Network number |
| A.B.C.D | Network number or Network mask in dotted-decimal notation, excluding 255.255.255.255 |
| <word128> | NIS domain name |
| no | Negate a command or set its defaults |
| A.B.C.D | Server's IP address |
| class-identifier | Vendor class identifier |
| STRING | Class identifier in 64 characters |

EXAMPLE 1 Enter DHCP pool configuration mode and configure DHCP pool:

```
SM24TBT2DPA(config)# ip dhcp pool POOL-1
SM24TBT2DPA(config-dhcp-pool)# bootfile Bootf-1
SM24TBT2DPA(config-dhcp-pool)# client-name BOB
SM24TBT2DPA(config-dhcp-pool)# client-identifier mac-address 11-22-33-44-55-66
SM24TBT2DPA(config-dhcp-pool)# default-router 192.168.1.50
SM24TBT2DPA(config-dhcp-pool)# lease 365
SM24TBT2DPA(config-dhcp-pool)# netbios-name-server 192.168.1.66
SM24TBT2DPA(config-dhcp-pool)# netbios-node-type b-node
SM24TBT2DPA(config-dhcp-pool)# netbios-scope 123456789
SM24TBT2DPA(config-dhcp-pool)# nis-domain-name BOB
SM24TBT2DPA(config-dhcp-pool)# ntp-server 192.168.1.44
SM24TBT2DPA(config-dhcp-pool)#
```

EXAMPLE 2 Show the configured DHCP pool:

```
SM24TBT2DPA(config-dhcp-pool)# do show ip dhcp pool
Pool Name: POOL-1
-----
Type is network
IP or IP Start is 192.168.1.30
Subnet mask or IP End is 192.168.1.200
Subnet broadcast address is -
Lease time is 365 days 0 hours 0 minutes
Default router is 192.168.1.50
Domain name is -
DNS server is -
```

```
TFTP server is -
Boot file is Bootf-1
NTP server is 192.168.1.44
Netbios name server is 192.168.1.66
Netbios node type is B node
Netbios scope identifier is 123456789
NIS domain name is BOB
NIS server is -
Vendor class information is -
Client identifier is type of MAC address that is 11:22:33:44:55:66
Hardware address is -
Client name is BOB
```

Messages:

% Pool pool1 does not exist.

% Pool's IP/netmask does not match interfaces' IP/netmask, or DHCP server mode isn't enabled on a correct VLAN range.

EXAMPLE 3 Configure DHCP Pool per VLAN

```
SM24TBT2DPA(config)#vlan 2
SM24TBT2DPA(config-vlan)# exit
SM24TBT2DPA(config)#interface GigabitEthernet 1/13-24
SM24TBT2DPA(config-if)#switchport access vlan 2
SM24TBT2DPA(config-if)#exit
SM24TBT2DPA(config)#ip dhcp pool vlan2
SM24TBT2DPA(config-dhcp-pool)#network 192.168.2.1 192.168.2.50
SM24TBT2DPA(config-dhcp-pool)#lease 1 0 0
SM24TBT2DPA(config-dhcp-pool)#interface vlan 2
SM24TBT2DPA(config-if-vlan)#ip address 192.168.2.77 255.255.255.0
SM24TBT2DPA(config-if-vlan)#ip dhcp server
```

EXAMPLE 4 Configure IP Gateway Interface and Link-local interface

```
SM24TBT2DPA(config)# ip gateway interface 200
VLAN ID 200 is not existed. Please create it and set its IP.
SM24TBT2DPA(config)# ip gateway interface 1
SM24TBT2DPA(config)# ip link-local interface 100
SM24TBT2DPA(config)#
```

EXAMPLE 5 Configure DHCP option 229: Specify a lighting server available to the client.

```
SM24TBT2DPB(config-if-vlan)#(config-dhcp-pool)# lighting server ?
A.B.C.D Server's IP address
SM24TBT2DPB(config-dhcp-pool)# lighting server 192.168.1.101
SM24TBT2DPB(config-dhcp-pool)# exit
SM24TBT2DPB(config)#
```

This feature should be enabled for any ports used for lighting nodes as it significantly reduces the delay time between when a lighting node is connected to a port and when the switch allows network communication from the lighting node to the lighting gateway.

Note: If multicast traffic is not allowed on your network, you can configure the network DHCP server to pass the lighting gateway server IP address in DHCP Option 229. (Added at FW v7.20.0106.)

Specifications

1. With the switch acting as DHCP Server, it will insert operation 229 into DHCP offer packets and DHCP ack packets.
2. After receiving DHCP discover packets, it will insert option 229 for all DHCP clients as long as the DHCP Server is configured with Option 229.
3. The option is configurable via the UI, SNMP, and CLI, and there are Help descriptions in the Web UI and CLI.
4. The code for this option is 229, and its length is 4 octets:

Code Len Address

| | | | | | |
|-----|---|----|----|----|----|
| 229 | 4 | a1 | a2 | a3 | a4 |
|-----|---|----|----|----|----|

5. For DHCP packet content, Option 229 is inserted between the last and before option 255.

ipmc

IPv4/IPv6 multicast configuration.

SYNTAX

ipmc profile

ipmc profile <profile_name>

ipmc range <entry_name> { <v_ipv4_mcast> [<v_ipv4_mcast_1>] | <v_ipv6_mcast> [<v_ipv6_mcast_1>] }

Parameters

| | |
|-------------------------------------|---|
| profile | IPMC profile configuration |
| range | A range of IPv4/IPv6 multicast addresses for the profile |
| < word16> | Range entry name in 16 characters |
| <ipv4_mcast> | Valid IPv4 multicast address |
| <ipv6_mcast> | Valid IPv6 multicast address |
| default | Set a command to its defaults |
| description | Additional description about the profile in 64 char's |
| do | To run exec commands in config mode |
| end | Go back to EXEC mode |
| exit | Exit from current mode |
| help | Description of the interactive help system |
| no | Negate a command or set its defaults |
| range | A range of IPv4/IPv6 multicast addresses for the profile |
| <EntryName : word16> | Range entry name in 16 char's |
| deny | Deny matching addresses |
| permit | Permit matching addresses |
| log | Log when matching |
| next | Specify next entry used in profile; Default: Add entry last |
| <NextEntry : word16> | Range entry name in 16 char's |
| <ProfileDesc : line64> | Description for the designated IPMC filtering profile |

EXAMPLE

```
SM24TBT2DPA (config)# ipmc profile test
SM24TBT2DPA(config-ipmc-profile)# range IpmcProf-1 deny log next RngEntry-1
% Invalid range name IpmcProf-1.

SM24TBT2DPA(config-ipmc-profile)#
```


ipv6

IPv6 configuration commands.

SYNTAX

```

ipv6 mld host-proxy [ leave-proxy ]
ipv6 mld snooping
ipv6 mld snooping vlan <v_vlan_list>
ipv6 mld ssm-range <v_ipv6_mcast> <ipv6_prefix_length>
ipv6 mld unknown-flooding
ipv6 route <v_ipv6_subnet> { <v_ipv6_ucast> | interface vlan <v_vlan_id> <v_ipv6_addr> }

```

Parameters

| | |
|---------------------------------|---|
| mld | Multicasat Listener Discovery |
| route | Configure static routes |
| host-proxy | MLD proxy configuration |
| snooping | Snooping MLD |
| ssm-range | IPv6 address range of Source Specific Multicast |
| unknown-flooding | Flooding unregistered IPv6 multicast traffic |
| leave-proxy | MLD proxy for leave configuration |
| vlan | MLD VLAN |
| <vlan_list> | VLAN identifier(s): VID |
| <ipv6_mcast> | Valid IPv6 multicast address |
| X:X:X:X::X/<0-128> | IPv6 prefix x:x::y/z |

EXAMPLE

```

SM24TBT2DPA(config)# ipv6 mld host-proxy leave-proxy
SM24TBT2DPA (config)# ipv6 mld snooping vlan 1
SM24TBT2DPA(config)# ipv6 route 222:222::24/1 interface vlan 20 FE80::22:3:4
% Failed to add IPv6 route.
SM24TBT2DPA(config)#

```

lACP

Configure LACP settings.

SYNTAX

```
lACP system-priority <1-65535>
```

Parameters

| | |
|------------------------|---|
| system-priority | System priority |
| <1-65535> | Priority value, lower means higher priority |

EXAMPLE

```
SM24TBT2DPA(config)# lACP system-priority 333  
SM24TBT2DPA (config)#
```

line

Configure a terminal line.

SYNTAX

```
line { <0~16> | console 0 | vty <0~15> }
```

Parameters

| | |
|---------------------|-----------------------|
| <0~16> | List of line numbers |
| console | Console terminal line |
| 0 | Console Line number |
| vtY | Virtual terminal |
| <0~15> | List of vty numbers |

EXAMPLE

```
SM24TBT2DPA (config)# line console 0  
SM24TBT2DPA (config-line)#
```

lldp

Configure LLDP and LLDP-MED parameters. **LLDP** is an IEEE 802.1ab standard protocol. The Link Layer Discovery Protocol (LLDP) specified in this standard allows stations attached to an IEEE 802 LAN to advertise, to other stations attached to the same IEEE 802 LAN, the major capabilities provided by the system incorporating that station. **LLDP-MED** is an extension of IEEE 802.1ab and is defined by the telecommunication industry association (TIA-1057).

SYNTAX

```
lldp holdtime <2-10>
lldp med datum { wgs84 | nad83_navd88 | nad83_mllw }
lldp med fast <1-10>
lldp med location-tlv altitude { meters | floors } <word11>
lldp med location-tlv civic-addr { country | state | county | city | district | block | street | leading-street-direction |
trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code |
building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code }
<string250>
lldp med location-tlv elin-addr <dword25>
lldp med location-tlv latitude { north | south } <word8>
lldp med location-tlv longitude { west | east } <word9>
lldp med media-vlan policy-list <range_list>
lldp med media-vlan-policy <0-31> { voice | voice-signaling | guest-voice-signaling | guest-voice | softphone-
voice | video-conferencing | streaming-video | video-signaling } { tagged <vlan_id> | untagged } [ I2-priority <0-
7> ] [ dscp <0-63> ]
lldp reinit <1-10>
lldp timer <5-32768>
lldp transmission-delay <1-8192>
```

Parameters

| | |
|---------------------------|---|
| holdtime | Sets LLDP hold time (the neighbor switch will discard the LLDP information after "hold time" multiplied with "timer" seconds). |
| med | Media Endpoint Discovery. |
| reinit | LLDP tx reinitialization delay in seconds. |
| timer | Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds). |
| transmission-delay | Sets LLDP transmission-delay (the amount of time that the transmission of LLDP frames will delayed after LLDP configuration has changed) in seconds.) |
| <2-10> | 2-10 seconds. |
| <1-10> | 1-10 seconds. |

| | |
|---------------------------------|--|
| <5-32768> | 5-32768 seconds. |
| <1-8192> | 1-8192 seconds. |
| datum | Datum (geodetic system) type. |
| fast | Number of times to repeat LLDP frame transmission at fast start. |
| location-tlv | LLDP-MED Location Type Length Value parameter. |
| media-vlan-policy | Use the media-vlan-policy to create a policy, which can be assigned to an interface. |
| nad83_mllw | Mean lower low water datum 1983 |
| nad83_navd88 | North American vertical datum 1983 |
| wgs84 | World Geodetic System 1984 |
| altitude | Altitude parameter |
| meter | Altitude value |
| floors | Altitude value |
| civic-addr | Civic address information and postal information |
| country | The two-letter ISO 3166 country code in capital ASCII letters – e.g., DK, DE or US. |
| state | National subdivisions (state, canton, region, province, prefecture). |
| county | County, parish, gun (Japan), district. |
| city | City, township, shi (Japan) - Example: Copenhagen. |
| district | City division, borough, city district, ward, chou (Japan). |
| block | Neighbourhood, block. |
| street | Street - Example: Poppelvej. |
| leading-street-direction | Leading street direction - Example: N. |
| trailing-street-suffix | Trailing street suffix - Example: SW. |
| street-suffix | Street suffix - Example: Ave, Platz. |
| house-no | House number - Example: 21. |
| house-no-suffix | House number suffix - Example: A, 1/2. |
| landmark | Landmark or vanity address - Example: Columbia University. |
| additional-info | Additional location info - Example: South Wing. |
| name | Name (residence and office occupant) - Example: Flemming Jahn. |
| zip-code | Postal/zip code - Example: 2791. |
| building | Building (structure) - Example: Low Library. |
| apartment | Unit (Apartment, suite) - Example: Apt 42. |
| floor | Floor - Example: 4 th floor. |
| room-number | Room number - Example: 450F. |
| place-type | Place type - Example: Office. |
| postal-community-name | Postal community name - Example: Leonia. |
| p-o-box | Post office box (P.O. BOX) - Example: 12345. |

| | |
|------------------------------|--|
| additional-code | Additional code - Example: 1320300003. |
| <string250> | Value for the corresponding selected civic address. |
| elin-addr | Emergency Location ID Number, (e.g. E911 and others), as defined by TIA or NENA. |
| <dword25> | ELIN value |
| north | Setting latitude direction to north. |
| south | Setting latitude direction to south. |
| <word8> | Latitude degrees (0.0000-90.0000). |
| policy-list | Assignment of policies. |
| <range_list> | Policies to assign to the interface. |
| <0-31> | Policy id for the policy which is created. |
| voice | Create a voice policy. |
| voice-signaling | Create a voice signaling policy. |
| guest-voice-signaling | Create a guest voice signaling policy. |
| guest-voice | Create a guest voice policy. |
| softphone-voice | Create a softphone voice policy. |
| video-conferencing | Create a video conferencing policy. |
| streaming-video | Create a streaming video policy. |
| video-signaling | Create a video signaling policy. |
| tagged | The policy uses tagged frames. |
| <vlan_id> | The VLAN the policy uses tagged frames. |
| untagged | The policy uses un-tagged frames. |
| l2-priority | Layer 2 priority. |
| <0-7> | Priority 0-7 |
| dscp | Differentiated Services Code Point. |
| <0-63> | DSCP value 0-63. |

EXAMPLE

```
SM24TBT2DPA(config)# lldp holdtime 5
SM24TBT2DPA(config)# lldp med fast 5
SM24TBT2DPA(config)# lldp reinit 3
SM24TBT2DPA(config)# lldp timer 555
SM24TBT2DPA(config)# lldp transmission-delay 333
Note: According to IEEE 802.1AB-clause 10.5.4.2 the transmission-delay must not
be larger than LLDP timer * 0.25. LLDP timer changed to 1332
SM24TBT2DPA(config)#
```

logging

Configure Syslog (system logging) parameters.

SYNTAX

```
logging host { <v_ipv4_ucast> | <v_word45> }
```

```
logging on
```

```
logging port <port_no>
```

Parameters

| | |
|---------------------------|-------------------------------|
| host | host |
| <ipv4_ucast> | IP address of the log server |
| <hostname> | Domain name of the log server |
| on | Enable syslog server |
| <1-65535> | Port number |

EXAMPLE

```
SM24TBT2DPA(config)# logging on
SM24TBT2DPA(config)# logging port 400
SM24TBT2DPA(config)# logging on
SM24TBT2DPA(config)# logging host BobB
SM24TBT2DPA(config)# logging host 192.168.1.30
SM24TBT2DPA(config)# logging port 514
SM24TBT2DPA(config)# do show log
Switch logging host mode is disabled
Switch logging host address is 192.168.1.30
Switch logging host port is 514
Number of entries on Switch 1:
Emerg   : 0
Alert   : 0
Crit    : 0
Error   : 0
Warning: 80
Notice  : 0
Info    : 91
Debug   : 0
All     : 171
```

```

ID      Level   Time                               Message
-----  -
1  Warning 2022-02-11T00:36:57+00:00      SFP module inserted on port 25
2  Warning 2022-02-11T00:36:57+00:00      SFP module inserted on port 26
3  Warning 2022-02-11T00:36:58+00:00      Switch just made a warm boot
4  Info    2022-02-11T00:36:58+00:00      topologyChange
-- more --, next page: Space, continue: g, quit: ^C

```

loop-protect

Configure Loop protection configuration.

SYNTAX

loop-protect

loop-protect shutdown-time <0-604800>

loop-protect transmit-time <1-10>

Parameters

shutdown-time Loop protection shutdown time interval

<0-604800> Shutdown time in second

transmit-time Loop protection transmit time interval

<1-10> Transmit time in second

EXAMPLE

```

SM24TBT2DPA(config)# loop-protect
SM24TBT2DPA(config)# loop-protect shutdown-time 333
SM24TBT2DPA(config)# loop-protect transmit-time 3
SM24TBT2DPA(config)#

```

mac

MAC table entries/configuration.

SYNTAX

```
mac address-table aging-time <0,10-1000000>
mac address-table static <v_mac_addr> vlan <v_vlan_id> interface [ ( <port_type>
[ <v_port_type_list> ] ) ]
```

Parameters

| | |
|-------------------------------|--|
| address-table | Mac Address Table |
| aging-time | Mac address aging time |
| <0,10-1000000> | Aging time in seconds, 0 disables aging |
| static | Static MAC address |
| <mac_addr> | 48 bit MAC address: xx:xx:xx:xx:xx:xx |
| vlan | VLAN keyword |
| <vlan_id> | VLAN IDs 1-4095 |
| interface | Select an interface to configure |
| <port_type> | Port type * or Gigabit Ethernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| PORT_LIST | Port list in 1/1-26 |

EXAMPLE

```
SM24TBT2DPA(config)# mac address-table static
SM24TBT2DPA(config)# mac address-table aging-time 3333
SM24TBT2DPA(config)# mac address-table static 11:22:33:44:55:66 vlan 100 interface
GigabitEthernet 1/3
SM24TBT2DPA(config)#
```


map-api-key

Set Google Maps key string. You need a valid API key and a Google Cloud Platform billing account to access Google core product. If not, DMS will not be able to load Google Maps correctly. Visit the Google website below and follow the directions to get API key:

<https://developers.google.com/maps/documentation/directions/get-api-key>

SYNTAX

```
map-api-key <word127>
```

Parameters

<word127>

map-api-key Set Google Maps key string

EXAMPLE

```
SM24TBT2DPA(config)# map-api-key sedfal9mm
SM24TBT2DPA(config)# exit
SM24TBT2DPA# show map-api-key
Key   : sedfal9mm
SM24TBT2DPA#
```

monitor

Set monitor (mirror) configuration.

SYNTAX

```

monitor destination interface <port_type> <port_type_id>
monitor source { { interface ( <port_type> [ <v_port_type_list> ] ) } | { cpu [ <cpu_switch_range> ] } }
{ both | rx | tx }

```

Parameters

| | |
|-------------------------------|---|
| destination | The destination port. That is the port that traffic should be mirrored to. |
| interface | Interface to mirror traffic to. |
| source | The source port(s). That is the source port to be mirrored to the destination port. |
| interface | Mirror interface traffic. |
| <port_type> | 1 Gigabit Ethernet port |
| * | All switches or all ports. |
| <port_type_list> | Port list in 1/1-26. |
| cpu | Mirror CPU traffic. |
| both | Setting source port to both will mirror both ingress and egress traffic. |
| rx | Setting source port to rx will mirror both ingress traffic. |
| tx | Setting source port to tx will mirror both egress traffic. |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| <port_type> | Port type in Gigabit Ethernet |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |
| <port_type_id> | Port ID in 1/1-26 |

EXAMPLE

```

SM24TBT2DPA(config)# monitor source cpu both
SM24TBT2DPA(config)# monitor destination interface GigabitEthernet 1/25
SM24TBT2DPA(config)# monitor destination interface GigabitEthernet 1/4
SM24TBT2DPA(config)#

```

mvr

Multicast VLAN Registration configuration.

SYNTAX

```

mvr
mvr name <mvr_name> channel <profile_name>
mvr name <mvr_name> frame priority <cos_priority>
mvr name <mvr_name> frame tagged
mvr name <mvr_name> igmp-address <v_ipv4_ucast>
mvr name <mvr_name> last-member-query-interval <ipmc_lmqi>
mvr name <mvr_name> mode { dynamic | compatible }
mvr vlan <v_vlan_list> [ name <mvr_name> ]
mvr vlan <v_vlan_list> channel <profile_name>
mvr vlan <v_vlan_list> frame priority <cos_priority>
mvr vlan <v_vlan_list> frame tagged
mvr vlan <v_vlan_list> igmp-address <v_ipv4_ucast>
mvr vlan <v_vlan_list> last-member-query-interval <ipmc_lmqi>
mvr vlan <v_vlan_list> mode { dynamic | compatible }

```

Parameters

| | |
|-----------------------------------|--|
| name | MVR multicast name |
| <word16> | MVR multicast VLAN name |
| channel | MVR channel configuration |
| <word16> | Profile name in 16 char's |
| frame | MVR control frame in TX |
| priority | Interface CoS priority |
| <0-7> | CoS priority ranges from 0 to 7 |
| tagged | Tagged IGMP/MLD frames will be sent |
| igmp-address | MVR address configuration used in IGMP |
| <ipv4_ucast> | A valid IPv4 unicast address MVR multicast VLAN name |
| last-member-query-interval | Last Member Query Interval in tenths of seconds |
| <0-31744> | 0 - 31744 tenths of seconds |
| mode | MVR mode of operation |
| dynamic | Dynamic MVR operation mode |
| compatible | Compatible MVR operation mode |
| vlan | MVR multicast vlan |
| <vlan_list> | MVR multicast VLAN list |

| | |
|-----------------------------------|---|
| channel | MVR channel configuration |
| <word16> | Profile name in 16 char's |
| frame | MVR control frame in TX |
| priority | Interface CoS priority |
| <0-7> | CoS priority ranges from 0 to 7 |
| igmp-address | MVR address configuration used in IGMP |
| <ipv4_ucast> | A valid IPv4 unicast address |
| last-member-query-interval | Last Member Query Interval in tenths of seconds |
| <0-31744> | 0 - 31744 tenths of seconds |
| compatible | Compatible MVR operation mode |

EXAMPLE

```

SM24TBT2DPA(config)# mvr vlan 10 mode dynamic
SM24TBT2DPA(config)# mvr
SM24TBT2DPA(config)# mvr name MVRvid1 channel Prof1
% Invalid operation.
% Failed to set MVR interface channel.
SM24TBT2DPA(config)# do show mvr
MVR is now enabled to start group registration.
Switch-1 MVR-IGMP Interface Status
IGMP MVR VLAN 10 (Name is MCVID10) interface is enabled.
Querier status is IDLE
RX IGMP Query:0 V1Join:0 V2Join:0 V3Join:0 V2Leave:0
TX IGMP Query:0 / (Source) Specific Query:0
Interface Channel Profile: <No Associated Profile>
Switch-1 MVR-MLD Interface Status
MLD MVR VLAN 10 (Name is MCVID10) interface is enabled.
Querier status is IDLE
RX MLD Query:0 V1Report:0 V2Report:0 V1Done:0
TX MLD Query:0 / (Source) Specific Query:0
Interface Channel Profile: <No Associated Profile>
SM24TBT2DPA(config)#

```

ntp

Configure Network Timing Protocol.

SYNTAX

```
ntp
ntp automatic
ntp interval <interval>
ntp server <index_var> ip-address { <ipv4_var> | <ipv6_var> | <name_var> }
```

Parameters

| | |
|----------------------------------|--|
| automatic | Enabled: NTP servers from the DHCP. Disabled: NTP servers from the config. |
| interval | Configure NTP Time-Sync Interval |
| server | Configure NTP server |
| <1-5> | index number |
| ip-address | ip address |
| <ipv4_ucast> | ipv4 address |
| <ipv6_ucast> | ipv6 address |
| <hostname> | domain name |
| <5,10,15,30,60,120> | NTP interval in seconds |

EXAMPLE

```
SM24TBT2DPA(config)# ntp server 3 ip-address 192.168.1.1
SM24TBT2DPA(config)# ntp automatic
SM24TBT2DPA(config)# ntp interval 15
SM24TBT2DPA(config)# do show ntp status
NTP Mode : disabled
Automatic: enabled
Idx  Server IP host address (a.b.c.d)
---  -----
1
Idx  Server IP host address (a.b.c.d) or a host name string
---  -----
1    1.2.3.4
2    129.6.15.28
3    192.168.1.1
4
5
SM24TBT2DPA(config)#SM24TBT2DPA(config)#
```

percepixon

Percepixon configuration. Percepixon is Lantronix's on-premise and cloud-hosted management software that provides centralized management and automated monitoring of deployed Lantronix devices.

SYNTAX

```
active connection connection <number>
apply configuration updates disable
apply configuration updates enable
apply firmware updates disable
apply firmware updates enable
connection <con> connect to cloud
connection <con> connect to on premise
connection <con> host <host_name>
connection <con> port <number>
connection <con> secure port disable
connection <con> secure port enable
connection <con> validate certificates disable
connection <con> validate certificates enable
content check interval <hours>
device description <device_desp>
device id <device_id>
device key <device_key>
device name <device_name>
do <command>
end
exit
help
no device description
no device id
no device key
no device name
show
show connection <con>
show statistics
state disable
```

state enable
 status update interval <minutes>

Parameters

active Sets active connection to Connection <number>
 apply Sets the mode on firmware updates
 connection Sets the connection 1 or connection 2
 content Sets the firmware and configuration check interval
 device Sets the Device ID
 do To run exec commands in config mode
 end Go back to EXEC mode
 exit Exit from current mode
 help Description of the interactive help system
 no Removes parameters (device description, device id, device key, device name)
 show Displays the current configuration
 state ~~Consoleflow~~ PercepXion state
 status Sets the status update interval
 connection Sets active connection to Connection <number>
 <1-2> Sets active connection to Connection <number>
 configuration Sets the action on configuration updates
 firmware Sets the mode on firmware updates
 updates Sets the action on configuration updates
 disable Sets the action on configuration updates to disable
 enable Sets the action on configuration updates to enable
 updates Sets the mode on firmware updates
 disable Restores the default action on new firmware (do not apply)
 enable Automatically apply new firmware
 <1-2> Sets the connection 1 or connection 2
 connect Sets the mode to connect
 to Sets the mode to connect
 cloud Sets the cloud mode to connect
 on Sets the on premise mode to connect
 host Sets the Hostname or IP address of PercepXion
 port Sets the Port of PercepXion
 secure Sets the mode on HTTPS
 validate Sets the mode on certificate validation
 <word256> Sets the Hostname or IP address of PercepXion

| | |
|--------------|---|
| <1-65535> | Sets the Port of Perception |
| port | Sets the mode on HTTPS |
| disable | Disables HTTPS for Perception client |
| enable | Enables HTTPS for Perception client |
| certificates | Sets the mode on certificate validation |
| disable | Disables certificate validation for Perception client |
| enable | Enables certificate validation for Perception client |
| check | Sets the firmware and configuration check interval |
| interval | Sets the firmware and configuration check interval |
| <1-56160> | Sets the firmware and configuration check interval |
| description | Sets the Device Description |
| id | Sets the Device ID |
| key | Sets the Device Key |
| name | Sets the Device Name |
| <word256> | Sets the Device Description |
| <word32> | Sets the Device ID |
| <word32> | Sets the Device Key |
| <word256> | Sets the Device Name |
| no | device description |
| no | device id |
| no | device key |
| no | device name |
| connection | Shows the connection 1 or connection 2 |
| statistics | Displays the Perception statistics |
| disable | Disables the Perception client |
| enable | Enables the Perception client |
| update | Sets the status update interval |
| interval | Sets the status update interval |
| <1-1440> | Sets the status update interval |

EXAMPLE 1

```
SM24TBT2DPB(config)# perception
SM24TBT2DPB(config-perception)# active connection connection 1
SM24TBT2DPB(config-perception)# active connection connection 2
SM24TBT2DPB(config-perception)# apply configuration updates enable
SM24TBT2DPB(config-perception)# apply firmware updates enable
SM24TBT2DPB(config-perception)# connection 1 host BobB
```



```

SM24TBT2DPB(config-percepXion)# connection 2 port 567
SM24TBT2DPB(config-percepXion)# connection 1 secure port enable
SM24TBT2DPB(config-percepXion)# connection 1 validate certificates enable
SM24TBT2DPB(config-percepXion)# content check interval 700
SM24TBT2DPB(config-percepXion)# device name PxDev1
SM24TBT2DPB(config-percepXion)# device key *****
SM24TBT2DPB(config-percepXion)# device id #####
SM24TBT2DPB(config-percepXion)# do show ip interface brief
Vlan Address          Method  Status
-----
  1 192.168.1.77/24    Manual  UP
SM24TBT2DPB(config-percepXion)# no device description

```

EXAMPLE 2

```

SM24TBT2DPB(config-percepXion)# show <cr>
PercepXion Configuration:
State : Enabled
Device ID :
Device Key : (Configured)
Device Name : SM24TBT2DPB-8328
Device Description : Lantronix SM24TBT2DPB
Status Update Interval : 1 minutes
Content Check Interval : 1 minutes
Apply Firmware Updates : Enabled
Apply Configuration Updates : Enabled
Active Connection : Connection 1
Connection 1 Host : api.percepXion.ai
Connection 1 Port : 443
Connection 1 Secure Port : Enabled
Connection 1 Validate Certificates: Enabled

Connection 2 Host : api.percepXion.ai
Connection 2 Port : 443
Connection 2 Secure Port : Enabled
Connection 2 Validate Certificates: Enabled

SM24TBT2DPB(config-percepXion)#

```

EXAMPLE 3

```
SM24TBT2DPB(config-percepXion)# show statistics
Client Status : Running
Not registered -
Last Status Update : Not available
Last Content Check : Not available
Available Firmware Updates: Not available
Available Configuration Updates: Not available
SM24TBT2DPB(config-percepXion)# state enable
SM24TBT2DPB(config-percepXion)# status update interval 900
SM24TBT2DPB(config-percepXion)# exit
SM24TBT2DPB(config)#
```

EXAMPLE 4

```
SM24TBT2DPB(config-percepXion)# connection 1 connect to cloud
SM24TBT2DPB(config-percepXion)# connection 2 connect to on premise
SM24TBT2DPB(config-percepXion)# show connection 1
PercepXion Connection 1 Configuration:
Connect To : Cloud
Host : api.percepXion.ai
Port : 443
Secure Port : Enabled
Validate Certificates: Enabled
SM24TBT2DPB(config-percepXion)# show connection 2
PercepXion Connection 2 Configuration:
Connect To : On Premise
Host : api.percepXion.ai
Port : 443
Secure Port : Enabled
Validate Certificates: Enabled
SM24TBT2DPB(config-percepXion)# exit
SM24TBT2DPB(config)#
```

poe

Configure Power over Ethernet (PoE).

SYNTAX

```

poe ping-check { enable | disable }
poe profile id <id> name <entry_name>
poe profile id <id> { [ Sun <hour_v00_0_to_23> <min_v00_0_to_55> <hour_v01_0_to_23>
<min_v01_0_to_55> ] [ Mon <hour_v10_0_to_23> <min_v10_0_to_55> <hour_v11_0_to_23>
<min_v11_0_to_55> ] [ Tue <hour_v20_0_to_23> <min_v20_0_to_55> <hour_v21_0_to_23>
<min_v21_0_to_55> ] [ Wed <hour_v30_0_to_23> <min_v30_0_to_55> <hour_v31_0_to_23>
<min_v31_0_to_55> ] [ Thr <hour_v40_0_to_23> <min_v40_0_to_55> <hour_v41_0_to_23>
<min_v41_0_to_55> ] [ Fri <hour_v50_0_to_23> <min_v50_0_to_55> <hour_v51_0_to_23>
<min_v51_0_to_55> ] [ Sat <hour_v60_0_to_23> <min_v60_0_to_55> <hour_v61_0_to_23>
<min_v61_0_to_55> ] }
poe reboot-chip mode { enable | disable }
poe reboot-chip { [ Sun <hour_v00_0_to_23> <min_v00_0_to_55> ] [ Mon <hour_v10_0_to_23>
<min_v10_0_to_55> ] [ Tue <hour_v20_0_to_23> <min_v20_0_to_55> ] [ Wed <hour_v30_0_to_23>
<min_v30_0_to_55> ] [ Thr <hour_v40_0_to_23> <min_v40_0_to_55> ] [ Fri <hour_v50_0_to_23>
<min_v50_0_to_55> ] [ Sat <hour_v60_0_to_23> <min_v60_0_to_55> ] }

```

Parameters

| | |
|--------------------|---|
| ping-check | Enable/Disable POE Ping Check (PoE Auto Power Reset). Specify the auto detection parameters to check the link status between PoE ports and PDs. If it detects a connection failure, it will reboot remote PD automatically. |
| profile | poe scheduling profile |
| reboot-chip | poe schedules to reboot PoE chip |
| disable | Disable POE Ping Check. |
| enable | Enable POE Ping Check. |
| id | poe scheduling profile id |
| <profileid : 1-16> | poe scheduling profile id, from 1 to 16 |
| Fri | Configure PoE Power scheduling on Friday |
| Mon | Configure PoE Power scheduling on Monday |
| Sat | Configure PoE Power scheduling on Saturday |
| Sun | Configure PoE Power scheduling on Sunday |
| Thr | Configure PoE Power scheduling on Thursday |
| Tue | Configure PoE Power scheduling on Tuesday |

| | |
|--------------------|--|
| Wed | Configure PoE Power scheduling on Wednesday |
| name | poE scheduling profile name, the name length is 32 |
| <v_hour : 0-23> | start hour |
| <v_miniute : 0-55> | start miniute, value must be multiples of 5 |
| <v_hour : 0-23> | end hour |
| <v_miniute : 0-55> | end miniute, value must be multiples of 5 |
| Fri | Configure PoE Reboot scheduling on Friday |
| Mon | Configure PoE Reboot scheduling on Monday |
| Sat | Configure PoE Reboot scheduling on Saturday |
| Sun | Configure PoE Reboot scheduling on Sunday |
| Thr | Configure PoE Reboot scheduling on Thursday |
| Tue | Configure PoE Reboot scheduling on Tuesday |
| Wed | Configure PoE Reboot scheduling on Wednesday |
| mode | Configure poe reboot mode |

EXAMPLE

```
SM24TBT2DPA(config)# poe ping-check enable
SM24TBT2DPB(config)# poe reboot-chip Fri 1 30
SM24TBT2DPB(config)# poe profile id 1 Sun 23 30 23 55
SM24TBT2DPB(config)#
```

Message: *W poe 19:55:52 41/poe_send_ping_check#2985: Warning: The ping ip adress has no same ip domain.*

Recovery: Make sure the PoE Auto Power Reset “ping-ip-addr” parameter (in Interface Config mode) isn’t entered twice.

Note: For FW VB6.64.0069 and above, on PoE schedule request, if “Start Time” is equal to “End Time”, the switch will immediately reset PoE power on the selected ports. So if you configure Start Time 23:00 (Monday) and End Time 23:00 (Monday) on Profile 1, and Profile 1 is configured for port 1, at 23:00 on each Monday, port 1 will immediately reset PoE power.

port-security

Enable/disable and configure port security globally.

SYNTAX

port-security

port-security aging

port-security aging time <v_10_to_10000000>

Parameters

aging Time in seconds between check for activity on learned MAC addresses.

time Time in seconds between check for activity on learned MAC addresses.

<10-10000000> seconds

EXAMPLE

```
SM24TBT2DPA(config)# port-security
SM24TBT2DPA(config)# port-security aging
SM24TBT2DPA(config)# port-security aging time 1000
SM24TBT2DPA(config)#
```

power

Set Power operating mode.

SYNTAX

```
power { Redundant | Boost }
```

Parameters

```
Boost      Boost Mode
Redundant  Redundant Mode
```

EXAMPLE

```
SM24TBT2DPB(config)# Power Boost
SM24TBT2DPB(config)# do show power management
Power Management
=====
Power           : A      B
Detected PSU    : PSU-HV  PSU-HV
Power Good      : Good   Fail
Power Input(AC/DC) : AC    ---
Power Input Voltage (V) : 120  0
FAN Speed (RPM) : 4690  0
Temperature (Degree C) : 44   27
Operating Mode  : Boost
SM24TBT2DPB(config)# power Redundant
SM24TBT2DPB(config)# do show power management
Power Management
=====
Power           : A      B
Detected PSU    : PSU-HV  PSU-HV
Power Good      : Good   Fail
Power Input(AC/DC) : AC    ---
Power Input Voltage (V) : 119  0
FAN Speed (RPM) : 4665  0
Temperature (Degree C) : 43   25
Operating Mode  : Redundant
SM24TBT2DPB(config)#
```

privilege

Configure command privilege parameters.

SYNTAX

```
privilege { exec | configure | config-vlan | line | interface | if-vlan | ipmc-profile | snmps-host | stp-aggr | dhcp-
pool | rfc2544-profile } level <privilege> <cmd>
```

Parameters

| | |
|------------------------|--|
| config-vlan | VLAN Configuration Mode |
| configure | Global configuration mode |
| dhcp-pool | DHCP Pool Configuration Mode |
| exec | Exec mode |
| if-vlan | VLAN Interface Mode |
| interface | Port List Interface Mode |
| ipmc-profile | IPMC Profile Mode |
| line | Line configuration mode |
| rfc2544-profile | RFC2544 Profile Mode |
| snmps-host | SNMP Server Host Mode |
| stp-aggr | STP Aggregation Mode |
| level | Set privilege level of command |
| <0-15> | Privilege level |
| <LINE> | Initial valid words and literals of the command to modify, in 128 characters |

EXAMPLE

```
SM24TBT2DPA(config)# privilege config-vlan level 10 LINE
SM24TBT2DPA(config)# privilege configure level 10 LINE
SM24TBT2DPA(config)# privilege dhcp-pool level 10 LINE
SM24TBT2DPA(config)#
```

qos

Configure Quality of Service parameters. See “QoS Commands” on page 139.

radius-server

Configure RADIUS.

SYNTAX

```
radius-server attribute 32 <line1-253>
radius-server attribute 4 <ipv4_ucast>
radius-server attribute 95 <ipv6_ucast>
radius-server deadtime <1-1440>
radius-server host <host_name> [ auth-port <auth_port> ] [ acct-port <acct_port> ] [ timeout <seconds> ]
[ retransmit <retries> ] [ key { [ unencrypted ] <unencrypted_key> | encrypted <encrypted_key> } ]
radius-server key { [ unencrypted ] <unencrypted_key> | encrypted <encrypted_key> }
radius-server retransmit <1-1000>
radius-server timeout <1-1000>
```

Parameters

| | |
|-------------------------------------|--|
| attribute | Radius-server attribute (32, 4, or 95) |
| deadtime | Time to stop using a RADIUS server that doesn't respond |
| host | Specify a RADIUS server |
| key | Set RADIUS encryption key (the shared key) |
| retransmit | Specify the number of retries to active server |
| timeout | Time to wait for a RADIUS server to reply |
| <Minutes : 1-1440> | Time in minutes |
| <Host4 : ipv4_ucast> | IPv4 address |
| <Host6 : ipv6_ucast> | IPv6 address |
| <HostName : word1-255> | Hostname or IP address |
| acct-port | UDP port for RADIUS accounting server |
| auth-port | UDP port for RADIUS authentication server |
| key | Server specific key (overrides default) |
| retransmit | Specify the number of retries to active server (overrides default) |
| timeout | Time to wait for this RADIUS server to reply (overrides default) |
| <AuthPort : 0-65535> | UDP port number |
| <AcctPort : 0-65535> | UDP port number |
| <Seconds : 1-1000> | Wait time in seconds |
| <Key : line1-63> | The shared key |
| <Retries : 1-1000> | Number of retries for a transaction |
| attribute | Radius-server attribute (32, 4, or 95) |

| | |
|---------------------|---|
| 32 | Radius-server attribute 32 (NAS-Identifier): The identifier - up to 253 characters long - to be used as attribute 32 in RADIUS Access-Request packets. If this field is left blank, the NAS-Identifier is not included in the packet. |
| 4 | Radius-server attribute 4 (NAS-IP-Address): The IPv4 address to be used as attribute 4 in RADIUS Access-Request packets. If this field is left blank, the IP address of the outgoing interface is used. |
| 95 | Radius-server attribute 95 (NAS-IPv6-Address): The IPv6 address to be used as attribute 95 in RADIUS Access-Request packets. If this field is left blank, the IP address of the outgoing interface is used. |
| <Id : line1-253> | Radius-server attribute |
| <Key : word1-63> | The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password. |
| encrypted | Specifies an ENCRYPTED secret key will follow |
| unencrypted | Specifies an UNENCRYPTED secret key will follow |
| <Key : word96-224> | The ENCRYPTED (hidden) secret key. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally. |
| <Ipv4 : ipv4_ucast> | radius-server attribute 4 IP address |
| <Ipv6 : ipv6_ucast> | radius-server attribute 95 IP address |

EXAMPLE

```
SM24TBT2DPA(config)# radius-server host device key 12
SM24TBT2DPB(config)# radius-server key admin
SM24TBT2DPB(config)# radius-server attribute 32 radsrvrline
SM24TBT2DPB(config)# radius-server deadtime 90
SM24TBT2DPB(config)# radius-server key unencrypted admin!@#123
SM24TBT2DPB(config)# radius-server retransmit 450
SM24TBT2DPB(config)# radius-server timeout 400
SM24TBT2DPB(config)#
```

rapid-ring

Set Rapid Ring parameters in Config mode. Note that other ring technologies (e.g., STP) must be disabled.

SYNTAX

rapid-ring role disabled

rapid-ring role master

rapid-ring role member

Parameters

| | |
|----------|---------------------|
| role | Set role value |
| disabled | role value disabled |
| master | role value member |
| member | role value master |

EXAMPLE

```
SM24TBT2DPA(config)# do show rapid-ring
Entry Index          : 1
Rapid Ring Role      : Disabled
Rapid Ring Port 1    : 25
Rapid Ring Port 2    : 26
Rapid Ring Port 1 State : Forwarding
Rapid Ring Port 2 State : Forwarding

SM24TBT2DPA(config)# rapid-ring role master
R_RING_ICLI_system_set error in port 25, STP is enable
SM24TBT2DPA(config)# rapid-ring role master
SM24TBT2DPA(config)# do show rapid-ring
Entry Index          : 1
Rapid Ring Role      : Master
Rapid Ring Port 1    : 25
Rapid Ring Port 2    : 26
Rapid Ring Port 1 State : Discarding
Rapid Ring Port 2 State : Discarding

SM24TBT2DPA(config)#
```

Messages: *R_RING_ICLI_system_set error in port 25, STP is enable*

rmon

Configure Remote Monitoring.

SYNTAX

```
rmon alarm <id> { ifInOctets | ifInUcastPkts | ifInNUcastPkts | ifInDiscards | ifInErrors | ifInUnknownProtos |
ifOutOctets | ifOutUcastPkts | ifOutNUcastPkts | ifOutDiscards | ifOutErrors } <ifIndex> <interval> { absolute |
delta } rising-threshold <rising_threshold> [ <rising_event_id> ] falling-threshold <falling_threshold>
[ <falling_event_id> ] { [ rising | falling | both ] }
```

```
rmon event <id> [ log ] [ trap <community> ] { [ description <description> ] }
```

Parameters

| | |
|---------------------------------------|---|
| alarm | Configure an RMON alarm |
| event | Configure an RMON event |
| <1-65535> | Alarm entry ID |
| <WORD> | MIB object to monitor |
| <1-2147483647> | Sample interval |
| absolute | Test each sample directly |
| delta | Test delta between samples |
| rising-threshold | Configure the rising threshold |
| <-2147483648-2147483647> | rising threshold value |
| <0-65535> | Event to fire on rising threshold crossing |
| falling-threshold | Configure the falling threshold |
| <-2147483648-2147483647> | falling threshold value |
| rising | Trigger alarm when the first value is larger than the rising threshold |
| falling | Trigger alarm when the first value is less than the falling threshold |
| both | Trigger alarm when the first value is larger than the rising threshold or less than the falling threshold (default) |
| ifInOctets | The total number of octets received on the interface, including framing characters |
| ifInUcastPkts | The number of uni-cast packets delivered to a higher-layer protocol |
| ifInNUcastPkts | The number of broad-cast and multi-cast packets delivered to a higher-layer protocol |
| ifInDiscards | The number of inbound packets that are discarded even the packets are normal |
| ifInErrors | The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol |
| ifInUnknownProtos | The number of the inbound packets that were discarded because of the unknown or un-support protocol |

| | |
|-----------------------------|--|
| ifOutOctets | The number of octets transmitted out of the interface , including framing characters |
| ifOutUcastPkts | The number of uni-cast packets that request to transmit |
| ifOutNUcastPkts | The number of broad-cast and multi-cast packets that request to transmit |
| ifOutDiscards | The number of outbound packets that are discarded event the packets is normal |
| ifOutErrors | The number of outbound packets that could not be transmitted because of errors |
| <uint> | ifIndex |
| <1-2147483647> | Sample interval |
| absolute | Test each sample directly |
| delta | Test delta between samples |
| rising-threshold | Configure the rising threshold |
| description | Specify a description of the event |
| log | Generate RMON log when the event fires |
| trap | Generate SNMP trap when the event fires |

EXAMPLE

```

SM24TBT2DPA(config)# rmon alarm 10000 ifInErrors 10 9999 absolute rising-thresho
ld 0 falling-threshold 0 both
% Invalid: rising threshold must be larger than falling threshold
SM24TBT2DPA(config)# rmon alarm 10000 ifInErrors 10 9999 absolute rising-thresho
ld 10 falling-threshold 0 both
SM24TBT2DPA(config)# rmon event 99
SM24TBT2DPA(config)#

```

sflow

Configure Statistics Flow (sFlow).

SYNTAX

```

sflow agent-ip { ipv4 <v_ipv4_addr> | ipv6 <v_ipv6_addr> }
sflow collector-address [ receiver <rcvr_idx_list> ] [ <host_name> ]
sflow collector-port [ receiver <rcvr_idx_list> ] <collector_port>
sflow max-datagram-size [ receiver <rcvr_idx_list> ] <datagram_size>
sflow timeout [ receiver <rcvr_idx_list> ] <timeout>

```

Parameters

| | |
|-----------------------------|---|
| agent-ip | The agent IP address used as agent-address in UDP datagrams. Defaults to IPv4 loopback address. |
| collector-address | Collector address; IPv4 address or IPv6 address or hostname |
| collector-port | Collector UDP port; [receiver <rcvr_idx_list>] <collector_port> |
| <1-65535> | Port Number |
| max-datagram-size | Maximum datagram size. |
| <200-1468> | Bytes |
| timeout | Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults. |
| <0-2147483647> | Number in seconds |

EXAMPLE

```

SM24TBT2DPA(config)# sflow agent-ip ipv4 192.168.1.2
SM24TBT2DPA(config)# sflow collector-port 3
SM24TBT2DPA(config)# sflow max-datagram-size 333
SM24TBT2DPA(config)# sflow timeout 3333
SM24TBT2DPA(config)#

```

smtp

Set email information. The function is used to set an Alarm trap when the switch detects an alarm. You can set the SMTP server to send you the alarm via email.

SYNTAX

```
smtp delete { server | username | sender | returnpath | mailaddress <index> }
smtp mailaddress <index> <mail_addr_name>
smtp returnpath <return_path>
smtp sender <sender_name>
smtp server <hostname>
smtp username <username> <password>
```

Parameters

| | |
|--------------------------------|---|
| delete | Delete command |
| mailaddress | Configure email address |
| returnpath | Configure email returnpath |
| sender | Configure email sender |
| server | Configure email server |
| username | Configure email user name |
| <index : 1-6> | Email address index |
| <return_path : word47> | Up to 47 characters describing returnpath |
| <sender_name : word47> | Up to 47 characters describing sender |
| <hostname:word47> | Up to 47 characters describing email server |
| <Username : word31> | Up to 47 characters describing user name |
| <mail_addr_name : word47> | Up to 47 characters describing mail address |
| <UnencryptedPassword : word31> | Configure email password |

EXAMPLE

```
SM24TBT2DPA(config)# smtp mailaddress 1 BobB
SM24TBT2DPA(config)# smtp returnpath BobRetPath
SM24TBT2DPA(config)# smtp sender Author
SM24TBT2DPA(config)# smtp server Engineering
SM24TBT2DPA(config)# smtp username jeffs@lantronix.com Hazysky
SM24TBT2DPA(config)#
```

system

Set system configuration parameters.

SYNTAX

system contact <v_line128>

system description <sys_desc>

system location <v_line128>

system name <v_line128>

system reboot mode { enable | disable }

system reboot { [Sun <hour_v00_0_to_23> <min_v00_0_to_55>] [Mon <hour_v10_0_to_23>
<min_v10_0_to_55>] [Tue <hour_v20_0_to_23> <min_v20_0_to_55>] [Wed <hour_v30_0_to_23>
<min_v30_0_to_55>] [Thr <hour_v40_0_to_23> <min_v40_0_to_55>] [Fri <hour_v50_0_to_23>
<min_v50_0_to_55>] [Sat <hour_v60_0_to_23> <min_v60_0_to_55>] }

Parameters

| | |
|--------------------|---|
| contact | Set the SNMP server's contact string |
| description | Configure System Description |
| location | Set the SNMP server's location string |
| name | Set the SNMP server's system model name string |
| reboot | Enable/disable Switch Rebooting |
| <line128> | contact string |
| <line128> | System Description string |
| <line128> | location string |
| <line128> | name string |
| Fri | Configure Switch Reboot scheduling on Friday |
| Mon | Configure Switch Reboot scheduling on Monday |
| Sat | Configure Switch Reboot scheduling on Saturday |
| Sun | Configure Switch Reboot scheduling on Sunday |
| Thr | Configure Switch Reboot scheduling on Thursday |
| Tue | Configure Switch Reboot scheduling on Tuesday |
| Wed | Configure Switch Reboot scheduling on Wednesday |
| mode | Switch reboot mode |
| disable | Disable Switch Reboot |
| enable | Enable Switch Reboot |
| <v_hour : 0-23> | start hour |
| <v_miniute : 0-55> | start miniute, value must be multiples of 5 |

EXAMPLE

```
SM24TBT2DPA(config)# system contact 222
SM24TBT2DPA(config)# system location 333
SM24TBT2DPA(config)# system name GE
GE(config)# system name SM24TBT2DPB
SM24TBT2DPB(config)# system reboot mode enable
SM24TBT2DPB(config)# system reboot Fri 11 55 Sun 1 00
SM24TBT2DPB(config)#
```


tacacs-server

Configure TACACS+.

SYNTAX

```

tacacs-server deadtime <minutes>

tacacs-server host <host_name> [ port <port> ] [ timeout <seconds> ] [ key { [ unencrypted ]
<unencrypted_key> | encrypted <encrypted_key> } ]

tacacs-server key { [ unencrypted ] <unencrypted_key> | encrypted <encrypted_key> }

tacacs-server timeout <seconds>

```

Parameters

| | |
|-------------------------------------|---|
| deadtime | Time to stop using a TACACS+ server that doesn't respond |
| host | Specify a TACACS+ server Hostname or IP address |
| key | Set TACACS+ encryption key |
| timeout | Time to wait for a TACACS+ server to reply |
| <Minutes : 1-1440> | Time in minutes (1-1440 minutes). |
| <Key : line1-63> | The shared key (1-63 characters). |
| <Seconds : 1-1000> | Wait time in seconds (1-1000 seconds) |
| <HostName : word1-255> | Hostname or IP address |
| <ipv4_ucast> | IPv4 address |
| <ipv6_ucast> | IPv6 address |
| port | TCP port for TACACS+ server |
| <0-65535> | TCP port number |
| <Key : word1-63> | The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password. |
| encrypted | Specifies an ENCRYPTED secret key will follow |
| unencrypted | Specifies an UNENCRYPTED secret key will follow |
| port | TCP port for TACACS+ server |
| timeout | Time to wait for this TACACS+ server to reply (overrides default) |

EXAMPLE

```

SM24TBT2DPA(config)# tacacs-server deadtime 300
SM24TBT2DPA(config)# tacacs-server host 192.168.1.2
SM24TBT2DPA(config)# tacacs-server key 33
SM24TBT2DPA(config)# tacacs-server timeout 300
SM24TBT2DPA(config)# do show tacacs
Global TACACS+ Server Timeout      : 300 seconds
Global TACACS+ Server Deadtime     : 300 minutes

```

```
Global TACACS+ Server Key          : 33
TACACS+ Server #1:
  Host name   : 192.168.1.2
  Port       : 49
  Timeout    :
  Key        :
SM24TBT2DPB(config)# tacacs-server host BobB key unencrypted admin port 1767 tim
eout 111
SM24TBT2DPB(config)# tacacs-server key unencrypted admin123!@#
SM24TBT2DPB(config)# tacacs-server key encrypted admin!!!@@###111222333
                        ^
% Incomplete word detected at '^' marker.

SM24TBT2DPB(config)#
```

upnp

Set UPnP's configurations. UPnP (Universal Plug and Play) allows devices to connect seamlessly and simplifies implementation of networks in the home (data sharing, communications, entertainment) and in corporate environments. **Caution:** UPnP allows clients in the local network to automatically configure the device. UpnP should only be used (enabled) if necessary and with preventive measures as it can result in high security risks for your network.

SYNTAX

upnp

upnp advertising-duration <v_66_to_86400>

upnp ttl <v_1_to_255>

Parameters

advertising-duration Set the advertising duration. The duration, carried in SSDP packets, is used to inform a control point or control points how often it or they should receive an SSDP advertisement message from this switch. If a control point does not receive any message within the duration, it will think that the switch no longer exists. Due to the unreliable nature of UDP, in the standard it is recommended that such refreshing of advertisements to be done at less than one-half of the advertising duration. In the implementation, the switch sends SSDP messages periodically at the interval one-half of the advertising duration minus 30 seconds. Valid values are 66 - 86400.

ttl Set TTL value used by UPnP to send SSDP advertisement messages.

<66-86400> advertising duration

<1-255> TTL value

EXAMPLE

```
SM24TBT2DPA(config)# upnp ?
  advertising-duration  Set advertising duration
  ttl                  Set TTL value
  <cr>
SM24TBT2DPA(config)# upnp advertising-duration 88
SM24TBT2DPA(config)# upnp ttl 25
SM24TBT2DPA(config)# do show upnp
UPnP Mode              : Disabled
UPnP TTL               : 25
UPnP Advertising Duration : 88
SM24TBT2DPA(config)#
```

username

Establish User Name Authentication.

SYNTAX

username <username> privilege <priv> password encrypted <encry_password>

username <username> privilege <priv> password none

username <username> privilege <priv> password unencrypted <password>

Parameters

| | |
|--------------------------------------|--|
| <Username : word31> | User name allows letters, numbers and underscores |
| privilege | Set user privilege level |
| <privilegeLevel : 0-15> | User privilege level |
| password | Specify the password for the user |
| encrypted | Specifies an ENCRYPTED password will follow |
| none | NULL password |
| unencrypted | Specifies an UNENCRYPTED password will follow |
| <Password : line31> | The UNENCRYPTED (Plain Text) user password. Any printable characters including space is accepted. Notice that you have no change to get the Plain Text password after this command. The system will always display the ENCRYPTED password. |
| <Password : word4-44> | The ENCRYPTED (hidden) user password. Notice the ENCRYPTED password will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally. |

EXAMPLE

```
SM24TBT2DPA(config)# username Jefferson privilege 15 password none
SM24TBT2DPB(config)# username tomason privilege 14 password encrypted BBBBBBBBBBB
BBB*****
% The UNENCRYPTED password is not accepted
SM24TBT2DPB(config)#
```

vlan

Configure VLAN parameters.

SYNTAX

```

vlan <vlist>
vlan ethertype s-custom-port <etype>
vlan protocol { { eth2 { <etype> | arp | ip | ipx | at } } | { snap { <oui> | rfc-1042 | snap-8021h } <pid> } | { llc
<dsap> <ssap> } } group <grp_id>

```

Parameters

| | |
|------------------------------|---------------------------------------|
| <vlan_list> | ISL VLAN IDs 1~4095 |
| ethertype | Ether type for Custom S-ports |
| protocol | Protocol-based VLAN commands |
| s-custom-port | Custom S-ports configuration |
| <0x0600-0xffff> | Ether type (Range: 0x0600-0xffff) |
| eth2 | Ethernet-based VLAN commands |
| <0x600-0xffff> | Ether Type(Range: 0x600 - 0xFFFF) |
| arp | Ether Type is ARP |
| ip | Ether Type is IP |
| ipx | Ether Type is IPX |
| at | Ether Type is AppleTalk |
| snap | SNAP-based VLAN group |
| <0x0-0xfffff> | SNAP OUI (Range 0x000000 - 0FFFFFFF) |
| rfc_1042 | SNAP OUI is rfc_1042 |
| snap_8021h | SNAP OUI is 8021h |
| <0x0-0xffff> | PID (Range: 0x0 - 0xFFFF) |
| llc | LLC-based VLAN group |
| <0x0-0xff> | DSAP (Range: 0x00 - 0xFF) |
| <0x0-0xff> | SSAP (Range: 0x00 - 0xFF) |
| group | Protocol-based VLAN group commands |
| <word16> | Group Name (Range: 1 - 16 characters) |

EXAMPLE

```

SM24TBT2DPA(config)# vlan protocol eth2 at group ADMIN
SM24TBT2DPA(config)# vlan ethertype s-custom-port 0x1111
SM24TBT2DPA(config)# vlan protocol eth2 arp group 123
SM24TBT2DPA(config)#

```

voice

Configure Voice appliance attributes.

SYNTAX

```

voice vlan
voice vlan aging-time <aging_time>
voice vlan class { <traffic_class> | low | normal | medium | high }
voice vlan oui <oui> [ description <description> ]
voice vlan vid <vid>

```

Parameters

| | |
|-----------------------------|---------------------------------|
| voice | Voice appliance attributes |
| vlan | Vlan for voice traffic |
| aging-time | Set secure learning aging time |
| class | Set traffic class |
| oui | OUI configuration |
| vid | Set VLAN ID |
| <AgingTime : 10-10000000> | Aging time, 10-10000000 seconds |
| advertising-duration | Set advertising duration |
| <10-10000000> | Aging time, 10-10000000 seconds |
| <class : 0-7> | Traffic class value |
| <oui> | OUI value |
| description | Set description for the OUI |
| <line32> | Description line |
| vid | Set VLAN ID |
| <vlan_id> | VLAN ID, 1-4095 |

EXAMPLE

```

SM24TBT2DPA(config)# voice vlan aging-time 3333
SM24TBT2DPA(config)# voice vlan class 7
SM24TBT2DPA(config)# voice vlan vid 3333
SM24TBT2DPA(config)# do show voice vlan
Switch voice vlan is disabled
Switch voice vlan ID is 3333
Switch voice vlan aging-time is 3333 seconds
Switch voice vlan traffic class is 7

```

```
Telephony OUI  Description
-----  -----

Voice VLAN switchport is configured on following:

GigabitEthernet 1/1 :
-----
GigabitEthernet 1/1 switchport voice vlan mode is disabled
GigabitEthernet 1/1 switchport voice security is disabled
GigabitEthernet 1/1 switchport voice discovery protocol is oui

GigabitEthernet 1/2 :
-----
GigabitEthernet 1/2 switchport voice vlan mode is disabled
GigabitEthernet 1/2 switchport voice security is disabled
GigabitEthernet 1/2 switchport voice discovery protocol is oui

-- more --, next page: Space, continue: g, quit: ^C
```

web

Configure Web privilege levels.

SYNTAX

```
web privilege group <group_name> level { [ cro <cro> ] [ crw <crw> ] [ sro <sro> ] [ srw <srw> ] }*1
```

Parameters

| | | | | |
|------------------|------------------------------------|----------------|------------------|---------------|
| privilege | Web privilege | | | |
| group | Web privilege group | | | |
| CWORD | Valid words are: | | | |
| ACTIVATE | Aggregation | PercepXion | DHCP | DMS_client |
| DMS_server | Debug | Dhcp_Client | Diagnostics | EEE |
| GARP | GVRP | Green_Ethernet | IP2 | IPMC_Snooping |
| Install_Wizard | LACP | LLDP | Loop_Protect | MAC_Table |
| MVR | Maintenance | Mirroring | NTP | POE |
| Ports | Private_VLANs | QoS | RPC | R_RING |
| SMTp | Security | Spanning_Tree | System | TS_client |
| TS_server | Timer | Trap_Event | Trouble_Shooting | UPnP |
| VCL | VLANs | VTUN | Voice_VLAN | XXRP |
| cloud_management | sFlow | | | |
| level | Web privilege group level (0-15) | | | |
| cro | Configuration Read-only level | | | |
| crw | Configuration Read-write level | | | |
| sro | Status/Statistics Read-only level | | | |
| srw | Status/Statistics Read-write level | | | |
| <Sro : 0-15> | | | | |
| <Srw : 0-15> | | | | |
| <Cr0 : 0-15> | | | | |
| <Crw : 0-15> | | | | |

EXAMPLE

```
SM24TBT2DPA(config)# web privilege group Ports level crw 15
SM24TBT2DPA(config)#
```

Messages:

The privilege level of 'Status/Statistics Read-only' should be less than or equal to 'Status/Statistics Read-write'

The privilege level of 'Configuration Read-only' should be less than or equal to 'Configuration Read-write'

3-2 *access-list*

Configure Access list entry and Rate limiter parameters.

Table : Configure access-list Commands

| Command | Function |
|---------------------------|-------------------|
| <code>ace</code> | Access list entry |
| <code>rate-limiter</code> | Rate limiter |

rate-limiter

Configure Rate limiter.

SYNTAX

```
access-list rate-limiter [ <rate_limiter_list> ] { pps <pps_rate> | 100pps <pps100_rate> | kpps <kpps_rate> |
100kbps <kpbs100_rate> }
```

Parameters

| | |
|---------------------------------------|----------------------|
| 100kbps | 100k bits per second |
| <RateLimiterList : 1~16> | Rate limiter ID |
| <PpsRate : 0-3276700> | Rate value |
| <0-10000> | Rate value |
| <100KbpsRate : 0-10000> | |

EXAMPLE

```
SM24TBT2DPA(config)# access-list rate-limiter 100kbps 111
SM24TBT2DPA(config)# do show access-list

Switch access-list ace number: 0

Switch access-list rate limiter ID 1 is 11100 kbps
Switch access-list rate limiter ID 2 is 11100 kbps
Switch access-list rate limiter ID 3 is 11100 kbps
Switch access-list rate limiter ID 4 is 11100 kbps
Switch access-list rate limiter ID 5 is 11100 kbps
Switch access-list rate limiter ID 6 is 11100 kbps
Switch access-list rate limiter ID 7 is 11100 kbps
Switch access-list rate limiter ID 8 is 11100 kbps
Switch access-list rate limiter ID 9 is 11100 kbps
```

```
Switch access-list rate limiter ID 10 is 11100 kbps
Switch access-list rate limiter ID 11 is 11100 kbps
Switch access-list rate limiter ID 12 is 11100 kbps
Switch access-list rate limiter ID 13 is 11100 kbps
Switch access-list rate limiter ID 14 is 11100 kbps
Switch access-list rate limiter ID 15 is 11100 kbps
Switch access-list rate limiter ID 16 is 11100 kbps
```

```
GigabitEthernet 1/1 :
```

```
-----
```

```
-- more --, next page: Space, continue: g, quit: ^C
```

ace

Configure Access List Control entry. An ACE (Access Control Entry) describes access permission associated with a particular ACE ID. There are three ACE frame types (Ethernet Type, ARP, and IPv4) and two ACE actions (permit and deny). The ACE also contains many different detailed parameter options that are available for individual application.

SYNTAX

```

access-list ace{ update<1-256> | <1-256> } [action< deny | filter | permit >]
access-list ace{ update<1-256> | <1-256> } [dmac-type < any | broadcast | multicast | unicast >]
access-list ace{ update<1-256> | <1-256> } [frametype < any | arp | etype | ipv4 | ipv4-icmp | ipv4-tcp | ipv4-udp | ipv6 | ipv6-icmp | ipv6-tcp | ipv6-udp >]
access-list ace{ update<1-256> | <1-256> } [ ingress ] [ ingress interface { <port_type> <port_type_id> | <port_type> <port_type_list> } | any } ]
access-list ace{ update<1-256> | <1-256> } [ logging [ disable ] ]
access-list ace{ update<1-256> | <1-256> } [ lookup [ disable ] ]
access-list ace{ update<1-256> | <1-256> } [ mirror [ disable ] ]
access-list ace{ update<1-256> | <1-256> } [ next { <1-256> | last } ]
access-list ace{ update<1-256> | <1-256> } [ policy <0-255> [ policy-bitmask <0x0-0xFF> ] ]
access-list ace{ update<1-256> | <1-256> } [ rate-limiter { <1-16> | disable } ]
access-list ace{ update<1-256> | <1-256> } [redirect | interface { <port_type> <port_type_id> | <port_type> <port_type_list> } | disable } ]
access-list ace{ update<1-256> | <1-256> } [shutdown]
access-list ace{ update<1-256> | <1-256> } [ tag { tagged | untagged | any } ]
access-list ace{ update<1-256> | <1-256> } [ tag-priority { <0-7> | any } ]
access-list ace{ update<1-256> | <1-256> } [ vid { <1-4095> | any } ]

```

Parameters

| | |
|------------------------------|---|
| <Aceld : 1-256> | update |
| action | Access list action |
| dmac-type | The type of destination MAC address |
| frametype | Frame type |
| ingress | Ingress |
| logging | Logging frame information |
| mirror | Mirror frame to destination mirror port |
| next | insert the current ACE before the next ACE ID |
| policy | Policy |
| rate-limiter | Rate limiter |

| | |
|-------------------------------|--|
| redirect | Redirect frame to specific port |
| shutdown | Shutdown incoming port |
| tag | Tag |
| tag-priority | Tag priority |
| vid | VID field |
| deny | Deny |
| filter | Filter |
| permit | Permit |
| any | Don't-care the type of destination MAC address |
| any | Don't-care tagged or untagged |
| tagged | Tagged |
| untagged | Untagged |
| broadcast | Broadcast destination MAC address |
| multicast | Multicast destination MAC address |
| unicast | Unicast destination MAC address |
| any | Don't-care the frame type |
| arp | Frame type of ARP |
| etype | Frame type of etype |
| ipv4 | Frame type of IPv4 |
| ipv4-icmp | Frame type of IPv4 ICMP |
| ipv4-tcp | Frame type of IPv4 TCP |
| ipv4-udp | Frame type of IPv4 TCP |
| ipv6 | Frame type of IPv4 |
| ipv6-icmp | Frame type of IPv6 ICMP |
| ipv6-tcp | Frame type of IPv6 TCP |
| ipv6-udp | Frame type of IPv6 UDP |
| interface | Select an interface to configure |
| <port_type> | Gigabit Ethernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet port |
| <port_type_id> | Port ID in the format of switch-no/port-no ex, 1/1-24 for Gigabit Ethernet |
| <port_type> | * or Gigabit Ethernet |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 |
| any | Don't-care the ingress interface |
| <0-255> | Policy ID |

| | |
|-------------------------|--|
| policy-bitmask | The bitmask for policy ID |
| <0x0-0xFF> | The value of policy bitmask |
| <1-4095> | The value of VID field |
| <0-7> | The value of tag priority |
| 0-1 | The range of tag priority |
| 0-3 | The range of tag priority |
| 2-3 | The range of tag priority |
| 4-5 | The range of tag priority |
| 4-7 | The range of tag priority |
| 6-7 | The range of tag priority |
| <TagPriority : 0-7> | The value of tag priority |
| any | Don't-care the value of tag priority field |

EXAMPLE 1

```
SM24TBT2DPA(config)# access-list ace 10 action deny
SM24TBT2DPA(config)# access-list ace ?
  <AceId : 1-256>   ACE ID
  update           Update an existing ACE
SM24TBT2DPA(config)# access-list rate-limiter ?
  100kbps          100k bits per second
  <RateLimiterList : 1~16>   Rate limiter ID
  pps              Packets per second
SM24TBT2DPA(config)#
```

EXAMPLE 2

```
SM24TBT2DPB(config)# access-list ace 1 dmac-type multicast frametype etype logging tag tagged vid 100
SM24TBT2DPB(config)# access-list ace update 1 ingress interface GigabitEthernet 1/6-12 redirect interface GigabitEthernet 1/1-6
% Port redirect cannot be configured while permitted or filtered action.
SM24TBT2DPB(config)# access-list ace 2 frametype ipv4-tcp action filter interface GigabitEthernet 1/11 logging policy 1 shutdown dmac-type unicast tag-priority 6
SM24TBT2DPB(config)#
```

3-3 no

Negate a command or set its defaults.

Table : Configure no Commands

| SM24TBT2DPA(config)# no ? | |
|---------------------------|---|
| aaa | Authentication, Authorization and Accounting |
| access | Access management |
| access-list | Access list |
| aggregation | Aggregation mode |
| always-on-poe | Disable Always On PoE |
| banner | Define a login banner |
| clock | Configure time-of-day clock |
| dot1x | IEEE Standard for port-based Network Access Control |
| enable | Modify enable password parameters |
| exec-timeout | Auto-logout timeout period |
| green-ethernet | Green ethernet (Power reduction) |
| grp | Enable GVRP feature |
| hostname | Set system's network name |
| interface | Select an interface to configure |
| ip | Internet Protocol |
| ipmc | IPv4/IPv6 multicast configuration |
| ipv6 | IPv6 configuration commands |
| lACP | LACP settings |
| lldp | LLDP configurations. |
| logging | Syslog |
| loop-protect | Loop protection configuration |
| mac | MAC table entries/configuration |
| map-api-key | Google Map API Key |
| monitor | Set monitor configuration. |
| mvr | Multicast VLAN Registration configuration |
| ntp | Configure NTP |
| poe | Power Over Ethernet. |
| port-security | Enable/disable port security globally. |
| privilege | Command privilege parameters |
| qos | Quality of Service |
| radius-server | Configure RADIUS |
| rmon | Remote Monitoring |
| sflow | Statistics flow. |
| snmp-server | Enable SNMP server |
| spanning-tree | STP Bridge |
| system | Set the system description |
| tacacs-server | Configure TACACS+ |
| upnp | Set UPnP's configurations |
| username | Establish User Name Authentication |
| vlan | Vlan commands |
| voice | Voice appliance attributes |
| web | Web |

SM24TBT2DPA(config)#

aaa

Negate Authentication, Authorization and Accounting login.

SYNTAX

```
no aaa authentication login { console | telnet | ssh | http }
```

Parameters

| | |
|-----------------------|-----------------|
| authentication | Authentication |
| login | Login |
| console | Disable Console |
| http | Disable HTTP |
| ssh | Disable SSH |
| telnet | Disable Telnet |

EXAMPLE

```
SM24TBT2DPA(config)# no aaa authentication login ssh
SM24TBT2DPA(config)#
```

access

Negate Access management

SYNTAX

```
no access management [<1~16>]
```

```
no access management
```

Parameters

| | |
|---------------------|---------------------------------|
| management | Access management configuration |
| <1~16> | ID of access management entry |

EXAMPLE

```
SM24TBT2DPA(config)# no access management
SM24TBT2DPA(config)#
```

access-list

Negate Access list.

SYNTAX

```
no access-list ace <1~256>
```

Parameters

| | |
|------------------------------|-------------------|
| ace | Access list entry |
| <Aceld : 1-256> | ACE ID |

EXAMPLE

```
SM24TBT2DPA(config)# no access-list ace 1
SM24TBT2DPA(config)#
```

aggregation

Negate Aggregation mode.

SYNTAX

```
no aggregation mode
```

Parameters

| | |
|-------------|---------------------------|
| mode | Traffic distribution mode |
|-------------|---------------------------|

EXAMPLE

```
SM24TBT2DPA(config)# no aggregation mode
SM24TBT2DPA(config)#
```

always-on-poe

Disable Always On PoE. Note that It will take 75 - 80 seconds to have PoE++ power on the ports to power PDs again if the switch makes a cold restart. The "Always on PoE" command has no effect on this time.

SYNTAX

```
no always-on-poe
```

Parameters

| | |
|--|------------------|
| | Output modifiers |
|--|------------------|

<cr>

EXAMPLE

```
SM24TBT2DPA(config)# no always-on-poe
Always On PoE Status : Disable
SM24TBT2DPA(config)#
```


banner

Define a banner.

SYNTAX

no banner [motd]

no banner exec

no banner login

Parameters

exec Set EXEC process creation banner

login Set login banner

motd Set Message of the Day banner

EXAMPLE

```
SM24TBT2DPA(config)# no banner login
SM24TBT2DPA(config)#
```

clock

Configure time-of-day clock.

SYNTAX

no clock summer-time

no clock timezone

Parameters

summer-time Configure summer (daylight savings) time

timezone Configure time zone

EXAMPLE

```
SM24TBT2DPA(config)# no clock summer-time
SM24TBT2DPA(config)# no clock timezone
SM24TBT2DPA(config)#
```

dot1x

IEEE Standard for port-based Network Access Control

SYNTAX

```

no dot1x authentication timer inactivity
no dot1x authentication timer re-authenticate
no dot1x feature { [ guest-vlan ] [ radius-qos ] [ radius-vlan ] }
no dot1x guest-vlan [supplicant]
no dot1x max-reauth-req
no dot1x re-authentication
no dot1x system-auth-control
no dot1x timeout quiet-period
no dot1x timeout tx-period

```

Parameters

| | |
|----------------------------|--|
| authentication | Authentication |
| feature | Globally enables/disables a dot1x feature functionality |
| guest-vlan | Guest VLAN |
| max-reauth-req | The number of time a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN. |
| re-authentication | Set Re-authentication state |
| system-auth-control | Set the global NAS state |
| timeout | timeout |
| timer | timer |
| inactivity | Time in seconds between check for activity on successfully authenticated MAC addresses. |
| re-authenticate | The period between re-authentication attempts in seconds |
| guest-vlan | Globally enables/disables state of guest-vlan |
| radius-qos | Globally enables/disables state of RADIUS-assigned QoS. |
| radius-vlan | Globally enables/disables state of RADIUS-assigned VLAN. |
| supplicant | The switch remembers if an EAPOL frame has been received on the port for the life-time of the port. Once the switch considers whether to enter the Guest VLAN, it will first check if this option is enabled or disabled. If disabled (unchecked; default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for |

| | |
|---------------------|---|
| | the life-time of the port. |
| quiet-period | Time in seconds before a MAC-address that failed authentication gets a new authentication chance. |
| tx-period | the time between EAPOL retransmissions. |

EXAMPLE

```
SM24TBT2DPA(config)# no dot1x authentication timer inactivity
SM24TBT2DPA(config)# no dot1x feature guest-vlan radius-qos radius-vlan
SM24TBT2DPA(config)# no dot1x guest-vlan supplicant
SM24TBT2DPA(config)# no dot1x max-reauth-req
SM24TBT2DPA(config)# no dot1x re-authentication
SM24TBT2DPA(config)# no dot1x system-auth-control
SM24TBT2DPA(config)# no dot1x timeout tx-period
SM24TBT2DPA(config)#
```

enable

Disable password parameters

SYNTAX

```
no enable password [ level <1-15> ]
no enable secret [0|5 { level <1-15> }]
```

Parameters

| | |
|---------------------|---|
| password | Assign the privileged level clear password |
| secret | Assign the privileged level secret |
| 0 | Specifies an UNENCRYPTED password will follow |
| 5 | Specifies an ENCRYPTED password will follow |
| level | Set exec level password |
| <1-15> | Level number |

EXAMPLE

```
SM24TBT2DPA(config)# no enable secret level 15
SM24TBT2DPA(config)# no enable password level 15
SM24TBT2DPA(config)#
```

exec-timeout

No Exec Auto-logout timeout period.

SYNTAX

```
no exec-timeout autologout <cr>
```

Parameters

None

EXAMPLE

```
SM24TBT2DPA(config)# no exec-timeout autologout
SM24TBT2DPA(config)#
```

gvrp

Negate GVRP feature.

SYNTAX

```
no gvrp
```

```
no gvrp max-vlans <maxvlans>
```

```
no gvrp time { [ join-time <jointime> ] [ leave-time <leavetime> ] [ leave-all-time <leavealltime> ] }*1
```

Parameters

| | |
|-----------------------|--|
| max-vlans | Number of simultaneously VLANs that GVRP can control |
| time | Config GARP protocol timer parameters. IEEE 802.1D-2004, clause 12.11. |
| join-time | Set GARP protocol parameter JoinTime. See IEEE 802.1D-2004, clause 12.11 |
| leave-all-time | Set GARP protocol parameter LeaveAllTime. See IEEE 802.1D-2004, clause 12.11 |
| leave-time | Set GARP protocol parameter LeaveTime. See IEEE 802.1D-2004, clause 12.11 |

EXAMPLE

```
SM24TBT2DPA(config)#no gvrp max-vlans 1
SM24TBT2DPA(config)#no gvrp time join-time 10
SM24TBT2DPA(config)#no gvrp time leave-all-time 2000
SM24TBT2DPA(config)#no gvrp time leave-time 70
SM24TBT2DPA(config)#
```

hostname

Negate system's network name.

SYNTAX

```
no hostname
```

EXAMPLE

```
SM24TBT2DPA(config)# no hostname
SM24TBT2DPA(config)#
```

interface

Negate Interface VLAN feature.

SYNTAX

```
no interface vlan < vlan_list >
```

Parameters

| | |
|--------------------------|-------------------------------|
| vlan | Vlan interface configurations |
| <vlan_list> | Vlan list |

EXAMPLE

```
SM24TBT2DPA(config)# no interface vlan 10
SM24TBT2DPA(config)#
```

Ip

Set system's network name.

SYNTAX

```

no ip arp inspection
no ip arp inspection entry interface <port_type> <in_port_type_id> <vlan_var> <mac_var> <ipv4_var>
no ip arp inspection vlan <in_vlan_list>
no ip arp inspection vlan <in_vlan_list> logging
no ip dhcp excluded-address <low_ip> [ <high_ip> ]
no ip dhcp pool <pool_name>
no ip dhcp relay
no ip dhcp relay information option
no ip dhcp relay information policy
no ip dhcp snooping
no ip dns proxy
no ip helper-address
no ip igmp host-proxy [ leave-proxy ]
no ip igmp snooping
no ip igmp snooping vlan [ <v_vlan_list> ]
no ip igmp ssm-range
no ip igmp unknown-flooding
no ip name-server
no ip route <v_ipv4_addr> <v_ipv4_netmask> <v_ipv4_gw>
no ip routing
no ip source binding interface <port_type> <in_port_type_id> <vlan_var> <ipv4_var> <mac_var>
no ip verify source

```

Parameters

| | |
|-----------------------------|---|
| arp | Address Resolution Protocol |
| inspection | ARP inspection |
| entry | arp inspection entry |
| interface | arp inspection entry interface config |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| <port_type_id> | Port ID in the format of switch-no/port-no, 1/1-24 for Gigabit Ethernet |
| <vlan_id> | Select a VLAN id to configure |
| <mac_ucast> | Select a MAC address to configure |
| <ipv4_ucast> | Select an IP Address to configure |

| | |
|-----------------------------|--|
| vlan | arp inspection vlan setting |
| <vlan_list> | arp inspection vlan list |
| logging | ARP inspection vlan logging mode config |
| dhcp | Dynamic Host Configuration Protocol |
| excluded-address | Prevent DHCP from assigning certain address |
| <ip_address> | Low IP address and High IP address |
| <WORD> | Pool name in 32 characters |
| pool | Configure DHCP address pools |
| relay | DHCP relay agent configuration |
| server | enable DHCP server |
| snooping | DHCP snooping |
| information | DHCP information option(Option 82) |
| option | DHCP option |
| policy | Policy for handling the receiving DHCP packet already include the information option |
| snooping | DHCP snooping |
| dns | Domain Name System |
| proxy | DNS proxy service |
| helper-address | None. |
| http | Hypertext Transfer Protocol |
| secure-redirect | Secure HTTP web redirection |
| secure-server | Secure HTTP web server |
| igmp | Internet Group Management Protocol |
| host-proxy | IGMP proxy configuration |
| leave-proxy | IGMP proxy for leave configuration |
| snooping | Snooping IGMP |
| vlan | IGMP VLAN |
| <vlan_list> | VLAN identifier(s): VID |
| ssm-range | IPv4 address range of Source Specific Multicast |
| unknown-flooding | Flooding unregistered IPv4 multicast traffic |
| name-server | Domain Name System |
| Route | none |
| <ipv4_addr> | Network |
| <ipv4_netmask> | Netmask |
| <ipv4_gateway> | Gateway |
| routing | Disable routing for IPv4 and IPv6 |
| source | source command |

| | |
|-----------------------------|--|
| binding | ip source binding |
| interface | ip source binding entry interface config |
| Gigabit Ethernet | 1 Gigabit Ethernet port |
| <port_type_id> | Port ID in the format of switch-no/port-no, ex., 1/1-24 for Gigabit Ethernet |
| <vlan_id> | Select a VLAN id to configure |
| <ipv4_ucast> | Select an IP Address to configure |
| <ipv4_netmask> | Select a subnet mask to configure |
| <mac_ucast> | Select a MAC address to configure |
| ssh | Secure Shell |
| verify | verify command |
| source | verify source |

EXAMPLE

```
SM24TBT2DPA(config)# no ip arp inspection vlan 3 logging
SM24TBT2DPA(config)# no ip dhcp relay information option
SM24TBT2DPA(config)# no ip dns proxy
SM24TBT2DPA(config)# no ip helper-address
SM24TBT2DPA(config)# no ip igmp snooping
SM24TBT2DPA(config)# no ip name-server
SM24TBT2DPA(config)# no ip routing
SM24TBT2DPA(config)# no ip ssh
SM24TBT2DPA(config)# no ip verify source
SM24TBT2DPA(config)#
```


ipmc

Negate IPv4/IPv6 multicast configuration

SYNTAX

no ipmc profile <Profilename : word16>

no ipmc range <Entryname : word16>

Parameters

profile IPMC profile configuration

<Profilename : word16> Profile name in 16 char's

range A range of IPv4/IPv6 multicast addresses for the profile

<Entryname : word16> Range entry name in 16 characters

EXAMPLE

```
SM24TBT2DPA(config)# no ipmc profile  
SM24TBT2DPA(config)#
```

ipv6

Negate IPv6 configuration commands

SYNTAX

```

no ipv6 mld host-proxy [ leave-proxy ]
no ipv6 mld snooping
no ipv6 mld snooping [vlan <vlan_list> ]
no ipv6 mld ssm-range
no ipv6 mld unknown-flooding
no ipv6 route <ipv6_subnet> { <ipv6_ucast> | interface vlan <vlan_id> <ipv6_linklocal> }

```

Parameters

| | |
|-------------------------------|--|
| mld | Multicasat Listener Discovery |
| host-proxy | MLD proxy configuration |
| leave-proxy | MLD proxy for leave configuration |
| snooping | Snooping MLD |
| vlan | MLD VLAN |
| <vlan_list> | VLAN identifier(s): VID |
| ssm-range | IPv6 address range of Source Specific Multicast |
| unknown-flooding | Flooding unregistered IPv6 multicast traffic |
| route | Configure static routes |
| <ipv6_subnet> | IPv6 prefix x:x::y/z |
| <ipv6_ucast> | IPv6 unicast address (except link-local address) of next-hop |
| interface | Select an interface to configure |
| vlan | VLAN Interface |
| <vlan_id> | VLAN identifier(s): VID |
| <ipv6_linklocal> | IPv6 link-local address of next-hop |

EXAMPLE

```

SM24TBT2DPA(config)# no ipv6 mld snooping ?
    vlan      MLD VLAN
    <cr>
SM24TBT2DPA(config)# no ipv6 mld snooping
SM24TBT2DPA(config)#

```

lacp

Negate LACP settings

SYNTAX

```
no lacp system-priority <1-65535>
```

Parameters

| | |
|------------------------|---|
| system-priority | System priority |
| <1-65535> | Priority value, lower means higher priority |

EXAMPLE

```
SM24TBT2DPA(config)# no lacp system-priority 10000
SM24TBT2DPA(config)# no lacp ?
    system-priority    System priority
SM24TBT2DPA(config)# no lacp
system-priority
SM24TBT2DPA(config)# no lacp system-priority ?
    <1-65535>    Priority value, lower means higher priority
SM24TBT2DPA(config)#
```

Ildp

Negate LLDP configurations.

SYNTAX

```

no lldp holdtime
no lldp med datum
no lldp med fast
no lldp med location-tlv altitude
no lldp med location-tlv civic-addr { country | state | county | city | district | block | street | leading-street-direction
| trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code |
building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code }
no lldp med location-tlv elin-addr
no lldp med location-tlv latitude
no lldp med location-tlv longitude
no lldp med media-vlan-policy <0~31>
no lldp reinit
no lldp timer
no lldp transmission-delay

```

Parameters

| | |
|---------------------------|---|
| holdtime | Sets LLDP hold time (The neighbor switch will discarded the LLDP information after "hold time" multiplied with "timer" seconds). |
| med | Media Endpoint Discovery. |
| reinit | Sets LLDP reinitialization delay. |
| timer | Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds). |
| tlv-select | Which optional TLVs to transmit. |
| transmission-delay | Sets LLDP transmission-delay. LLDP transmission delay (the amount of time that the transmission of LLDP frames will be delayed after LLDP configuration has changed) in seconds.) |
| datum | Set datum to default value. |
| fast | Set fast repeat count to default value. |
| location-tlv | LLDP-MED Location Type Length Value parameter. |
| media-vlan-policy | Use the media-vlan-policy to create a policy, which can be assigned to an interface. |
| altitude | Setting altitude to default. |
| civic-addr | Civic address information and postal information |
| elin-addr | Set elin address to default value. |
| latitude | Setting Latitude parameter to default. |

| | |
|---------------------------------|---|
| longitude | Setting longitude to default. |
| additional-code | Additional code - Example: 1320300003. |
| additional-info | Additional location info - Example: South Wing. |
| apartment | Unit (Apartment, suite) - Example: Apt 42. |
| block | Neighbourhood, block. |
| building | Building (structure) - Example: Low Library. |
| city | City, township, shi (Japan) - Example: Copenhagen. |
| country | The two-letter ISO 3166 country code in capital ASCII letters - Eg: DK, DE or US. |
| county | County, parish, gun (Japan), district. |
| district | City division, borough, city district, ward, chou (Japan). |
| floor | Floor - Example: 4. |
| house-no | House number - Example: 21. |
| house-no-suffix | House number suffix - Example: A, 1/2. |
| landmark | Landmark or vanity address - Example: Columbia University. |
| leading-street-direction | Leading street direction - Example: N. |
| name | Name (residence and office occupant) - Example: Flemming Jahn. |
| p-o-box | Post office box (P.O. BOX) - Example: 12345. |
| place-type | Place type - Example: Office. |
| postal-community-name | Postal community name - Example: Leonia. |
| room-number | Room number - Example: 450F. |
| state | National subdivisions (state, canton, region, province, prefecture). |
| street | Street - Example: Poppelvej. |
| street-suffix | Street suffix - Example: Ave, Platz. |
| trailing-street-suffix | Trailing street suffix - Example: SW. |
| zip-code | Postal/zip code - Example: 2791. |
| <0~31> | Policy to delete. |

EXAMPLE

```
SM24TBT2DPA(config)# no lldp holdtime
SM24TBT2DPA(config)#
```

logging

Negate Syslog.

SYNTAX

no logging host

no logging on

Parameters

host host

on Enable syslog server

EXAMPLE

```
SM24TBT2DPA(config)# no logging host
```

```
SM24TBT2DPA(config)# no logging on
```

```
SM24TBT2DPA(config)#
```

loop-protect

Loop protection configuration

SYNTAX

no loop-protect

no loop-protect shutdown-time

no loop-protect transmit-time

Parameters

shutdown-time Loop protection shutdown time interval

transmit-time Loop protection transmit time interval

EXAMPLE

```
SM24TBT2DPA(config)# no loop-protect ?
```

```
  shutdown-time    Loop protection shutdown time interval
```

```
  transmit-time    Loop protection transmit time interval
```

```
  <cr>
```

```
SM24TBT2DPA(config)# no loop-protect shutdown-time
```

```
SM24TBT2DPA(config)# no loop-protect transmit-time
```

```
SM24TBT2DPA(config)#
```

mac

Negate MAC table entries/configuration

SYNTAX

```
no mac address-table aging-time [<0,10-1000000> ]
```

```
no mac address-table static <mac_addr> vlan <vlan_id> interface {*[Gigabit Ethernet [<port_type_list>]}
```

Parameters

| | |
|-------------------------------|--|
| address-table | Mac table entries configuration/table |
| aging-time | Mac address aging time |
| <0,10-1000000> | Aging time in seconds, 0 disables aging |
| static | Static MAC address |
| <mac_addr> | 48 bit MAC address: xx:xx:xx:xx:xx:xx |
| vlan | VLAN keyword |
| <vlan_id> | VLAN IDs 1-4095 |
| interface | Select an interface to configure |
| Gigabit Ethernet | 1 Gigabit Ethernet port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA(config)# no mac address-table aging-time 10000
SM24TBT2DPA(config)#
```

map-api-key

Negate Google Map API Key.

SYNTAX

```
no map-api-key <cr>
```

Parameters

```
map-api-key
<cr>
```

EXAMPLE

```
SM24TBT2DPA(config)# no map-api-key
SM24TBT2DPA(config)#
```

monitor

Negate monitor configuration.

SYNTAX

no monitor destination

no monitor source { interface Gigabit Ethernet <port_type_list> | cpu}

Parameters

destination The destination port.

source The source port(s). That is the ports to be mirrored to the destination port.

cpu Mirror CPU traffic.

interface Mirror Interface traffic.

Gigabit Ethernet 1 Gigabit Ethernet Port

<port_type_list> Port list in 1/1-24 for Gigabit Ethernet

EXAMPLE

```
SM24TBT2DPA(config)# no monitor destination
```

```
SM24TBT2DPA(config)# no monitor source
```

```
SM24TBT2DPA(config)#
```


mvr

Negate Multicast VLAN Registration configuration.

SYNTAX

```
no mvr
no mvr name <word16> channel
no mvr name <word16> frame priority
no mvr name <word16> frame tagged
no mvr name <word16> igmp-address
no mvr name <word16> last-member-query-interval
no mvr name <word16> mode
no mvr vlan <vlan_list>
no mvr vlan <vlan_list> channel
no mvr vlan <vlan_list> frame priority
no mvr vlan <vlan_list> frame tagged
no mvr vlan <vlan_list> igmp-address
no mvr vlan <vlan_list> last-member-query-interval
no mvr vlan <vlan_list> mode [{channel | frame | igmp-address | last-member-query-interval}]
```

Parameters

| | |
|-----------------------------------|---|
| name | MVR multicast name |
| <word16> | MVR multicast VLAN name |
| channel | MVR channel configuration |
| frame | MVR control frame in TX |
| priority | Interface CoS priority |
| tagged | Tagged IGMP/MLD frames will be sent |
| igmp-address | MVR address configuration used in IGMP |
| last-member-query-interval | Last Member Query Interval in tenths of seconds |
| mode | MVR mode of operation |
| vlan | MVR multicast vlan |
| <vlan_list> | MVR multicast VLAN list |

EXAMPLE

```
SM24TBT2DPA(config)# no mvr vlan 12 mode
SM24TBT2DPA(config)#
```

ntp

Negate NTP configurations.

SYNTAX

```
no ntp
no ntp server <1-5>
```

Parameters

| | |
|--------------------|----------------------|
| server | Configure NTP server |
| <1-5> | index number |

EXAMPLE

```
SM24TBT2DPA(config)# no ntp ?
  automatic    Configure Automatic
  server       Configure NTP server
  <cr>
SM24TBT2DPA(config)# no ntp server 2
SM24TBT2DPA(config)#
```

poe

Negate Power Over Ethernet.

SYNTAX

no poe

Parameters

| | |
|---------------------|--|
| aging | Enable/disable port security aging. |
| time | Time in seconds between check for activity on learned MAC addresses. |
| capacitor-detection | PoE capacitor-detection |
| management | POE_MANAGEMENT_MODE_HELP |
| ping-check | Enable POE Ping Check. |
| profile | erase poe scheduling profile |
| reboot-chip | erase all poe reboot scheduling |
| id | erase poe scheduling profile id |

EXAMPLE

```
SM24TBT2DPA(config)# no poe management mode
SM24TBT2DPA(config)# no poe ping-check
SM24TBT2DPA(config)# no poe reboot-chip
SM24TBT2DPA(config)#
```

port-security

Negate port security globally.

SYNTAX

no port-security
no port-security aging
no port-security aging time

Parameters

| | |
|--------------|--|
| aging | Enable/disable port security aging. |
| time | Time in seconds between check for activity on learned MAC addresses. |

EXAMPLE

```
SM24TBT2DPA(config)# no port-security aging time
SM24TBT2DPA(config)#
```

privilege

Negate Command privilege parameters.

SYNTAX

no privilege

no privilege { exec | configure | config-vlan | line | interface | if-vlan | ipmc-profile | snmps-host | stp-aggr | dhcp-pool | rfc2544-profile } level <0-15> <cmd>

Parameters

| | | | |
|-----------------|------------|--------------|------|
| config-vlan | configure | dhcp-pool | exec |
| if-vlan | interface | ipmc-profile | line |
| rfc2544-profile | snmps-host | stp-aggr | |

EXAMPLE

```
SM24TBT2DPA(config)# no privilege?
no privilege { exec | configure | config-vlan | line | interface | if-vlan | ipmc-
profile | snmps-host | stp-aggr | dhcp-pool | rfc2544-profile } level <0-15> <cmd>
SM24TBT2DPA(config)# no privilege rfc2544-profile ?
    level    Set privilege level of command
SM24TBT2DPA(config)# no privilege rfc2544-profile level ?
    <0-15>   Privilege level
SM24TBT2DPA(config)# no privilege stp-aggr level 10
SM24TBT2DPA(config)#
```

qos

Negate Quality of Service.

SYNTAX

map Global QoS Map/Table

qce QoS Control Entry

storm Storm policer

Parameters

no qos map cos-dscp <cos> dpl <dpl>

no qos map dscp-classify { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

no qos map dscp-cos { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

no qos map dscp-egress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } <dpl>

no qos map dscp-ingress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }

no qos qce <qce_id_range>

no qos storm { unicast | multicast | broadcast }

EXAMPLE

```
SM24TBT2DPA(config)# no qos ?
  map      Global QoS Map/Table
  qce      QoS Control Entry
  storm    Storm policer

SM24TBT2DPA(config)# no qos map ?
  cos-dscp      Map for cos to dscp
  dscp-classify Map for dscp classify enable
  dscp-cos      Map for dscp to cos
  dscp-egress-translation Map for dscp egress translation
  dscp-ingress-translation Map for dscp ingress translation

SM24TBT2DPA(config)# no qos qce ?
  1~256    QCE ID

SM24TBT2DPA(config)#
```

radius-server

Negate RADIUS config.

SYNTAX

```
no radius-server attribute 32
no radius-server attribute 4
no radius-server attribute 95
no radius-server deadline
no radius-server host <host_name> [ auth-port <auth_port> ] [ acct-port <acct_port> ]
no radius-server key
no radius-server retransmit
no radius-server timeout
```

Parameters

| | |
|------------------------|---|
| Attribute | Attribute # (32, 4, or 95) |
| deadline | Time to stop using a RADIUS server that doesn't respond |
| host | Specify a RADIUS server |
| key | Set RADIUS encryption key |
| retransmit | Specify the number of retries to active server |
| timeout | Time to wait for a RADIUS server to reply |
| <HostName : word1-255> | Hostname or IP address |

EXAMPLE

```
SM24TBT2DPA(config)# no radius-server attribute 4
SM24TBT2DPA(config)# no radius-server deadline
SM24TBT2DPA(config)# no radius-server host ned
Error: Host not found!
SM24TBT2DPA(config)# no radius-server key
SM24TBT2DPA(config)# no radius-server retransmit
SM24TBT2DPA(config)# no radius-server timeout
SM24TBT2DPA(config)#
```

rmon

Negate Remote Monitoring.

SYNTAX

```
no rmon alarm <alarm : 1-65535>
```

```
no rmon event<event : 1-65535>
```

Parameters

alarm Configure an RMON alarm

event Configure an RMON event

<alarm : 1-65535> Alarm entry ID

<event: 1-65535> Event entry ID

EXAMPLE

```
SM24TBT2DPA(config)# no rmon ?
  alarm   Configure an RMON alarm
  event   Configure an RMON event
SM24TBT2DPA(config)# no rmon alarm ?
  <1-65535> Alarm entry ID
SM24TBT2DPA(config)# no rmon event ?
  <1-65535> Event entry ID
SM24TBT2DPA(config)# no rmon event 1
% Fail to delete event entry
SM24TBT2DPA(config)#
```

sflow

Negate Statistics flow.

SYNTAX

```
no sflow agent-ip
no sflow collector-address
no sflow collector-port
no sflow max-datagram-size
no sflow timeout
```

Parameters

| | |
|--------------------------|---|
| agent-ip | Sets the agent IP address used as agent-address in UDP datagrams to 127.0.0.1. |
| collector-address | Collector address |
| collector-port | Collector UDP port |
| max-datagram-size | Maximum datagram size. |
| timeout | Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults. |

EXAMPLE

```
SM24TBT2DPA(config)# no sflow agent-ip
SM24TBT2DPA(config)# no sflow collector-address
SM24TBT2DPA(config)# no sflow collector-port
SM24TBT2DPA(config)# no sflow max-datagram-size
SM24TBT2DPA(config)# no sflow timeout
SM24TBT2DPA(config)#
```


snmp-server

Negate SNMP server.

SYNTAX

```

no snmp-server
no snmp-server access <Groupname : word32> model { v1 | v2c | v3 | any } level { auth | noauth | priv }
no snmp-server community v2c
no snmp-server community v3 <Community : word127>
no snmp-server contact
no snmp-server engine-id local
no snmp-server host <Conf : word32>
no snmp-server location
no snmp-server security-to-group model { v1 | v2c | v3 } name <Securityname : word32>
no snmp-server trap
no snmp-server user <Username : word32> engine-id <Engineid : word10-32>
no snmp-server version
no snmp-server view <Viewname : word32> <Oidsubtree : word255>

```

Parameters

| | |
|-----------------------------------|---|
| access | access configuration |
| <Groupname : word32> | group name |
| model | security model |
| v1 | v1 security model |
| v2c | v2c security model |
| v3 | v3 security model |
| any | any security model |
| level | security level |
| auth | authNoPriv Security Level |
| noauth | noAuthNoPriv Security Level |
| priv | authPriv Security Level |
| community | Set the SNMP community |
| contact | Clear the SNMP server's contact string |
| engine-id | Set SNMP engine ID |
| host | Set SNMP host's configurations |
| location | Clear the SNMP server's location string |
| security-to-group | security-to-group configuration |
| trap | Set trap's configurations |

| | |
|---|---------------------------------|
| user | user who can access SNMP server |
| version | Set the SNMP server's version |
| view | MIB view configuration |
| <Community : word127> | |
| local | Set SNMP local engine ID |
| <ConfName : word32> Name of the host configuration | |
| model | security model |
| v1 | v1 security model |
| v2c | v2c security model |
| v3 | v3 security model |
| name | security user |
| <SecurityName : word32> security user name | |
| <Username : word32> name of user | |
| engine-id | engine ID |
| <Engineid : word10-32> engine ID octet string | |
| <Viewname : word32> MIB view name | |
| <Oidsubtree : word255> MIB view OID | |

EXAMPLE

```

SM24TBT2DPA(config)# no snmp-server access 333 model any level auth
SM24TBT2DPA(config)# no snmp-server community v2c
SM24TBT2DPA(config)# no snmp-server engined-id local
SM24TBT2DPA(config)# no snmp-server host 333
SM24TBT2DPA(config)# no snmp-server location
SM24TBT2DPA(config)# no snmp-server security-to-group model v2c name 132
SM24TBT2DPA(config)# no snmp-server trap
SM24TBT2DPA(config)# no snmp-server version
SM24TBT2DPA(config)#

```

spanning-tree

Negate STP Bridge.

SYNTAX

```

no spanning-tree edge bpdu-filter
no spanning-tree edge bpdu-guard
no spanning-tree mode
no spanning-tree mst <instance> priority
no spanning-tree mst <instance> vlan
no spanning-tree mst forward-time
no spanning-tree mst max-age
no spanning-tree mst max-hops
no spanning-tree mst name
no spanning-tree recovery interval
no spanning-tree transmit hold-count

```

Parameters

| | |
|---------------------------------|--------------------------------------|
| edge | Edge ports |
| mode | STP protocol mode |
| mst | STP bridge instance |
| recovery | The error recovery timeout |
| transmit | BPDU to transmit |
| bpdu-filter | Enable BPDU filter (stop BPDU tx/rx) |
| bpdu-guard | Enable BPDU guard |
| <Instance : 0-7> | instance 0-7 (CIST=0, MST2=1...) |
| priority | Priority of the instance |
| forward-time | Delay between port states |
| max-age | Max bridge age before timeout |
| max-hops | MSTP bridge max hop count |
| name | Name keyword |
| vlan | VLAN keyword |
| interval | The interval |
| hold-count | Max number of transmit BPDUs per sec |
| <Holdcount : 1-10> | 1-10 per sec, 6 is default |

EXAMPLE

```
SM24TBT2DPA(config)# no spanning-tree edge bpdu-filter
SM24TBT2DPA(config)# no spanning-tree mode
SM24TBT2DPA(config)# no spanning-tree mst max-age
SM24TBT2DPA(config)# no spanning-tree recovery interval
SM24TBT2DPA(config)# no spanning-tree transmit hold-count
SM24TBT2DPA(config)#
```

system

Negate system entries.

SYNTAX

no system contact
no system description
no system location
no system name
no system reboot

Parameters

| | |
|-------------|--|
| contact | Clear the SNMP server's contact string |
| description | Clear the system description string |
| location | Clear the SNMP server's location string |
| name | Clear the SNMP server's system model name string |
| reboot | erase all Switch Reboot scheduling |

EXAMPLE

```
SM24TBT2DPA(config)# no system contact
SM24TBT2DPA(config)# no system description
SM24TBT2DPA(config)# no system location
SM24TBT2DPA(config)# no system name
SM24TBT2DPA(config)# no system reboot
SM24TBT2DPA(config)#
```

tacacs-server

Negate TACACS+.

SYNTAX

```
no tacacs-server deadtime
no tacacs-server host <host_name> [ port <port> ]
no tacacs-server key
no tacacs-server timeout
```

Parameters

| | |
|-------------------------------------|---|
| deadtime | Time to stop using a TACACS+ server that doesn't respond |
| host | Specify a TACACS+ server |
| <Hostname : word1-255> | Host name or IP address |
| key | Set TACACS+ encryption key |
| timeout | Time to wait for a TACACS+ server to reply |
| key | Server specific key (overrides default) |
| port | TCP port for TACACS+ server |
| timeout | Time to wait for this TACACS+ server to reply (overrides default) |
| <Port : 0-65535> | TCP port number |

EXAMPLE

```
SM24TBT2DPA(config)# no tacacs-server deadtime
SM24TBT2DPA(config)# no tacacs-server host 192.168.1.1 port 10000
SM24TBT2DPA(config)# no tacacs-server key
SM24TBT2DPA(config)# no tacacs-server timeout
SM24TBT2DPA(config)#
```

Messages: *Error: Host not found!*

upnp

Negate UPnP's configurations.

SYNTAX

```
no upnp
no upnp advertising-duration
no upnp ttl
```

Parameters

| | |
|-----------------------------|--------------------------|
| advertising-duration | Set advertising duration |
| ttl | Set TTL value |

EXAMPLE

```
SM24TBT2DPA(config)# no upnp advertising-duration
SM24TBT2DPA(config)# no upnp ttl
SM24TBT2DPA(config)#
```

username

Establish User Name Authentication.

SYNTAX

```
no username <Username : word31>
```

Parameters

| | |
|----------------------------------|---|
| <Username : word31> | User name allows letters, numbers and underscores |
|----------------------------------|---|

EXAMPLE

```
SM24TBT2DPA(config)# no username admin
SM24TBT2DPA(config)#
```

vlan

Negate Vlan commands.

SYNTAX

```
no vlan <vlan_list>
no vlan protocol { { eth2 { <etype> | arp | ip | ipx | at } } | { snap { <oui> | rfc-1042 | snap-8021h } <pid> } } | { llc
<dsap> <ssap> } } group <grp_id>
no vlan { { ethertype s-custom-port } | <vlan_list> }
```

Parameters

| | |
|-----------------------------|---------------------------------------|
| protocol | Protocol-based VLAN commands |
| eth2 | Ethernet-based VLAN commands |
| <0x600-0xffff> | Ether Type(Range: 0x600 - 0xFFFF) |
| arp | Ether Type is ARP |
| ip | Ether Type is IP |
| ipx | Ether Type is IPX |
| at | Ether Type is AppleTalk |
| snap | SNAP-based VLAN group |
| <0x0-0xfffff> | SNAP OUI (Range 0x000000 - 0FFFFFFF) |
| rfc_1042 | SNAP OUI is rfc_1042 |
| snap_8021h | SNAP OUI is 8021h |
| <0x0-0xffff> | PID (Range: 0x0 - 0xFFFF) |
| llc | LLC-based VLAN group |
| <0x0-0xff> | DSAP (Range: 0x00 - 0xFF) |
| <0x0-0xff> | SSAP (Range: 0x00 - 0xFF) |
| group | Protocol-based VLAN group commands |
| <word16> | Group Name (Range: 1 - 16 characters) |
| <vlan_list> | Vlan list |
| ethertype | EtherType (e.g., s-custom-port) |
| s-custom-port | S-Custom Port EtherType |

EXAMPLE

```
SM24TBT2DPA(config)# no vlan 1
SM24TBT2DPA(config)# no vlan ethertype s-custom-port
SM24TBT2DPA(config)# no vlan protocol llc 0x00
SM24TBT2DPA(config)#
```


voice

Negate Voice appliance attributes.

SYNTAX

```
no voice vlan
no voice vlan aging-time
no voice vlan class
no voice vlan oui <oui>
no voice vlan vid
```

Parameters

| | |
|--------------------|--------------------------------|
| vlan | Vlan for voice traffic |
| aging-time | Set secure learning aging time |
| class | Set traffic class |
| oui | OUI configuration |
| <oui> | Traffic class value |
| vid | Set VLAN ID |

EXAMPLE

```
SM24TBT2DPA(config)# no voice vlan aging-time
SM24TBT2DPA(config)# no voice vlan class
SM24TBT2DPA(config)# no voice vlan vid
SM24TBT2DPA(config)#
```

web

Negate Web privilege levels.

SYNTAX

no web privilege group [<group_name>] level

Parameters

| | | | |
|----------------------|---------------------------|------------------|----------------|
| privilege | Web privilege | | |
| group | Web privilege group | | |
| <CWORD> | Valid words are: | | |
| ACTIVATE | Aggregation | DHCP | DMS_client |
| DMS_server | Debug | Dhcp_Client | Diagnostics |
| EEE | GARP | GVRP | Green_Ethernet |
| IP2 | IPMC_Snooping | Install_Wizard | LACP |
| LLDP | Loop_Protect | MAC_Table | MVR |
| Maintenance | Mirroring | NTP | PercepXion |
| POE | Ports | Private_VLANs | QoS |
| RPC | R_RING | SMTP | Security |
| Spanning_Tree | System | TS_client | TS_server |
| Timer | Trap_Event | Trouble_Shooting | UPnP |
| VCL | VLANs | VTUN | Voice_VLAN |
| XXRP | cloud_management | level | sFlow |
| level | Web privilege group level | | |

EXAMPLE

```
SM24TBT2DPA(config)# no web privilege group lACP level
SM24TBT2DPA(config)#
SM24TBT2DPB(config)# no web privilege group upnP level
SM24TBT2DPB(config)#
```

3-4 qos

Configure Quality of Service parameters.

Table : configure – qos Commands

| Command | Function |
|----------------|----------------------|
| map | Global QoS Map/Table |
| qce | QoS Control Entry |
| storm | Storm policer |

map

Global QoS Map/Table.

SYNTAX

```
qos map cos-dscp <cos> dpl <dpl> dscp { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
```

```
qos map dscp-classify { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
```

```
qos map dscp-cos { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } cos <cos> dpl <dpl>
```

```
qos map dscp-egress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } <dpl> to { <dscp_num_tr> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
```

```
qos map dscp-ingress-translation { <dscp_num> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } } to { <dscp_num_tr> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } }
```

```
qos qce refresh qos qce { [ update ] } <qce_id> [ { next <qce_id_next> } | last ] [ interface (<port_type> [ <port_list> ] ) ] [ smac { <smac> | <smac_24> | any } ] [ dmac { <dmac> | unicast | multicast | broadcast | any } ] [ tag { [ type { untagged | tagged | c-tagged | s-tagged | any } ] [ vid { <ot_vid> | any } ] [ pcp { <ot_pcp> | any } ] [ dei { <ot_dei> | any } ] } *1 ] [ inner-tag { [ type { untagged | tagged | c-tagged | s-tagged | any } ] [ vid { <it_vid> | any } ] [ pcp { <it_pcp> | any } ] [ dei { <it_dei> | any } ] } *1 ] [ frame-type { any | { etype [ { <etype_type> | any } ] } | llc [ dsap { <llc_dsap> | any } ] [ ssap { <llc_ssap> | any } ] [ control { <llc_control> | any } ] ] } | { snap [ { <snap_data> | any } ] } | { ipv4 [ proto { <pr4> | tcp | udp | any } ] [ sip { <sip4> | any } ] [ dip { <dip4> | any } ] [ dscp { <dscp4> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | any } ] [ fragment { yes | no | any } ] [ sport { <sp4> | any } ] [ dport { <dp4> | any } ] ] } | { ipv6 [ proto { <pr6> | tcp | udp | any } ] [ sip { <sip6> | any } ] [ dip { <dip6> | any } ] }
```

```
[ dscp { <dscp6> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 |
cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | any } ] [ sport { <sp6> | any } ] [ dport { <dp6> | any } ] ] [ action { [ cos
{ <action_cos> | default } ] [ dpl { <action_dpl> | default } ] [ pcp-dei { <action_pcp> <action_dei> | default } ]
[ dscp { <action_dscp_dscp> | { be | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 |
cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef | va } | default } ] [ policy { <action_policy> | default } ] ] *1 ]

qos storm { unicast | multicast | broadcast } { { <rate> [ kfps ] } | { 1024 kfps } }
```

Parameters

| | |
|---------------------------------|--|
| cos-dscp | Map for cos to dscp |
| dscp-classify | Map for dscp classify enable |
| dscp-cos | Map for dscp to cos |
| dscp-egress-translation | Map for dscp egress translation |
| dscp-ingress-translation | Map for dscp ingress translation |
| dpl | Specify drop precedence level |
| <Dpl : 0~1> | Specific drop precedence level or range |
| dscp | Specify DSCP |
| <DscpNum : 0-63> | Specific DSCP |
| cos | Specify class of QoS |
| <Cos : 0-7> | Specific class of QoS |
| af11 | Assured Forwarding PHB AF11(DSCP 10) |
| af12 | Assured Forwarding PHB AF12(DSCP 12) |
| af13 | Assured Forwarding PHB AF13(DSCP 14) |
| af21 | Assured Forwarding PHB AF21(DSCP 18) |
| af22 | Assured Forwarding PHB AF22(DSCP 20) |
| af23 | Assured Forwarding PHB AF23(DSCP 22) |
| af31 | Assured Forwarding PHB AF31(DSCP 26) |
| af32 | Assured Forwarding PHB AF32(DSCP 28) |
| af33 | Assured Forwarding PHB AF33(DSCP 30) |
| af41 | Assured Forwarding PHB AF41(DSCP 34) |
| af42 | Assured Forwarding PHB AF42(DSCP 36) |
| af43 | Assured Forwarding PHB AF43(DSCP 38) |
| be | Default PHB(DSCP 0) for best effort traffic |
| cs1 | Class Selector PHB CS1 precedence 1(DSCP 8) |
| cs2 | Class Selector PHB CS2 precedence 2(DSCP 16) |
| cs3 | Class Selector PHB CS3 precedence 3(DSCP 24) |
| cs4 | Class Selector PHB CS4 precedence 4(DSCP 32) |

| | |
|------------|--|
| cs5 | Class Selector PHB CS5 precedence 5(DSCP 40) |
| cs6 | Class Selector PHB CS6 precedence 6(DSCP 48) |
| cs7 | Class Selector PHB CS7 precedence 7(DSCP 56) |
| ef | Expedited Forwarding PHB(DSCP 46) |
| va | Voice Admit PHB(DSCP 44) |

EXAMPLE

```
SM24TBT2DPA(config)# qos map cos-dscp 5 dpl 1 dscp 20
SM24TBT2DPA(config)# do show qos
interface GigabitEthernet 1/1
  qos cos 0
  qos pcp 0
  qos dpl 0
  qos dei 0
  qos trust tag disabled
  qos map tag-cos pcp 0 dei 0 cos 1 dpl 0
  qos map tag-cos pcp 0 dei 1 cos 1 dpl 1
  qos map tag-cos pcp 1 dei 0 cos 0 dpl 0
  qos map tag-cos pcp 1 dei 1 cos 0 dpl 1
  qos map tag-cos pcp 2 dei 0 cos 2 dpl 0
  qos map tag-cos pcp 2 dei 1 cos 2 dpl 1
  qos map tag-cos pcp 3 dei 0 cos 3 dpl 0
  qos map tag-cos pcp 3 dei 1 cos 3 dpl 1
  qos map tag-cos pcp 4 dei 0 cos 4 dpl 0
  qos map tag-cos pcp 4 dei 1 cos 4 dpl 1
  qos map tag-cos pcp 5 dei 0 cos 5 dpl 0
  qos map tag-cos pcp 5 dei 1 cos 5 dpl 1
  qos map tag-cos pcp 6 dei 0 cos 6 dpl 0
  qos map tag-cos pcp 6 dei 1 cos 6 dpl 1
  qos map tag-cos pcp 7 dei 0 cos 7 dpl 0
  qos map tag-cos pcp 7 dei 1 cos 7 dpl 1
-- more --, next page: Space, continue: g, quit: ^C
```

qce

Configure QoS Control Entry.

SYNTAX

qos qce refresh

```

qos qce { [ update ] } <qce_id> [ { next <qce_id_next> } | last ] [ interface (<port_type> [ <port_list> ] ) ] [ smac
{ <smac> | <smac_24> | any } ] [ dmac { <dmac> | unicast | multicast | broadcast | any } ] [ tag { [ type
{ untagged | tagged | c-tagged | s-tagged | any } ] [ vid { <ot_vid> | any } ] [ pcp { <ot_pcp> | any } ] [ dei
{ <ot_dei> | any } ] } *1 ] [ inner-tag { [ type { untagged | tagged | c-tagged | s-tagged | any } ] [ vid { <it_vid> |
any } ] [ pcp { <it_pcp> | any } ] [ dei { <it_dei> | any } ] } *1 ] [ frame-type { any | { etype [ { <etype_type> |
any } ] } | llc { dsap { <llc_dsap> | any } } [ ssap { <llc_ssap> | any } ] [ control { <llc_control> | any } ] } | { snap
[ { <snap_data> | any }
] } | { ipv4 [ proto { <pr4> | tcp | udp | any } ] [ sip { <sip4> | any } ] [ dip { <dip4> | any } ] [ dscp { <dscp4> | { be
| af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5
| cs6 | cs7 | ef | va } | any } ] [ fragment { yes | no | any } ] [ sport { <sp4> | any } ] [ dport { <dp4> | any } ] } |
{ ipv6 [ proto { <pr6> | tcp | udp | any } ] [ sip { <sip6> | any } ] [ dip { <dip6> | any } ] [ dscp { <dscp6> | { be | af11
| af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | ef |
va } | any } ] [ sport { <sp6> | any } ] [ dport { <dp6> | any } ] } } ] [ action { [ cos { <action_cos> | default } ] [ dpl
{ <action_dpl> | default } ] [ pcp-dei { <action_pcp> <action_dei> | default } ] [ dscp { <action_dscp_dscp> | { be |
af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 |
ef | va } | default } ] [ policy { <action_policy> | default } ] } *1 ]

```

Parameters

| | |
|---------------------------|---|
| <Id : 1-256> | QCE ID |
| refresh | Refresh QCE tables in hardware |
| update | Update an existing QCE |
| action | Setup action |
| dmac | Setup matched DMAC |
| frame-type | Setup matched frame type |
| interface | Interfaces |
| last | Place QCE at the end |
| next | Place QCE before the next QCE ID |
| smac | Setup matched SMAC. If 'qos qce addr destination' is set, this specifies the DMAC |
| tag | Setup tag options |
| vid | Specify VLAN ID |
| cos | Specify class of service |
| dpl | Specify drop precedence level |

| | |
|----------------------------|--|
| dscp | Specify DSCP |
| cos | Specify class of service |
| <Cos : 0-7> | Specific class of service |
| default | Keep default class of service |
| <Dpl : 0-1> | Specific drop precedence level |
| default | Keep default drop precedence level |
| <Dscp : 0-63> | Specific DSCP |
| af11 | Assured Forwarding PHB AF11(DSCP 10) |
| af12 | Assured Forwarding PHB AF12(DSCP 12) |
| af13 | Assured Forwarding PHB AF13(DSCP 14) |
| af21 | Assured Forwarding PHB AF21(DSCP 18) |
| af22 | Assured Forwarding PHB AF22(DSCP 20) |
| af23 | Assured Forwarding PHB AF23(DSCP 22) |
| af31 | Assured Forwarding PHB AF31(DSCP 26) |
| af32 | Assured Forwarding PHB AF32(DSCP 28) |
| af33 | Assured Forwarding PHB AF33(DSCP 30) |
| af41 | Assured Forwarding PHB AF41(DSCP 34) |
| af42 | Assured Forwarding PHB AF42(DSCP 36) |
| af43 | Assured Forwarding PHB AF43(DSCP 38) |
| be | Default PHB(DSCP 0) for best effort traffic |
| cs1 | Class Selector PHB CS1 precedence 1(DSCP 8) |
| cs2 | Class Selector PHB CS2 precedence 2(DSCP 16) |
| cs3 | Class Selector PHB CS3 precedence 3(DSCP 24) |
| cs4 | Class Selector PHB CS4 precedence 4(DSCP 32) |
| cs5 | Class Selector PHB CS5 precedence 5(DSCP 40) |
| cs6 | Class Selector PHB CS6 precedence 6(DSCP 48) |
| cs7 | Class Selector PHB CS7 precedence 7(DSCP 56) |
| default | Keep default DSCP |
| ef | Expedited Forwarding PHB(DSCP 46) |
| va | Voice Admit PHB(DSCP 44) |
| any | Any |
| broadcast | Broadcast |
| multicast | Multicast |
| unicast | Unicast |
| etype | Ethernet frames |
| ipv4 | IPv4 frames |

| | |
|---|--|
| ipv6 | IPv6 frames |
| llc | LLC frames |
| snap | SNAP frames |
| <Etype : 0x600-0x7ff,0x801-0x86dc,0x86de-0xffff> | Specific EtherType |
| interface | Interfaces |
| <Next : 1-256> | The next QCE ID |
| <Pcp : pcp> | Specific PCP (0-7) or range (0-1, 2-3, 4-5, 6-7, 0-3 or 4-7) |
| <Smac : mac_addr> | Specific SMAC (XX-XX-XX-XX-XX-XX) |
| tagged | Tagged frames only |
| untagged | Untagged frames only |
| <Vid : vlan_list> | Specific VLAN ID or range |
| interface | Interfaces |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <PORT_LIST> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA(config)# qos qce ?
  <Id : 1-256>    QCE ID
  refresh        Refresh QCE tables in hardware
  update        Update an existing QCE
SM24TBT2DPA(config)# qos qce 100 tag vid any action cos 6
SM24TBT2DPA(config)#
```


storm

Configure QoS Storm policer.

SYNTAX

```
qos storm { unicast | multicast | broadcast } { { <rate> [ kfps ] } | { 1024 kfps } }
```

Parameters

| | |
|---|----------------------------|
| broadcast | Police broadcast frames |
| multicast | Police multicast frames |
| unicast | Police unicast frames |
| <Rate : 1,2,4,8,16,32,64,128,256,512 > | Policer rate (default fps) |
| kfps | Rate is kfps |

EXAMPLE

```
SM24TBT2DPA(config)# qos storm broadcast ?
  1024                               Rate is 1024 kfps
  <Rate : 1,2,4,8,16,32,64,128,256,512>  Policer rate (default fps)
SM24TBT2DPA(config)# qos storm multicast ?
  1024                               Rate is 1024 kfps
  <Rate : 1,2,4,8,16,32,64,128,256,512>  Policer rate (default fps)
SM24TBT2DPA(config)# qos storm unicast ?
  1024                               Rate is 1024 kfps
  <Rate : 1,2,4,8,16,32,64,128,256,512>  Policer rate (default fps)
SM24TBT2DPA(config)# qos storm broadcast 256 kfps
SM24TBT2DPA(config)#
```

Messages: %QOS: action parameter not specified

3-5 snmp-server

Set SNMP server parameters.

SYNTAX

snmp-server

Table : Configure snmp-server Commands

| <u>Command</u> | <u>Function</u> |
|-----------------------|---------------------------------------|
| access | access configuration |
| community | Set the SNMP community |
| contact | Set the SNMP server's contact string |
| engine-id | Set SNMP engine ID |
| host | Set SNMP host's configurations |
| location | Set the SNMP server's location string |
| security-to-group | security-to-group configuration |
| trap | Set trap's configurations |
| user | Set the SNMPv3 user's configurations |
| version | Set the SNMP server's version |
| view | MIB view configuration |
| <cr> | |

access

Set SNMP server access configuration.

SYNTAX

```
snmp-server access <group_name> model { v1 | v2c | v3 | any } level { auth | noauth | priv } [ read  
<view_name> ] [ write <write_name> ]
```

Parameters

| | |
|------------------------------------|------------------------------------|
| <GroupName : word32> | group name |
| model | security model |
| any | any security model |
| v1 | v1 security model |
| v2c | v2c security model |
| v3 | v3 security model |
| level | security level |
| auth | authNoPriv Security Level |
| noauth | noAuthNoPriv Security Level |
| priv | authPriv Security Level |
| read | specify a read view for the group |
| write | specify a write view for the group |
| <ViewName : word255> | read view name |
| <WriteName : word255> | write view name |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server access text model v2c level noauth write text  
SM24TBT2DPA(config)#
```

Messages: The group name 'text' is not exist

community

Set the SNMP community.

SYNTAX

```
snmp-server community v2c <comm> [ ro | rw ]
snmp-server community v3 <v3_comm> [ <v_ipv4_addr> <v_ipv4_netmask> ]
```

Parameters

| | |
|------------------------------------|----------------|
| v2c | SNMPv2c |
| <Community : word127> | Community word |
| ro | Read only |
| rw | Read write |
| v3 | SNMPv3 |
| <Community : word127> | Community word |
| <ipv4_addr> | IPv4 address |
| <ipv4_netmask> | IPv4 netmask |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server community v2c text
SM24TBT2DPA(config)#
```

contact

Set the SNMP server's contact string.

SYNTAX

```
snmp-server contact <v_line255>
```

Parameters

| | |
|------------------------|--------------------------------------|
| contact | Set the SNMP server's contact string |
| <line255> | contact string |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server contact text
SM24TBT2DPA(config)#
```

engine-id

Set SNMP engine ID.

SYNTAX

```
snmp-server engine-id local <engineID>
```

Parameters

| | |
|-------------------------------------|--------------------------|
| local | Set SNMP local engine ID |
| <Engineid : word10-32> | local engine ID |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server engine-id local 1234567891
SM24TBT2DPA(config)#
```

host

Set SNMP host parameters.

SYNTAX

```
snmp-server host <conf_name>
```

Parameters

| | |
|-----------------------|--------------------------------|
| <word32> | Name of the host configuration |
|-----------------------|--------------------------------|

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server host text
SM24TBT2DPA(config-snmps-host)# ?
  do          To run exec commands in config mode
  end        Go back to EXEC mode
  exit       Exit from current mode
  help       Description of the interactive help system
  host       host configuration
  informs    Send Inform messages to this host
  no         Negate a command or set its defaults
  shutdown   Disable the trap configuration
  trapmode   Configure trap mode
  version    Set SNMP trap version
SM24TBT2DPA(config-snmps-host)# exit
SM24TBT2DPA(config)#
```

location

Set the SNMP server's location string.

SYNTAX

```
snmp-server location <v_line255>
```

Parameters

<line255> location string

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server location text
SM24TBT2DPA(config)#
```

security-to-group

security-to-group configuration.

SYNTAX

```
snmp-server security-to-group model { v1 | v2c | v3 } name <security_name> group <group_name>
```

Parameters

| | |
|--------------------------------------|---------------------|
| model | security model |
| v1 | v1 security model |
| v2c | v2c security model |
| v3 | v3 security model |
| name | security user |
| <SecurityName : word32> | security user name |
| group | security group |
| <GroupName : word32> | security group name |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server security-to-group model v2c name text group text
SM24TBT2DPA(config)#
```

trap

Set SNMP trap.

SYNTAX

```
snmp-server trap
```

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server trap
SM24TBT2DPA(config)#
```

user

Set the SNMPv3 user parameters.

SYNTAX

```
snmp-server user <username> engine-id <engineID> [ { md5 { <md5_passwd> | { encrypted
<md5_passwd_encrypt> } } | sha { <sha_passwd> | { encrypted <sha_passwd_encrypt> } } } [ priv
{ des | aes } { <priv_passwd> | { encrypted <priv_passwd_encrypt> } } ]
```

Parameters

| | |
|--------------------------------------|--|
| <Username : word32> | Username |
| engine-id | engine ID |
| <Engineid : word10-32> | Engine ID octet string |
| md5 | Set MD5 protocol |
| <Md5Passwd : word8-32> | MD5 password |
| sha | Set SHA protocol |
| <ShaPasswd word8-40> | SHA password |
| priv | Set Privacy |
| des | Set DES protocol |
| aes | Set AES protocol |
| <word8-32> | Set privacy password |
| encrypted | Specifies an ENCRYPTED password will follow. |
| <Md5Passwd : word8-84> | MD5 encrypted password |
| <PrivPasswd : word8-32> | Privacy unencrypted password |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server user text engine-id 1234567891 md5 12345678 priv
aes 12345678
SM24TBT2DPA(config)#
```

version

Set the SNMP server's version.

SYNTAX

```
snmp-server version { v1 | v2c | v3 }
```

Parameters

| | |
|------------|---------|
| v1 | SNMPv1 |
| v2c | SNMPv2c |
| v3 | SNMPv3 |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server version v2c
SM24TBT2DPA(config)#
```

view

Set SNMP MIB view configuration.

SYNTAX

```
snmp-server view <view_name> <oid_subtree> { include | exclude }
```

Parameters

| | |
|-------------------------------------|-----------------------------|
| <ViewName : word32> | MIB view name |
| <OidSubtree : word255> | MIB view OID |
| include | Included type from the view |
| exclude | Excluded type from the view |

EXAMPLE

```
SM24TBT2DPA(config)# snmp-server view text .1 include
SM24TBT2DPA(config)#
```


3-6 spanning-tree

Configure Spanning Tree protocol (STP).

Table : configure –spanning-tree Commands

| Command | Function |
|----------------|----------------------------|
| aggregation | Aggregation mode |
| edge | Edge ports |
| mode | STP protocol mode |
| mst | STP bridge instance |
| recovery | The error recovery timeout |
| transmit | BPDU to transmit |

aggregation

Configure Aggregation mode.

SYNTAX

```
spanning-tree aggregation
```

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree aggregation
SM24TBT2DPA(config-stp-aggr)#
```

edge

Configure Edge ports.

SYNTAX

```
spanning-tree edge bpdu-filter
```

```
spanning-tree edge bpdu-guard
```

Parameters

bpdu-filter Enable BPDU filter (stop BPDU tx/rx)

bpdu-guard Enable BPDU guard

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree edge bpdu-filter
SM24TBT2DPA(config)#
```

mode

Configure STP protocol mode.

SYNTAX

```
spanning-tree mode { stp | rstp | mstp }
```

Parameters

| | |
|-------------|---------------------------------|
| mstp | Multiple Spanning Tree (802.1s) |
| rstp | Rapid Spanning Tree (802.1w) |
| stp | 802.1D Spanning Tree |

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree mode stp
SM24TBT2DPA(config)#
```

mst

Configure STP bridge instance.

SYNTAX

```
spanning-tree mst <Instance : 0-7> priority <Prio : 0-61440>
spanning-tree mst < Instance : 0-7> vlan <vlan_list>
spanning-tree mst forward-time <Fwdtime : 4-30>
spanning-tree mst max-age <Maxage : 6-40> [ forward-time <Fwdtime : 4-30> ]
spanning-tree mst max-hops <Maxhops : 6-40>
spanning-tree mst name <Name : word32> revision <0-65535>
```

Parameter

| | |
|-------------------------------|----------------------------------|
| <Instance : 0-7> | instance 0-7 (CIST=0, MST2=1...) |
| forward-time | Delay between port states |
| max-age | Max bridge age before timeout |
| max-hops | MSTP bridge max hop count |
| name | Name keyword |
| priority | Priority of the instance |
| vlan | VLAN keyword |
| <Prio : 0-61440> | Range in seconds |
| <vlan_list> | Range of VLANs |
| <Fwdtime : 4-30> | Range in seconds |
| <Maxage : 6-40> | Range in seconds |
| <Maxhops : 6-40> | Hop count range |

| | |
|------------------------------|--------------------|
| <Name : word32> | Name of the bridge |
| revision | Revision keyword |
| <0-65535> | Revision number |

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree mst 7 vlan 10  
SM24TBT2DPA(config)#
```

recovery

Configure error recovery timeouts.

SYNTAX

```
spanning-tree recovery interval <Interval : 30-86400>
```

Parameters

| | |
|------------------------------------|------------------|
| interval | The interval |
| <Interval : 30-86400> | Range in seconds |

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree recovery interval 50  
SM24TBT2DPA(config)#
```

transmit

Configure BPDUs to transmit.

SYNTAX

```
spanning-tree transmit hold-count <Holdcount : 1-10>
```

Parameters

| | |
|---------------------------------|--|
| hold-count | Max number of transmit BPDUs per second. |
| <Holdcount : 1-10> | 1-10 per second, 6 is default. |

EXAMPLE

```
SM24TBT2DPA(config)# spanning-tree transmit hold-count 5  
SM24TBT2DPA(config)#
```

4. Copy Commands

Copy from source to destination.

SYNTAX

```
copy { startup-config | running-config | <source_path> } { startup-config | running-config | <destination_path> } [ syntax-check ] [ { merge | replace } ]
```

Parameters

| | |
|--|---|
| flash:filename tftp://server/path-and-filename | File in FLASH or on TFTP server |
| running-config | Currently running configuration |
| startup-config | Startup configuration |
| merge | merge source file with running-config |
| replace | replace running-config with source file, default action |
| syntax-check | Perform syntax check on source configuration |

EXAMPLE

```
SM24TBT2DPA# copy startup-config running-config syntax-check | include #  
SM24TBT2DPA#  
  
SM24TBT2DPB# copy running-config startup-config  
Building configuration...  
% Saving 2313 bytes to flash:startup-config  
SM24TBT2DPB#
```

5. Debug Commands

Exec mode commands to perform debug functions.

SYNTAX

debug gvrp msti

debug gvrp protocol-state interface (<port_type> [<v_port_type_list>]) vlan <v_vlan_list>

debug gvrp statistic

debug prompt <debug_prompt>

Parameters

| | |
|----------------------------|---|
| gvrp | Debug for the GVRP protocol |
| prompt | Set prompt for testing |
| WORD | Word for prompt in 32 char's |
| interface | Specify the interface |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| vlan | The VLAN ID (1-4095) |
| <v_vlan_list> | VLAN or VLANs for which information shall be shown |
| msti | MSTI state |
| protocol-state | State of Applicant, Registrar and LeaveAll state machines |
| statistic | statistic |
| PORT_LIST | Port list in 1/1-26 |

EXAMPLE

```
SM24TBT2DPA# debug gvrp protocol-state interface GigabitEthernet 1/1 vlan 100
----- 1 1
          |<----- State of: ----->||<--- Timer [cs]: -->|
Sw Port Vlan Applicant Registrar LeaveAll txPDU leave leaveall GIP-Context
SM24TBT2DPA# debug prompt?
    prompt    Set prompt for testing
SM24TBT2DPA# debug prompt test#
test## no debug prompt
SM24TBT2DPA# debug prompt *****
*****#
*****#
*****# exit
Username:
```

```
Password:  
Username: admin  
Password:  
*****# debug prompt SM24TBT2DPA  
SM24TBT2DPA#
```

6. Delete Commands

Delete one file in flash: file system.

SYNTAX

delete <Path : word>

Parameter

<Path : word> Name of file to delete.

EXAMPLE

```
SM24TBT2DPA# delete text
% Invalid syntax, expected flash:filename
SM24TBT2DPA# delete flash:?
    <Path : word>      Name of file to delete
    <cr>
SM24TBT2DPA# delete flash:text
% Delete of text failed: No such entity.
SM24TBT2DPA# delete flash:
% Invalid syntax, expected flash:filename
SM24TBT2DPA# delete flash:filename ?
    <cr>
SM24TBT2DPA# delete flash:filename
% Delete of filename failed: No such entity.
SM24TBT2DPA#
```

7. DIR Commands

Directory of all files in flash: file system.

SYNTAX

```
Dir [ | begin | exclude | include <LINE>]
```

Parameters

| | |
|---------------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# dir
Directory of flash:
  r- 2011-01-01 00:00:00      716 default-config
  rw 2011-01-01 00:37:20    2008 startup-config
2 files, 2724 bytes total.
SM24TBT2DPA#
```

8. Disable Commands

Turn off privileged commands.

SYNTAX

```
disable <0-15>
```

Parameter

| | |
|---------------------|-----------------|
| <0-15> | Privilege level |
|---------------------|-----------------|

EXAMPLE

```
SM24TBT2DPA# disable 10
SM24TBT2DPA#
```


9. Do Commands

To run Exec commands in Config mode.

SYNTAX

```
do <command>
```

Parameter

| | |
|------|--------------|
| LINE | Exec Command |
|------|--------------|

EXAMPLE

```
SM24TBT2DPA# do show clock
System Time      : 2011-01-01T17:55:34+00:00

SM24TBT2DPA# con ter
SM24TBT2DPA(config)# do show clock
System Time      : 2011-01-01T17:55:43+00:00

SM24TBT2DPA(config)#

SM24TBT2DPB# do show ip interface brief
Vlan Address          Method  Status
-----
  1 172.27.195.140/24  Manual  UP
SM24TBT2DPB#
```

10. DOT1x Commands

IEEE Standard for port-based Network Access Control.

SYNTAX

```

dot1x authentication timer inactivity <v_10_to_100000>
dot1x authentication timer re-authenticate <v_1_to_3600>
dot1x feature { [ guest-vlan ] [ radius-qos ] [ radius-vlan ] }*1
dot1x guest-vlan <value>
dot1x guest-vlan supplicant
dot1x max-reauth-req <value>
dot1x re-authentication
dot1x system-auth-control
dot1x timeout quiet-period <v_10_to_1000000>
dot1x timeout tx-period <v_1_to_65535>

```

Parameters

| | |
|-------------------------------|---|
| authentication | Authentication |
| feature | Globally enables/disables a dot1x feature functionality |
| guest-vlan | Guest VLAN |
| max-reauth-req | The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN |
| re-authentication | Set Re-authentication state |
| system-auth-control | Set the global NAS state |
| timeout | Set the Timeout |
| * | All switches or All ports |
| Gigabit Ethernet | 1 GigabitEthernet port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| <1-4095> | Guest VLAN ID used when entering the Guest VLAN. |
| supplicant | The switch remembers if an EAPOL frame has been received on the port for the life-time of the port. Once the switch considers whether to enter the Guest VLAN, it will first check if this option is enabled or disabled. If disabled (unchecked; default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for the life-time of the port. |
| <1-255> | Number of times for "max-reauth-req" |

| | |
|--------------|---|
| quiet-period | Time in seconds before a MAC-address that failed authentication gets a new authentication chance. |
| tx-period | The time between EAPOL retransmissions. |
| <10-1000000> | seconds |
| <1-65535> | seconds |

EXAMPLE

```
SM24TBT2DPA(config)# dot1x feature guest-vlan
SM24TBT2DPA(config)# dot1x authentication timer inactivity 30000
SM24TBT2DPA(config)# dot1x guest-vlan supplicant
SM24TBT2DPA(config)# dot1x max-reauth-req 50
SM24TBT2DPA(config)# dot1x re-authentication
SM24TBT2DPA(config)# dot1x system-auth-control
SM24TBT2DPA(config)# dot1x timeout quiet-period 5000
SM24TBT2DPA(config)# dot1x timeout tx-period 950
SM24TBT2DPA(config)#
```

11. Enable Commands

Config mode command to choose privileged commands and modify enable password parameters.

Note that the Exec mode `enable` command has a different function.

Syntax

```
enable password [ level <priv> ] <password>
```

```
enable secret { 0 | 5 } [ level <priv> ] <password>
```

Parameters

| | |
|----------|---|
| password | Assign the privileged level clear password |
| secret | Assign the privileged level secret |
| WORD | The UNENCRYPTED (cleartext) password |
| level | Set exec level password |
| <1-15> | Level number |
| WORD | The UNENCRYPTED (cleartext) password |
| 0 | Specifies an UNENCRYPTED password will follow |
| 5 | Specifies an ENCRYPTED secret will follow |
| <word32> | Password |
| level | Set exec level password |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config)# enable password AdMiNiStRAt0r99  
SM24TBT2DPA(config)# enable password level 10 admin88  
SM24TBT2DPA(config)# enable secret 0 ADMIN  
SM24TBT2DPA(config)#
```

12. Firmware Commands

Firmware upgrade and swap commands. **Note** that if the PoE firmware version is lower than v 188, it will auto upgrade it, which takes ~ 16 minutes; the upgrade procedure can be observed in the console.

Syntax

```
firmware swap
firmware upgrade <tftpserver_path_file>
```

Parameters

| | |
|--|---|
| swap | Swap between Active and Alternate firmware image. |
| upgrade | Firmware upgrade |
| <TFTPServer_path_file : word> | TFTP Server IP address, path and file name for the server containing the new image. |

EXAMPLE

```
SM24TBT2DPA# firmware upgrade tftp://192.168.1.30/path/sm24tbt2dpa.bin
Download of /path/sm24tbt2dpa.bin from 192.168.1.30 failed: Operation timed out.
SESPM1040# firmware swap

Broadcast message from root@SESPM1040-541-LT (Fri Mar 22 16:17:47 2019):

The system is going down for reboot NOW!
Complete
SM24TBT2DPA#
```

Messages:

```
% swap is an invalid TFTP path - Expecting something like tftp://10.10.10.10/path/new_image.dat
Error: Product mismatch (Product ID was 4b, have cf)
```

Firmware Upgrade to FW v6.54.3303

The recommended upgrade procedure is to upgrade from v6.54.3104 to v6.54.3303B and then to v6.54.3303.

Firmware Upgrade to FW vB6.54.3494

Once you upgrade the SM24TBT2DPA to FW vB6.54. 3494, you can't fall back to the old FW version. This is because the FW upgrade includes a PoE FW upgrade to support the IEEE 802.3bt standard, so you can't downgrade to an old FW version.

PoE Mode setting between v6.54.3303 with v6.54.3476 (and newer)

| v6.54.3303 | vB6.54.3476 |
|-------------|-------------|
| Disabled | Disabled |
| Enabled (*) | 4pair90w |
| 4pair | 4pair60w |
| 2pair | 8023bt (*) |

Notes:

1. The PoE mode setting will be mapped according to the table above after firmware upgrade.
2. It's not allowed to downgrade to v6.54.3303 or older version after firmware upgrade to vB6.54.3476 or newer version
3. It's not allowed to swap firmware image when the back image is v6.54.3303 or older version.

13. No Commands

Negate a command or set its defaults from Exec mode.

Syntax

```
no debug prompt
no port-security shutdown [ interface ( <port_type> [ <v_port_type_list> ] ) ]
no terminal editing
no terminal exec-timeout
no terminal history size
no terminal length
no terminal width
```

Parameters

| | |
|----------------------|---|
| debug | Debugging functions |
| port-security | Port security (psec limit) |
| terminal | Set terminal line parameters |
| prompt | Clear prompt for testing |
| shutdown | Reopen one or more ports whose limit is exceeded and shut down. |
| editing | Enable command line editing |
| exec-timeout | Set the EXEC timeout |
| history | Control the command history function |
| length | Set number of lines on a screen |
| width | Set width of the display terminal |
| interface | |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| PORT_LIST | Port list in 1/1-26 |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA# no debug prompt
SM24TBT2DPA# no port-security shutdown interface GigabitEthernet 1/13
SM24TBT2DPA#
SM24TBT2DPB# no terminal history size
SM24TBT2DPB#
```

14. PING Commands

Send IP (ICMP) echo or IPv6 (ICMPv6) echo messages.

Syntax

```
ping ip <v_ip_addr> [ repeat <count> ] [ size <size> ] [ interval <seconds> ]
```

```
ping ipv6 <v_ipv6_addr> [ repeat <count> ] [ size <size> ] [ interval <seconds> ] [ interface vlan <v_vlan_id> ]
```

Parameters

| | |
|-------------------------------|--|
| ip | IP (ICMP) echo |
| <word1-255> | ICMP destination address |
| repeat | Specify repeat count |
| <Count : 1-60> | 1-60; Default is 5 |
| size | Specify datagram size |
| <Size : 2-1452> | 2-1452; Default is 56 (excluding MAC, IP and ICMP headers) |
| interval | Specify repeat interval |
| <Seconds : 0-30> | 0-30; Default is 0 |
| ipv6 | IPv6 (ICMPv6) echo |
| <ipv6_addr> | ICMPv6 destination address |
| repeat | Specify repeat count |
| <1-60> | 1-60; Default is 5 |
| size | Specify datagram size |
| <2-1452> | 2-1452; Default is 56 (excluding MAC, IP and ICMP headers) |
| interval | Specify repeat interval |
| <0-30> | 0-30; Default is 0 |
| interface | Select an interface to configure |
| vlan | VLAN Interface |
| <vlan_id> | VLAN identifier(s): VID |

EXAMPLE

```
SM24TBT2DPA# ping ip 192.168.1.77 interval 1 repeat 3 size 4
PING server 192.168.1.77, 4 bytes of data.
12 bytes from 192.168.1.77: icmp_seq=0, time<10ms
12 bytes from 192.168.1.77: icmp_seq=1, time<10ms
12 bytes from 192.168.1.77: icmp_seq=2, time<10ms
Sent 3 packets, received 3 OK, 0 bad
SM24TBT2DPA#
```


15. Reload Commands

Reload (reboot) the system with or without changing the switch IP address. **Note** that there is also a **non-stop poe** command that lets you re-boot the switch without dropping power to the PoE ports.

Syntax

```
reload {{{ warm } [ sid <usid> ] } | { defaults [ keep-ip ] } }
```

Parameters

| | |
|-----------------|--|
| defaults | Reload factory defaults without rebooting. |
| warm | Reload warm (CPU restart only). |
| keep-ip | Attempt to keep VLAN1 IP setup. |

EXAMPLE

```
SM24TBT2DPA# reload defaults keep-ip
% Reloading defaults, attempting to keep IP address. Please stand by.
SM24TBT2DPA# reload warm
% Warm reload in progress, please stand by.
SM24TBT2DPA#
Username:
```

16. Send Commands

Send a message to other tty lines.

Syntax

```
send { * | <session_list> | console 0 | vty <vty_list> } <message>
```

Parameters

| | |
|---------------------|--|
| * | All tty lines |
| <0~16> | Send a message to multiple lines |
| console | Primary terminal line |
| 0 | Send a message to a specific line |
| vty | Virtual terminal |
| <0~15> | Send a message to multiple lines |
| <LINE> | Message to be sent to lines, in 128 characters |

EXAMPLE

```
SM24TBT2DPA# send * yes,i do
Enter TEXT message. End with the character 'y'.
y
-----
*** Message from line 1:
es,i do
-----
SM24TBT2DPA#
```

17. Show Commands

Show running system information.

Table : Show Commands

| <u>Command</u> | <u>Function</u> |
|-----------------------|---|
| aaa | Login methods |
| access | Access management |
| access-list | Access list |
| aggregation | Aggregation port configuration |
| always-on-poe | Show Always On PoE Status |
| clock | Configure time-of-day clock |
| dhcp | Dynamic Host Configuration Protocol |
| dot1x | IEEE Standard for port-based Network Access Control |
| event | Show trap event configuration |
| green-ethernet | Green ethernet (Power reduction) |
| history | Display the session command history |
| interface | Interface status and configuration |
| ip | Internet Protocol |
| ipmc | IPv4/IPv6 multicast configuration |
| ipv6 | IPv6 configuration commands |
| lACP | LACP configuration/status |
| line | TTY line information |
| lldp | Display LLDP configure information. |
| logging | Syslog |
| loop-protect | Loop protection configuration |
| mac | Mac Address Table information |
| map-api-key | show google map key configuration |
| mvr | Multicast VLAN Registration configuration |
| ntp | Configure NTP |
| platform | Platform specific information |
| poe | Power Over Ethernet. |
| port-security | Port Security Status |
| power | Power |
| privilege | Display command privilege |
| pvlan | PVLAN configuration |

| | |
|-----------------------|---|
| qos | Quality of Service |
| radius-server | RADIUS configuration |
| rapid-ring | Display Rapid Ring configurations |
| rmon | RMON statistics |
| running-config | Show running system information |
| sflow | Statistics flow. |
| smtp | Show email information |
| snmp | Display SNMP configurations |
| spanning-tree | STP Bridge |
| switchport | Display switching mode characteristics |
| system | system |
| tacacs-server | TACACS+ configuration |
| terminal | Display terminal configuration parameters |
| upnp | Display UPnP configurations |
| user-privilege | Users privilege configuration |
| users | Display information about terminal lines |
| version | System hardware and software status |
| vlan | VLAN status |
| voice | Voice appliance attributes |
| web | Web |

The show commands are described in the following section.

aaa

Display Login methods.

SYNTAX

```
show aaa [ | {begin | exclude | include } <LINE>]
```

Parameters

| | |
|---------------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show aaa
console : local
telnet  : local
ssh     : local
http    : local
https   : no
SM24TBT2DPA#
SM24TBT2DPB# show aaa
console : local tacacs
telnet  : local
ssh     : local radius tacacs
http    : local
https   : radius radius radius
SM24TBT2DPB# show aaa
console : local
telnet  : no
ssh     : local
http    : redirect
https   : local
SM24TBT2DPB#
```

access

Display Access management.

SYNTAX

```
show access management [ statistics | <access_id_list> ]
```

Parameters

| | |
|------------------------------------|----------------------------------|
| management | Access management configuration |
| statistics | Statistics data |
| <AccessidList : 1~16> | ID of access management entry |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show access management
Switch access management mode is disabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH

Idx VID  Start IP Address                End IP Address                W S T
-----
1  100  1.2.3.4                        1.2.3.44
SM24TBT2DPA# show access management statistics

Access Management Statistics:
-----
HTTP    Receive:      0   Allow:      0   Discard:    0
HTTPS  Receive:      0   Allow:      0   Discard:    0
SNMP    Receive:      0   Allow:      0   Discard:    0
TELNET  Receive:      0   Allow:      0   Discard:    0
SSH     Receive:      0   Allow:      0   Discard:    0
SM24TBT2DPA#
```

access-list

Show Access list parameters.

SYNTAX

```
show access-list [ interface [ ( <port_type> [ <v_port_type_list> ] ) ] ] [ rate-limiter [ <rate_limiter_list> ] ] [ ace
statistics [ <ace_list> ] ]
```

```
show access-list ace-status [ static ] [ link-oam ] [ loop-protect ] [ dhcp ] [ ptp ] [ upnp ] [ arp-inspection ] [ mep ]
[ ipmc ] [ ip-source-guard ] [ ip-mgmt ] [ sip ] [ dms-client ] [ dms-server ] [ dms-ssdp ] [ dms-onvif ] [ agv-car ]
[ dms-mdns ] [ conflicts ] [ switch <switch_list> ]
```

Parameters

| | |
|--|--|
| interface | Select an interface to configure |
| * | All Switches or All Ports |
| Gigbitethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 |
| rate-limiter | Rate limiter |
| < RateLimiterList : 1~16> | Rate limiter ID |
| ace | Access list entry |
| statistics | Traffic statistics |
| <Aceld : 1~256> | ACE ID |
| ace-status | The local ACEs status |
| static | The ACEs that are configured by users manually |
| loop-protect | The ACEs that are configured by Loop Protect module |
| dhcp | The ACEs that are configured by DHCP module |
| upnp | The ACEs that are configured by UPnP module |
| arp-inspection | The ACEs that are configured by ARP Inspection module |
| mep | The ACEs that are configured by MEP module |
| ipmc | The ACEs that are configured by IPMC module |
| ip-source-guard | The ACEs that are configured by IP Source Guard module |
| ip-mgmt | The ACEs that are configured by IP Management module |
| conflicts | The conflicts ACEs that does not applied to the hardware due to hardware limitations |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE 1

```

SM24TBT2DPA# show access-list ace statistics
ID   Type      Ing. Port  Policy  Frame Type              Action Rate
L.   Port Redir. Mirror  Counter
-----
1    GLOBAL  ALL       Any     ANY                      Permit Disa
bled Disabled    Disabled 956

Switch access-list ace number: 1
SM24TBT2DPA# show access-list ace-status ?
|
|          Output modifiers
|
| arp-inspection  The ACEs that are configured by ARP Inspection module
| conflicts       The ACEs that did not get applied to the hardware due to
|                 hardware limitations
|
| dhcp           The ACEs that are configured by DHCP module
| dms-client     The ACEs that are configured by DMS module
| dms-mdns       The ACEs that are configured by DMS module
| dms-onvif      The ACEs that are configured by DMS module
| dms-server     The ACEs that are configured by DMS module
| dms-ssdp       The ACEs that are configured by DMS module
| ip-source-guard The ACEs that are configured by IP Source Guard module
| ipmc           The ACEs that are configured by IPMC module
| loop-protect   The ACEs that are configured by Loop Protect module
| static         The ACEs that are configured by users manually
| upnp           The ACEs that are configured by UPnP module
| <cr>
SM24TBT2DPA#

```

EXAMPLE 2

```

SM24TBT2DPA# show access-list rate-limiter
Switch access-list rate limiter ID 1 is 1 pps
Switch access-list rate limiter ID 2 is 1 pps
Switch access-list rate limiter ID 3 is 1 pps
Switch access-list rate limiter ID 4 is 1 pps
Switch access-list rate limiter ID 5 is 1 pps
Switch access-list rate limiter ID 6 is 1 pps

```



```
Switch access-list rate limiter ID 7 is 1 pps
Switch access-list rate limiter ID 8 is 1 pps
Switch access-list rate limiter ID 9 is 1 pps
Switch access-list rate limiter ID 10 is 1 pps
Switch access-list rate limiter ID 11 is 1 pps
Switch access-list rate limiter ID 12 is 1 pps
Switch access-list rate limiter ID 13 is 1 pps
Switch access-list rate limiter ID 14 is 1 pps
Switch access-list rate limiter ID 15 is 1 pps
Switch access-list rate limiter ID 16 is 1 pps
SM24TBT2DPA#
```

EXAMPLE 3

```
SM24TBT2DPA# show access-list ace-status conflicts
User
----
S   : Static
IPSG: IP Source Guard
IPMC: IPMC
ARPI: ARP Inspection
UPnP: UPnP
DHCP: DHCP
LOOP: Loop Protect
DMSC: DMS CLIENT
DMSS: DMS Server
DMSD: DMS SSDP
DMSO: DMS Onvif
DMSM: DMS mDNS
Switch 1 access-list ace number: 0
```

EXAMPLE 4

```
SM24TBT2DPA# show access-list ace-status dms-client
User
----
S   : Static
IPSG: IP Source Guard
IPMC: IPMC
ARPI: ARP Inspection
```

```

UPnP: UPnP
DHCP: DHCP
LOOP: Loop Protect
DMSC: DMS CLIENT
DMSS: DMS Server
DMSD: DMS SSDP
DMSO: DMS Onvif
DMSM: DMS mDNS

User ID   Ing. Port   Frame Type           Action Rate L.   Port Redir.
Mirror   CPU       Counter Conflict
-----
-----
DMSC 1    ALL        IPv4/UDP 10012      Permit Disabled Disabled
      Disabled Yes  0      No
Switch 1 access-list ace number: 1
SM24TBT2DPA#

```

aggregation

Show Aggregation mode parameters.

SYNTAX

```
show aggregation [ mode ] [ | {begin | exclude | include } <LINE>]
```

Parameters

| | |
|---------------------|----------------------------------|
| mode | Traffic distribution mode |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show aggregation Mode
Aggregation Mode:

SMAC : Enabled
DMAC : Disabled
IP   : Enabled
Port : Enabled
SM24TBT2DPA#
SM24TBT2DPB# show aggregation mode
Aggregation Mode:

SMAC : Enabled
DMAC : Enabled
IP   : Enabled
Port : Enabled
SM24TBT2DPB#
```

always-on-poe

Show Always On PoE status.

SYNTAX

```
show { non-stop-poe | always-on-poe }
```

Parameters

| Output modifiers

<cr>

EXAMPLE

```
SM24TBT2DPA# show always-on-poe
Always On PoE Status : Disable
SM24TBT2DPA#
SM24TBT2DPB# show always-on-poe
Always On PoE Status : Enable
SM24TBT2DPB#
```

clock

Show time-of-day clock settings.

SYNTAX

```
show clock [detail]
```

Parameters

detail Display detailed information

EXAMPLE

```
SM24TBT2DPB# show clock
System Time      : 2022-09-08T07:25:38+00:00

SM24TBT2DPB# show clock detail
System Time      : 2022-09-08T07:25:44+00:00

Timezone : Timezone Offset : 0 ( 0 minutes)
Timezone Acronym :

Daylight Saving Time Mode : Disabled.
Daylight Saving Time Start Time Settings :
    Week: 0
    Day: 0
    Month: 0
    Date: 0
    Year: 0
    Hour: 0
    Minute: 0
Daylight Saving Time End Time Settings :
    Week: 0
    Day: 0
    Month: 0
    Date: 0
    Year: 0
    Hour: 0
    Minute: 0
Daylight Saving Time Offset : 1 (minutes)
SM24TBT2DPB#
```

dhcp helper debug

Display DHCP helper debug info.

SYNTAX

show dhcp helper debug

EXAMPLE

```
SM24TBT2DPA# show dhcp helper debug
```

```
DHCP helper
```

```
frame_info_cnt : 0
```

```
debug : disable
```

```
SM24TBT2DPA#
```

dot1x

Display IEEE Standard for port-based Network Access Control.

SYNTAX

```
show dot1x statistics { eapol | radius | all } [ interface ( <port_type> [ <v_port_type_list> ] ) ]
```

```
show dot1x status [ interface ( <port_type> [ <v_port_type_list> ] ) ] [ brief
```

Parameters

| | |
|-------------------------------|--|
| statistics | Shows statistics for either eapol or radius. |
| all | Show all dot1x statistics |
| eapol | Show EAPOL statistics |
| radius | Show Backend Server statistics |
| <port_type > | GigabitEthernet |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| Status | Shows dot1x status, such as admin state, port state and last source. |
| brief | Show status in a brief format |
| interface | Interface |
| * | All Switches or All Ports |
| Gigabitethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA# show dot1x statistics all
GigabitEthernet 1/1 EAPOL Statistics:

Rx Total:                0    Tx Total:
  0
Rx Response/Id:          0    Tx Request/Id:
  0
Rx Response:             0    Tx Request:
  0
Rx Start:                0
Rx Logoff:               0
Rx Invalid Type:         0
Rx Invalid Length:      0

GigabitEthernet 1/1 Backend Server Statistics:
```

```

Rx Access Challenges:          0   Tx Responses:
    0
Rx Other Requests:            0
Rx Auth. Successes:          0
Rx Auth. Failures:           0

GigabitEthernet 1/2 EAPOL Statistics:
SM24TBT2DPA# show dot1 status
GigabitEthernet 1/1 :
-----
Admin State      Port State          Last Source         Last ID
-----
Force Authorized Globally Disabled   -                   -

Current Radius QOS   Current Radius VLAN   Current Guest VLAN
-----
-                   -                   -

GigabitEthernet 1/2 :
-----
Admin State      Port State          Last Source         Last ID
-----
Force Authorized Globally Disabled   -                   -

Current Radius QOS   Current Radius VLAN   Current Guest VLAN
-----
-                   -                   -

GigabitEthernet 1/3 :
-----
-- more --, next page: Space, continue: g, quit: ^C

```


event

Display trap event configuration.

SYNTAX

show event <cr>

EXAMPLE

SM24TBT2DPA# **show event**

| Group Name | Severity Level | Syslog Mode | Trap Mode | SMTP Mode |
|------------------|----------------|-------------|-----------|-----------|
| ACL | Info | enable | disable | disable |
| ACL-Log | Info | enable | disable | disable |
| Access-Mgmt | Info | enable | disable | disable |
| Auth-Failed | Warning | enable | disable | disable |
| Cold-Start | Warning | enable | disable | disable |
| Config-Info | Info | enable | disable | disable |
| DMS | Info | enable | disable | disable |
| Firmware-Upgrade | Info | enable | disable | disable |

-- more --, next page: Space, continue: g, quit: ^C

format

Display date and time format.

SYNTAX

show format <cr>

EXAMPLE

SM24TBT2DPA# **show format**

```
formatDateTime : disable
dateTime       : yyyy-mm-dd
timeFormat     : 24 hour
formatPortDesc : disable
SM24TBT2DPA#
```

green-ethernet

Display Green Ethernet (Power reduction) information.

SYNTAX

```

show green-ethernet [ interface ( <port_type> [ <port_list> ] ) ]
show green-ethernet eee [ interface ( <port_type> [ <port_list> ] ) ]
show green-ethernet energy-detect [ interface ( <port_type> [ <port_list> ] ) ]
show green-ethernet short-reach [ interface ( <port_type> [ <port_list> ] ) ]

```

Parameters

eee Shows green ethernet EEE status for a specific port or ports.

energy-detect Shows green ethernet energy-detect status for a specific port or ports.

interface Shows green ethernet status for a specific port or ports.

short-reach Shows green ethernet short-reach status for a specific interface

***** All Switches or All ports

<port_type > GigabitEthernet or

<port_type_list> Port list in 1/1-24 for Gigabit Ethernet

EXAMPLE

```

SM24TBT2DPA# show green-ethernet
Interface          Lnk Energy-detect  Short-Reach  EEE Capable  EEE Enabled
LP EEE Capable   In Power Save
-----
GigabitEthernet 1/1   Yes No           No           Yes          No
  No           No
GigabitEthernet 1/2   No  No           No           Yes          No
  No           No
GigabitEthernet 1/3   No  No           No           Yes          No
  No           No
GigabitEthernet 1/4   No  No           No           Yes          No
  No           No
GigabitEthernet 1/5   No  No           No           Yes          No
  No           No
GigabitEthernet 1/6   No  No           No           Yes          No
  No           No
GigabitEthernet 1/7   No  No           No           Yes          No
-- more --, next page: Space, continue: g, quit: ^C

```

history

Display the session command history.

SYNTAX

```
show history [ | {begin | exclude | include } <LINE>]
```

Parameters

| | |
|---------------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show history
con ter
dms mode high-priority
do dms enable
do show clock
dot1x feature guest-vlan
dot1x authentication timer inactivity 30000
enable 15
end
firmware upgrade tftp://192.168.1.30/path/sm24tbt2dpa.bin
ping ip 3 interval 4 repeat 1 size 3
reload defaults keep-ip
send * yes,i do
list
show non-stop-poe
show aaa
show broadcast-storm-protection
show broadcast-storm-protection interface GigabitEthernet 1/23-26
show clock
show clock detail
show dot1x statistics all
show dot1 status
show dhcp
-- more --, next page: Space, continue: g, quit: ^C
```

interface

Display Interface status and configuration.

SYNTAX

```

show interface ( <port_type> [ <in_port_list> ] ) switchport [ access | trunk | hybrid ]
show interface ( <port_type> [ <v_port_type_list> ] ) CableDiag
show interface ( <port_type> [ <v_port_type_list> ] ) capabilities [ detail ]
show interface ( <port_type> [ <v_port_type_list> ] ) description
show interface ( <port_type> [ <v_port_type_list> ] ) statistics [ { packets | bytes | errors | discards | filtered |
{ priority [ <priority_v_0_to_7> ] } } ] [ { up | down } ]
show interface ( <port_type> [ <v_port_type_list> ] ) status
show interface vlan [ <vlist> ]

```

Parameters

| | |
|-------------------------------|--|
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| vlan | VLAN status |
| PORT_LIST | Port list for all port types |
| CableDiag | Display the latest cable diagnostic results. |
| description | Display port description. |
| <port_type> | Gigabit Ethernet |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| capabilities | Display capabilities. |
| statistics | Display statistics counters. |
| status | Display status. |
| switchport | Show interface switchport information |
| verify | Run cable diagnostics and show result. |
| bytes | Show byte statistics. |
| discards | Show discard statistics. |
| down | Show ports which are down |
| errors | Show error statistics. |
| filtered | Show filtered statistics. |
| packets | Show packet statistics. |
| priority | Queue number |
| up | Show ports which are up |
| <vlan_list> | VLAN list |

EXAMPLE 1: show interface (copper ports 1-3)

```
SM24TBT2DPA# show interface GigabitEthernet 1/1-3 capabilities
```

```
GigabitEthernet 1/1 Capabilities:
```

```
Connector Type      : none
```

```
Fiber Type          : none
```

```
TX Central Wavelength: none
```

```
Bit Rate            : none
```

```
Vendor OUI          : none
```

```
Vendor name         : none
```

```
Vendor PN           : none
```

```
Vendor revision     : none
```

```
Vendor Serial Number : none
```

```
Data Code           : none
```

```
Temperature         : none
```

```
Vcc:                : none
```

```
Mon1(Bias)          : none
```

```
Mon2(TX PWR)        : none
```

```
Mon3(RX PWR)        : none
```

```
GigabitEthernet 1/2 Capabilities:
```

```
Connector Type      : none
```

```
Fiber Type          : none
```

```
TX Central Wavelength: none
```

```
-- more --, next page: Space, continue: g, quit: ^C
```

EXAMPLE 2: show interface (fiber SFP ports 25-26)

```
M24TBT2DPA# show interface GigabitEthernet 1/25,26 capabilities
```

```
GigabitEthernet 1/25 Capabilities:
```

```
Connector Type      : SFP or SFP Plus - SC
```

```
Fiber Type          : Reserved
```

```
TX Central Wavelength: 1550
```

```
Bit Rate            : 1000 Mbps
```

```
Vendor OUI          : 00-08-ec
```

```
Vendor name         : Transition
```

```
Vendor PN           : TN-SFP-BC55
```

```
Vendor revision     : C121
```

```
Vendor Serial Number : 52170831214
```

```
Data Code           : 170915
```

```
Temperature         : 31.73 C
```

```
Vcc                 : 3.30 V
```

```
Mon1(Bias)         : 29 mA
```

```
Mon2(TX PWR)       : 0.31 dBm
```

```
Mon3(RX PWR)       : -15.30 dBm
```

```
GigabitEthernet 1/26 Capabilities:
```

```
Connector Type      : SFP or SFP Plus - SC
```

```
Fiber Type          : Reserved
```

```
TX Central Wavelength: 1550
```

```
Bit Rate            : 1000 Mbps
```

```
Vendor OUI          : 00-08-ec
```

```
Vendor name         : Transition
```

```
Vendor PN           : TN-SFP-BC55-I
```

```
Vendor revision     : A121
```

```
Vendor Serial Number : 52160914323
```

```
Data Code           : 160920
```

```
Temperature         : 33.98 C
```

```
Vcc                 : 3.30 V
```

```
Mon1(Bias)         : 36 mA
```

```
Mon2(TX PWR)       : 0.26 dBm
```

```
Mon3(RX PWR)       : -14.03 dBm
```

```
SM24TBT2DPA#
```

EXAMPLE 3: show interface (VLAN)

```
SM24TBT2DPA# show interface vlan
VLAN1
  LINK: 00-c0-f2-49-38-6a Mtu:1500 <UP BROADCAST RUNNING MULTICAST>
  IPv4: 169.254.132.15/16 169.254.255.255
  IPv4: 192.168.1.77/24 192.168.1.255
  IPv6: fe80::2c0:f2ff:fe49:386a/64 <ANYCAST TENTATIVE AUTOCONF>

VLAN4096
  LINK: 00-c0-f2-49-38-6a Mtu:1500 <BROADCAST MULTICAST>

VLAN4097
  LINK: 00-c0-f2-49-38-6a Mtu:1500 <BROADCAST MULTICAST>
SM24TBT2DPA#
```

EXAMPLE 4: show interface status

```
SM24TBT2DPA# show interface GigabitEthernet 1/1-9 status
```

| Interface | Mode | Speed & Duplex | Flow Control | Max Frame | Excessive | Link |
|---------------------|---------|----------------|--------------|-----------|-----------|--------|
| GigabitEthernet 1/1 | enabled | Auto | disabled | 9600 | Discard | 1Gfdx |
| GigabitEthernet 1/2 | enabled | Auto | disabled | 9600 | Discard | 100fdx |
| GigabitEthernet 1/3 | enabled | Auto | disabled | 9600 | Discard | 100fdx |
| GigabitEthernet 1/4 | enabled | Auto | disabled | 9600 | Discard | 100fdx |
| GigabitEthernet 1/5 | enabled | Auto | disabled | 9600 | Discard | Down |
| GigabitEthernet 1/6 | enabled | Auto | disabled | 9600 | Discard | 1Gfdx |
| GigabitEthernet 1/7 | enabled | Auto | disabled | 9600 | Discard | 1Gfdx |
| GigabitEthernet 1/8 | enabled | Auto | disabled | 9600 | Discard | Down |
| GigabitEthernet 1/9 | enabled | Auto | disabled | 9600 | Discard | Down |

```
SM24TBT2DPA#
```

ip

Show Internet Protocol (IP) parameters.

SYNTAX

show ip arp

show ip arp inspection [interface (<port_type> [<in_port_type_list>]) | vlan <in_vlan_list>]

show ip arp inspection entry [dhcp-snooping | static] [interface (<port_type> [<in_port_type_list>])]

show ip dhcp detailed statistics { server | client | snooping | relay | normal-forward | combined } [interface (<port_type> [<in_port_list>])]

show ip dhcp excluded-address

show ip dhcp pool [<pool_name>]

show ip dhcp relay [statistics]

show ip dhcp server <cr>

show ip dhcp server binding <ip>

show ip dhcp server binding [state { allocated | committed | expired }] [type { automatic | manual | expired }]

show ip dhcp server declined-ip

show ip dhcp server declined-ip <declined_ip>

show ip dhcp server statistics

show ip dhcp snooping [interface (<port_type> [<in_port_list>])]

show ip dhcp snooping table

show ip gateway interface

show ip http

show ip http server secure status

show ip igmp snooping [vlan <v_vlan_list>] [group-database [interface (<port_type> [<v_port_type_list>])] [sfm-information]] [detail]

show ip igmp snooping mrouter [detail]

show ip interface brief

show ip link-local

show ip name-server

show ip route

show ip source binding [dhcp-snooping | static] [interface (<port_type> [<in_port_type_list>])]

show ip ssh

show ip ssh key

show ip statistics [system] [interface vlan <v_vlan_list>] [icmp] [icmp-msg <type>]

show ip telnet

show ip verify source [interface (<port_type> [<in_port_type_list>])]

Parameters

| | |
|-------------------------------|---|
| arp | Address Resolution Protocol |
| inspection | ARP inspection |
| interface | arp inspection entry interface config |
| <port_type> | Gigabit Ethernet |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| vlan | VLAN configuration |
| <vlan_list> | Select a VLAN id to configure |
| entry | arp inspection entries |
| dhcp-snooping | learn from dhcp snooping |
| static | setting from static entries |
| dhcp | Dynamic Host Configuration Protocol |
| relay | DHCP relay agent configuration |
| statistics | Traffic statistics |
| snooping | DHCP snooping |
| http | Hypertext Transfer Protocol |
| gateway | IP gateway interface |
| link-local | Link-local interface |
| server | HTTP web server |
| secure | Secure |
| status | Status |
| igmp | Internet Group Management Protocol |
| snooping | Snooping IGMP |
| vlan | Search by VLAN |
| <vlan_list> | VLAN identifier(s): VID |
| group-database | Multicast group database from IGMP |
| sfm-information | Including source filter multicast information from IGMP |
| detail | Detail running information/statistics of IGMP snooping |
| mrouter | Multicast router port status in IGMP |
| detail | Detail running information/statistics of IGMP snooping |
| interface | IP interface status and configuration |
| brief | Brief IP interface status |
| name-server | Domain Name System |
| route | Display the current ip routing table |
| binding | ip source binding |
| dhcp-snooping | learn from dhcp snooping |

| | |
|----------------------|---|
| ssh | Secure Shell |
| system | IPv4 system traffic |
| icmp | IPv4 ICMP traffic |
| icmp-msg | IPv4 ICMP traffic for designated message type |
| <0~255> | ICMP message type ranges from 0 to 255 |
| verify | verify command |
| source | verify source |

EXAMPLE 1

```
SM24TBT2DPA# show ip ssh
Switch SSH is enabled
Switch SSH port is 22
SM24TBT2DPA# show ip route
0.0.0.0/0 via 192.168.1.254 <UP GATEWAY HW_RT>
127.0.0.0/8 via 127.0.0.1 <UP>
127.0.0.1/32 via 127.0.0.1 <UP HOST>
169.254.0.0/16 via VLAN1 <UP HW_RT>
192.168.1.0/24 via VLAN1 <UP HW_RT>
SM24TBT2DPA#
```

EXAMPLE 2

```
SM24TBT2DPA# show ip link-local ?
    interface    show Link-Local address binding interface
SM24TBT2DPA# show ip link-local interface ?
    |           Output modifiers
    <cr>
SM24TBT2DPA# show ip link-local interface
Link-Local Address binding interface: 1
SM24TBT2DPA#

SM24TBT2DPA# show ip telnet
Switch Telnet server is enabled
Switch Telnet server port is 23
SM24TBT2DPA#
```

EXAMPLE 3

```
SM24TBT2DPA# show ip statistics system
```

```
IPv4 statistics:
```

```
Rcvd: 566758 total in 72974092 bytes
      300188 local destination, 0 forwarding
      0 header error, 4606 address error, 0 unknown protocol
      0 no route, 0 truncated, 6906 discarded
```

```
Sent: 500460 total in 82673394 bytes
      300230 generated, 0 forwarded
      30 no route, 0 discarded
```

```
Frag: 0 reassemble (0 reassembled, 0 couldn't reassemble)
      0 fragment (0 fragmented, 0 couldn't fragment)
      0 fragment created
```

```
Mcast: 66340 received in 3641214 bytes
       72946 sent in 10420910 bytes
```

```
Bcast: 64040 received, 59434 sent
```

```
SM24TBT2DPA# show ip int brief
```

```
Vlan Address          Method  Status
-----
  1 192.168.1.77/24    Manual  UP
```

```
M24TBT2DPA# show ip dhcp pool
```

```
Pool Name: DHCP_Per_Port
```

```
-----
Type is network
IP or IP Start is 192.168.1.0
Subnet mask or IP End is 255.255.255.0
Subnet broadcast address is -
Lease time is 100 days 0 hours 0 minutes
Default router is 192.168.1.254
Domain name is -
DNS server is 8.8.8.8
TFTP server is -
Boot file is -
NTP server is -
```

```

Netbios name server is -
Netbios node type is -
Netbios scope identifier is -
NIS domain name is -
NIS server is -
Vendor class information is -
Client identifier is -
Hardware address is -
Client name is -

```

SM24TBT2DPA#

EXAMPLE 4

```
SM24TBT2DPA# show ip link-local interface
```

```
Link-Local Address binding interface: 1
```

```
SM24TBT2DPA# show ip gateway interface
```

```
Gateway Address binding interface: 1
```

```
SM24TBT2DPA# show ip ssh key
```

RSA:

Public key portion is:

```

2048 ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDA44pzkoBUqOXY+Bw52xFe2YAMhU+ockVM5n
9/vXWFHwCQ9G736p7PXLhv1Y4b6vGw1LDwuLL57jFyJ9CqQDsVet0woHVXI2atjRrWzWrJyZKEyPGbH
hPFKYRHLuU13+wZDeNnt1RkDFGim2JmdI10mBwQj8Y/PLrMmYFkNzYEycD59UXAigZIE8BpMRPjgPuXn
Zg07KcHFcRpbsCGqRgqT7iCHiiUMFCYzYvI9lu0v+BA+2nBsPsUGsUBR3CkyYFQ016sP3bV0Dz8920um
jDOAVzRurfMFH+grprp7AyawwA57yPLZ+llC9BGSkF/YB7nckDzIY/RQU2SqleYMLZ

```

```
RSA: md5 e3:c3:be:bd:b0:55:cd:47:f3:61:50:4c:c9:c7:cb:28
```

DSS:

Public key portion is:

```

1024 ssh-dss AAAAB3NzaC1kc3MAAACBAPB4ogUjIeZ+YSN2mCjqcEF5mgTPzGCo4XyhWfgLBpmUdB
xfgdnwccIpStxz4GNDGiHLFFXLa1pXBWDGjmaTs0lot/XWa1jxndato8BBRP0m/rhh2xCXbFz4CUjScDf
pI2IbPXZ/hb4DJP+EetI1jD1H0Hm1EfyGLp9KqR01x/xG1AAAAFQCISV+Mys6an0Ab1RGI2BUtckhyTw
AAAIEAm2hnbaJ41Zk2Ax4k0J2AG/003fFzChYejr1A97Vxdo9gct60TLp1K9BF4MB5wpRrMd+SM9X+UD
V/p85cg+oBCm+UVp+7N26Rpp5Gd16sKK9ofNcaLEroQadb5RizcXYn9t09r/CqHumfgU/ZH1gBNXGzDC
9Z0IjEEBnIoMn7KIAAACAO/xCQnVrK67ztyUZuSwsq35BkEUAfWSQz5LOUIJDfg2T41sGYewReT8Xbe
H/nNX5RYaa06haFPBEYFnpTx6DgNgwLPEZydy1udH9WTBztdB43A1Ef77UNf/XfeAsaYFAs7XZYfIcVH

```

```
5hGCzdfuBedZy2+Ky/Tf7a2JI5XGkZxSY=  
DSA: md5 97:b5:1d:da:de:65:6f:aa:9e:ac:4a:d1:cf:2d:db:b6  
  
SM24TBT2DPA#
```

Link-Local Address binding interface: Configure Link-Local IP address to different VLAN interface. The first IP interface entry is for default value.

Gateway Address binding interface: The DHCP client uses the DHCP protocol to get the gateway address, and sets the gateway address to the interface of the binding.

ipmc

Display IPv4/IPv6 multicast configuration.

SYNTAX

```
show ipmc profile [ <profile_name> ] [ detail ]
```

```
show ipmc range [ <entry_name> ]
```

Parameters

| | |
|-------------------------------------|--|
| profile | IPMC profile configuration |
| range | A range of IPv4/IPv6 multicast addresses for the profile |
| <ProfileName : word16> | Profile name in 16 char's |
| detail | Detail information of a profile |
| <EntryName : word16> | Range entry name in 16 char's |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPB# show ipmc profile

IPMC Profile is now enabled to start filtering.

Profile: Prof1 (In VER-INI Mode)
Description: firstIpmcProfile

Profile: Prof2 (In VER-INI Mode)
Description: Second IPMC profile
SM24TBT2DPB# show ipmc range Range1
% Invalid range name Range1.

SM24TBT2DPB#
```

Messages:

IPMC Profile is currently disabled, please enable profile to start filtering.

% Invalid range name Range1.

ipv6

Display IPv6 configuration commands.

SYNTAX

```

show ipv6 interface [ vlan <v_vlan_list> { brief | statistics } ]
show ipv6 mld snooping [ vlan <v_vlan_list> ] [ group-database [ interface ( <port_type>
[ <v_port_type_list> ] ) ] [ sfm-information ] ] [ detail ]
show ipv6 mld snooping mrouter [ detail ]
show ipv6 neighbor [ interface vlan <v_vlan_list> ]
show ipv6 route [ interface vlan <v_vlan_list> ]
show ipv6 statistics [ system ] [ interface vlan <v_vlan_list> ] [ icmp ] [ icmp-msg <type> ]

```

Parameters

| | |
|-------------------------------|--|
| interface | Select an interface to configure |
| vlan | VLAN of IPv6 interface |
| <v_vlan_list> | IPv6 interface VLAN list |
| brief | Brief summary of IPv6 status and configuration |
| statistics | Traffic statistics |
| mld | Multicasat Listener Discovery |
| snooping | Snooping MLD |
| vlan | Search by VLAN |
| <v_vlan_list> | VLAN identifier(s): VID |
| group-database | Multicast group database from MLD |
| interface | Search by port |
| <port_type> | Gigabit Ethernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| sfm-information | Including source filter multicast information from MLD |
| detail | Detail running information/statistics of MLD snooping |
| mrouter | Multicast router port status in MLD |
| neighbor | IPv6 neighbors |
| route | IPv6 routes |
| statistics | Traffic statistics |
| system | IPv6 system traffic |
| icmp | IPv6 ICMP traffic |
| icmp-msg | IPv6 ICMP traffic for designated message type |

<Type : 0~255> ICMP message type ranges from 0 to 255

EXAMPLE

```
SM24TBT2DPA# show ipv6 neighbor
fe80::2c0:f2ff:fe7f:685b via VLAN1: 00-c0-f2-7f-68-5b Permanent/REACHABLE
SM24TBT2DPA# show ipv6 statistics system

IPv6 statistics:

Rcvd:  0 total in 0 byte
        0 local destination, 0 forwarding
        0 header error, 0 address error, 0 unknown protocol
        0 no route, 0 truncated, 0 discarded
Sent:  10 total in 656 bytes
        14 generated, 0 forwarded
        0 no route, 0 discarded
Frag:  0 reassemble (0 reassembled, 0 couldn't reassemble)
        0 fragment (0 fragmented, 0 couldn't fragment)
        0 fragment created
Mcast: 0 received in 0 byte
        10 sent in 656 bytes
Bcast: 0 received, 0 sent
SM24TBT2DPB# show ipv6 interface vlan 1 brief

IPv6 Vlan1 interface is up.
Internet address is fe80::2c0:f2ff:fe7f:685b
Static address is not set
SM24TBT2DPB#
```


lACP

Display LACP configuration/status.

SYNTAX

```
show lACP { internal | statistics | system-id | neighbour }
```

Parameters

| | |
|---------------------|----------------------------------|
| internal | Internal LACP configuration |
| neighbour | Neighbour LACP status |
| statistics | Internal LACP statistics |
| system-id | LACP system id |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show lACP internal
Port                Mode    Key  Role  Timeout  Priority
-----
Gi 1/1              Disabled Auto Active Fast      32768
Gi 1/2              Disabled Auto Active Fast      32768
Gi 1/3              Disabled Auto Active Fast      32768
Gi 1/4              Disabled Auto Active Fast      32768
Gi 1/5              Disabled Auto Active Fast      32768
Gi 1/6              Disabled Auto Active Fast      32768
Gi 1/7              Disabled Auto Active Fast      32768
Gi 1/8              Disabled Auto Active Fast      32768
Gi 1/9              Disabled Auto Active Fast      32768
Gi 1/10             Disabled Auto Active Fast      32768
-- more --, next page: Space, continue: g, quit: ^C
SM24TBT2DPB# show lACP system-id
System Priority: 32768
SM24TBT2DPB# show lACP neighbour
SM24TBT2DPB#
```

line

Display TTY line information.

SYNTAX

```
show line [ alive ] [ | {begin | exclude | include } <LINE>]
```

Parameters

| | |
|---------------------|---------------------------------------|
| alive | Display information about alive lines |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show line
Line is con 0.
  * You are at this line now.
  Alive from Console.
  Default privileged level is 2.
  Command line editing is disabled
  Display EXEC banner is enabled.
  Display Day banner is enabled.
  Terminal width is 80.
    length is 24.
    history size is 10.
    exec-timeout is 60 min 0 second.

  Current session privilege is 15.
  Elapsed time is 0 day 2 hour 35 min 47 sec.
  Idle time is 0 day 0 hour 0 min 0 sec.

Line is vty 0.
  Not alive.
  Default privileged level is 2.
  Command line editing is disabled
  Display EXEC banner is enabled.
  Display Day banner is enabled.
-- more --, next page: Space, continue: g, quit: ^C
```

lldp

Display LLDP neighbors and LLDP Med information.

SYNTAX

```

show lldp [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show lldp med media-vlan-policy [ <v_0_to_31> ]
show lldp med remote-device [ interface ( <port_type> [ <port_list> ] ) ]
show lldp neighbors [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show lldp statistics [ interface ( <port_type> [ <v_port_type_list> ] ) ]

```

Parameters

| | |
|-------------------------------|---|
| med | Display LLDP-MED neighbors information. |
| neighbors | Display LLDP neighbors information. |
| statistics | Display LLDP statistics information. |
| media-vlan-policy | Display media vlan policies. |
| remote-device | Display remote device LLDP-MED neighbors information. |
| <0~31> | List of policies. |
| Interface | Interface to display. |
| <port_type > | GigabitEthernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE 1

```

SM24TBT2DPA# show lldp interface GigabitEthernet 1/1-2
LLDP Configuration
-----
TX Interval : 1332
TX Hold : 5
TX Delay : 333
TX Reinit : 3

LLDP Port Configuration, Ena : Enabled, Dis : Disabled
-----
Port      TX/RX Mode    CDP Aware    Port Descr    Sys Name    Sys Descr    Sys Capa    Mgmt
Addr
-----
1         TX/RX         Dis          Ena           Ena         Ena         Ena         Ena

```

| 2 | TX/RX | Dis | Ena | Ena | Ena | Ena | Ena |
|---|-------|-----|-----|-----|-----|-----|-----|
|---|-------|-----|-----|-----|-----|-----|-----|

```

SM24TBT2DPA# show lldp neighbors
Local Interface      : GigabitEthernet 1/25
Chassis ID          : 00-C0-F2-49-38-6A
Port ID             : 25
Port Description     : Port #25
System Name         : SM24TBT2DPA
System Description   : Managed Switch, 24-port Gigabit PoE++, 2-port SFP/RJ-45 Combo
System Capabilities : Bridge(+)
Management Address  : 192.168.1.77 (IPv4)
Power Over Ethernet : PSE Device, Primary Power Source, Low Priority, Power = 0.0 [W]

Local Interface      : GigabitEthernet 1/26
Chassis ID          : 00-C0-F2-49-38-6A
Port ID             : 26
Port Description     : Port #26
System Name         : SM24TBT2DPA
System Description   : Managed Switch, 24-port Gigabit PoE++, 2-port SFP/RJ-45 Combo
System Capabilities : Bridge(+)
Management Address  : 192.168.1.77 (IPv4)
Power Over Ethernet : PSE Device, Primary Power Source, Low Priority, Power = 0.0 [W]

```

EXAMPLE 2

```

SM24TBT2DPB# show lldp neighbors
Local Interface      : GigabitEthernet 1/2
Chassis ID          : 5C-FF-35-DC-0A-C1
Port ID             : 5C-FF-35-DC-0A-C1
Port Description     :
System Name         :
System Description   :
System Capabilities :
Power Over Ethernet :

Local Interface      : GigabitEthernet 1/5
Chassis ID          : AC-CC-8E-BA-F7-C1
Port ID             : AC-CC-8E-BA-F7-C1
Port Description     : eth0

```

```

System Name       : axis-acc8ebaf7c1
System Description : AXIS P1447-LE Network Camera 7.35.2.3
System Capabilities : Bridge(-), WLAN Access Point(-), Router(-), Station Only(+)
Management Address : 192.168.0.90 (IPv4)
Power Over Ethernet :

Local Interface   : GigabitEthernet 1/6
Chassis ID       : 30-23-03-78-F9-1A
Port ID          : 30-23-03-78-F9-1A
Port Description  : eth0
System Name      : CECWAP
System Description : LAPN300 Wireless-N300 Access Point with PoE
System Capabilities : Bridge(+), WLAN Access Point(-)
Management Address : 192.168.85.40 (IPv4)
Power Over Ethernet : PD Device, PSE, High Priority, Power = 12.0 [W]

SM24TBT2DPB#

```

EXAMPLE 3

```

SM24TBT2DPA# show lldp med media-vlan-policy
Policy Id  Application Type      Tag      Vlan ID  L2 Priority  DSCP
0          Video Signaling    Tagged   1        0            0
1          Voice Signaling     Tagged   1        0            0

SM24TBT2DPA#

```

EXAMPLE 4

```

SM24TBT2DPB# show lldp med remote-device
Local port       : GigabitEthernet 1/2
Device Type      : Endpoint Class I
Capabilities      : LLDP-MED Capabilities

Local port       : GigabitEthernet 1/4
Device Type      : Endpoint Class I
Capabilities      : LLDP-MED Capabilities, Network Policy, Location Identification, Extended
                  Power via MDI - PSE, Extended Power via MDI - PD, Inventory

Inventory

```

```
Hardware Revision : LAPN300-A V01
Firmware Revision : V1.1.01.000
Software Revision :
Serial Number : 14111S03A00285
Manufacturer Name : Linksys Inventory
Model Name : LAPN300
Assert ID :

SM24TBT2DPB# show lldp med remote-device
Local port : GigabitEthernet 1/3
Device Type : Network Connectivity
Capabilities : LLDP-MED Capabilities, Extended Power via MDI - PD

Application Type : Reserved
Policy : Defined
Tag : Untagged
VLAN ID : -
Priority : -
DSCP : 0

Inventory
Hardware Revision : Rev 120
Firmware Revision : Rev 120
Software Revision : Rev 120
Serial Number : 15258
Manufacturer Name : inspeXtor
Model Name : 90-watt
Assert ID : V1234

SM24TBT2DPB#
```

Messages: No LLDP entries found

logging

Display Syslog information.

SYNTAX

```
show logging <log_id> [ switch <switch_list> ]
```

```
show logging [ info ] [ warning ] [ error ] [ emerg ] [ alert ] [ crit ] [ notice ] [ debug ] [ switch <switch_list> ]
```

Parameters

| | |
|---|---------------------|
| <logging_id: 1-4294967295> | Logging ID |
| alert | Alert |
| crit | Critical |
| debug | Debug |
| emerg | Emergency |
| error | Error |
| info | Information |
| notice | Notice |
| warning | Warning |
| switch | Switch |
| <switch_list> | Switch ID list in 1 |

EXAMPLE 1

```
SM24TBT2DPB# show logging alert
Switch logging host mode is disabled
Switch logging host address is null
Switch logging host port is 514
Number of entries on Switch 1:
Emerg : 0
Alert : 0
Crit : 0
Error : 0
Warning: 37
Notice : 0
Info : 29
Debug : 0
All : 66
SM24TBT2DPB#
```

Messages: Cannot find syslog ID 99999999 on Switch 1.

loop-protect

Show Loop protection configuration.

SYNTAX

```
show loop-protect [ interface ( <port_type> [ <plist> ] ) ]
```

Parameters

| | |
|-------------------------------|--|
| interface | Interface status and configuration |
| <port_type > | GigabitEthernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPA# show loop-protect interface GigabitEthernet 1/3
```

```
Loop Protection Configuration
```

```
=====
```

```
Loop Protection      : Disable
```

```
Transmission Time   : 5 sec
```

```
Shutdown Time       : 180 sec
```

```
GigabitEthernet 1/3
```

```
-----
```

```
Loop protect mode is enabled.
```

```
Action is shutdown.
```

```
Transmit mode is enabled.
```

```
No loop.
```

```
The number of loops is 0.
```

```
Status is up.
```

```
SM24TBT2DPA#
```


mac

Show Mac Address Table information.

SYNTAX

```
show mac address-table [ conf | static | aging-time | { { learning | count } [ interface ( <port_type>
[ <v_port_type_list> ] ) ] } | { address <v_mac_addr> [ vlan <v_vlan_id> ] } | vlan <v_vlan_id_1> | interface
( <port_type> [ <v_port_type_list_1> ] ) ]
```

Parameters

| | |
|-------------------------------|--|
| | Output modifiers |
| address | MAC address lookup |
| aging-time | Aging time |
| conf | User added static mac addresses |
| count | Total number of mac addresses |
| interface | Select an interface to configure |
| learning | Learn/disable/secure state |
| static | All static mac addresses |
| vlan | Addresses in this VLAN |
| address-table | Mac Address Table |
| <port_type> | Gigabit Ethernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 |
| <mac_addr> | 48 bit MAC address: xx:xx:xx:xx:xx:xx |
| vlan | VLAN lookup |
| <vlan_id> | VLAN IDs 1-4095 |
| <vlan_id> | VLAN IDs 1-4095 |
| <port_type> | 1 Gbit Ethernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```

SM24TBT2DPA# show mac address-table
Type    VID  MAC Address          Ports
Dynamic 1   00:1b:11:b2:6d:4b  GigabitEthernet 1/1
Static  1   00:c0:f2:4a:fb:3f   CPU
Dynamic 1   00:c0:f2:4a:fb:59  GigabitEthernet 1/3
Static  1   33:33:00:00:00:01  GigabitEthernet 1/1-26 CPU
Static  1   33:33:00:00:00:02  GigabitEthernet 1/1-26 CPU
Static  1   33:33:ff:4a:fb:3f  GigabitEthernet 1/1-26 CPU
Static  1   ff:ff:ff:ff:ff:ff  GigabitEthernet 1/1-26 CPU
SM24TBT2DPA# show mac address-table aging-time
MAC Age Time: 300
SM24TBT2DPA# show mac address-table count
Port Dynamic addresses
1      1
2      0
3      0
4      0
5      0
6      0
7      0
.....
26     0

Total learned dynamic addresses for the switch: 1
Total static addresses in table: 5
SM24TBT2DPA# show mac address-table vlan 1
Type    VID  MAC Address          Ports
Dynamic 1   00:1b:11:b2:6d:4b  GigabitEthernet 1/1
Static  1   00:c0:f2:49:38:6a   CPU
Static  1   33:33:00:00:00:01  GigabitEthernet 1/1-26 CPU
Static  1   33:33:00:00:00:02  GigabitEthernet 1/1-26 CPU
Static  1   33:33:ff:49:38:6a  GigabitEthernet 1/1-26 CPU
Static  1   ff:ff:ff:ff:ff:ff  GigabitEthernet 1/1-26 CPU
SM24TBT2DPA#

```

map-api-key

Show Google Maps API key string.

SYNTAX

```
show map-api-key
```

EXAMPLE

```
SM24TBT2DPA(config)# map-api-key sedfal9mm  
SM24TBT2DPA(config)# exit  
SM24TBT2DPA# show map-api-key  
Key   : sedfal9mm  
SM24TBT2DPA#
```

mvr

Show Multicast VLAN Registration configuration.

SYNTAX

```
show mvr [ vlan <v_vlan_list> | name <mvr_name> ] [ group-database [ interface ( <port_type>
[ <v_port_type_list> ) ] ] [ sfm-information ] ] [ detail ]
```

Parameters

| | |
|-------------------------------|--|
| vlan | Search by VLAN |
| <v_vlan_list> | MVR multicast VLAN list |
| name | Search by MVR name |
| <word16> | MVR multicast VLAN name |
| group-database | Multicast group database from MVR |
| interface | Search by port |
| <port_type> | * or Gigabit Ethernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| sfm-information | Including source filter multicast information from MVR |
| detail | Detail information/statistics of MVR group database |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show mvr
MVR is currently disabled, please enable MVR to start group registration.
SM24TBT2DPA#
SM24TBT2DPA# show mvr
MVR is now enabled to start group registration.
Switch-1 MVR-IGMP Interface Status
IGMP MVR VLAN 10 (Name is MVRCFG1) interface is enabled.
Querier status is IDLE
RX IGMP Query:0 V1Join:0 V2Join:0 V3Join:0 V2Leave:0
TX IGMP Query:0 / (Source) Specific Query:0
```

```
Interface Channel Profile: <No Associated Profile>
IGMP MVR VLAN 20 (Name is 20) interface is enabled.
Querier status is IDLE
RX IGMP Query:0 V1Join:0 V2Join:0 V3Join:0 V2Leave:0
TX IGMP Query:0 / (Source) Specific Query:0
Interface Channel Profile: <No Associated Profile>
```

```
Switch-1 MVR-MLD Interface Status
```

```
MLD MVR VLAN 10 (Name is MVRCFG1) interface is enabled.
Querier status is IDLE
RX MLD Query:0 V1Report:0 V2Report:0 V1Done:0
-- more --, next page: Space, continue: g, quit: ^C
```

ntp

Show Network Timing Protocol status.

SYNTAX

```
show ntp status
```

Parameter

```
status          status
```

EXAMPLE

```
SM24TBT2DPA# show ntp status
NTP Mode : disabled
Automatic: enabled
Idx  Server IP host address (a.b.c.d)
---  -----
1
Idx  Server IP host address (a.b.c.d) or a host name string
---  -----
1    1.2.3.4
2    time-a-g.nist.gov
3
4
5
SM24TBT2DPA#
```

platform

Show Platform specific information

SYNTAX

```

show platform phy [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show platform phy id [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show platform phy instance
show platform phy status [ interface ( <port_type> [ <v_port_type_list> ] ) ]

```

Parameters

| | |
|------------------|---------------------------|
| phy | PHYs' information |
| id | |
| instance | PHY Instance Information |
| interface | |
| status | |
| <cr> | |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| PORT_LIST | Port list in 1/1-26 |

EXAMPLE 1

```

SM24TBT2DPA# show platform phy id
Port   Channel   API Base   Phy Id     Phy Rev.
-----
1      0          0 (1g)    7420      3
2      1          0 (1g)    7420      3
3      2          0 (1g)    7420      3
4      3          0 (1g)    7420      3
5      4          0 (1g)    7420      3
6      5          0 (1g)    7420      3
7      6          0 (1g)    7420      3
8      7          0 (1g)    7420      3
9      8          0 (1g)    7420      3
↓
19     6          0 (1g)    8512      3
20     7          0 (1g)    8512      3

```

```
SM24TBT2DPA# show platform phy interface GigabitEthernet 1/1
Port  API Inst  WAN/LAN/1G Mode      Duplex  Speed  Link
----  -
1     Default  1G         PD        -       -      ,Yes
SM24TBT2DPA# show platform phy status
Port  Issues seen during 1G PHY warmstart
----  -
1     No
2     No
3     No
4     No
↓
19    No
20    No
```

EXAMPLE 2

```
SM24TBT2DPB# show platform phy instance
Next Restart      : Warm
Previous Restart: Warm
Current API Version : 1
Previous API Version: 1
Phy Instance Restart Source:1G
Phy Instance Restart Port:0
Current Phy Start Instance:none
SM24TBT2DPB#
```


poe

Show PoE information.

SYNTAX

```

show poe config [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show poe power-delay [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show poe profile [ id <has_id> ]
show poe reboot
show poe status [ interface ( <port_type> [ <v_port_type_list> ] ) ]
show poe { auto-check | auto-power-reset } [ interface ( <port_type> [ <v_port_type_list> ] ) ]

```

Parameters

| | |
|-------------------------|---|
| auto-power-reset | Show PoE Auto Power Reset configuration. |
| config | Display PoE (Power Over Ethernet) config for the switch. |
| power-delay | Display PoE (Power Over Ethernet) power delay for the switch. |
| profile | poe scheduling profile |
| reboot | poe reboot scheduling |
| status | Display PoE (Power Over Ethernet) status for the switch. |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| | Output modifiers |
| <port_type_list> | Port list for all port types |

EXAMPLE 1 Show PoE Auto Power Reset (APR) status:

```

SM24TBT2DPA# show poe auto-power-reset

Ping Check : Enabled

Port Ping IP Address Start up Interval Retry Failure Log      Failure Action
Reboot Max.Reboot
      Time      Time      Time
      Time Times
-----
-----
1    192.168.1.77    60      30      3    error=7584,total=7584  Nothing
      15      3
2    0.0.0.0          60      30      3    error=0,total=0      Nothing
      15      3

```

```

3    0.0.0.0      60    30    3    error=0,total=0  Nothing
15   3
4    0.0.0.0      60    30    3    error=0,total=0  Nothing
15   3
5    0.0.0.0      60    30    3    error=0,total=0  Nothing
15   3
-- more --, next page: Space, continue: g, quit: ^C
GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
SM24TBT2DPA#

```

EXAMPLE 2 Show PoE Configuration:

```

SM24TBT2DPA# show poe config
Primary Power Supply [W]      : 820
Port  Mode      Schedule          Priority  LLDP      Legacy
-----
1    8023bt    Disable          Low      Enabled   Disabled
2    8023bt    Disable          Low      Enabled   Disabled
3    8023bt    Disable          Low      Enabled   Disabled
4    8023bt    Disable          Low      Enabled   Disabled
5    8023bt    Disable          Low      Enabled   Disabled
6    8023bt    Disable          Low      Enabled   Disabled
7    8023bt    Disable          Low      Enabled   Disabled
8    8023bt    Disable          Low      Enabled   Disabled
9    8023bt    Disable          Critical Enabled   Enabled
10   8023bt    Disable          Low      Enabled   Disabled
11   8023bt    Disable          Low      Enabled   Disabled
12   8023bt    Disable          Low      Enabled   Disabled
13   8023bt    Disable          Low      Enabled   Disabled
14   8023bt    Disable          Low      Enabled   Disabled
15   8023bt    Disable          Low      Enabled   Disabled
16   8023bt    Disable          Low      Enabled   Disabled
17   8023bt    Disable          Low      Enabled   Disabled
18   8023bt    Disable          Low      Enabled   Disabled
19   8023bt    Disable          Low      Enabled   Disabled
20   8023bt    Disable          Low      Enabled   Disabled

```

```

21    8023bt    Disable                    Low    Enabled    Disabled
22    8023bt    Disable                    Low    Enabled    Disabled
23    8023bt    Disable                    Low    Enabled    Disabled
24    8023bt    Disable                    Low    Enabled    Disabled

GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
SM24TBT2DPA#

```

EXAMPLE 3 Show PoE Power Delay config:

```

SM24TBT2DPA# show poe power-delay
Port  Delay Mode Delay Time(0~300 sec)
-----
1     Disabled  0
2     Enabled   10
3     Enabled   20
4     Enabled   30
5     Disabled  0
23    Disabled  0
24    Disabled  0

GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
SM24TBT2DPA#

```

EXAMPLE 4 Show PoE Profile:

```

SM24TBT2DPA# show poe profile
PoE profile: Profile 1
      Start Time  End Time
Week Day  HH : MM      HH : MM
-----
Monday    0 0           0 0
Tuesday   0 0           0 0
Wednesday 0 0           0 0
Thursday  0 0           0 0
Friday    0 0           0 0
Saturday  12 30        13 55
Sunday    0 0           0 0

PoE profile: Profile 2

```

```

                Start Time  End Time
Week Day      HH : MM    HH : MM
-----
Monday        0 0       0 0
Tuesday       0 0       0 0
Wednesday     0 0       0 0
Thursday      0 0       0 0
-- more --, next page: Space, continue: g, quit: ^C

```

SM24TBT2DPA#

EXAMPLE 5 Show PoE Status:

```

SM24TBT2DPA# show poe status
Interface          PD Class  Port Status          Request Allocate
Power  Current  Priority
                                Pwr
[W] Pwr [W]  Used[W] Used[mA]
-----
-----
GigabitEthernet 1/1  -      No PD detected      0.0
  0.0    0.0    0      Low
GigabitEthernet 1/2  -      PoE turned ON      90.0
  1.7    1.7   33     Critical
GigabitEthernet 1/3  2      PoE turned ON      7.0
  1.9    1.9   36     Low
GigabitEthernet 1/4  -      No PD detected      0.0
  0.0    0.0    0      Low
GigabitEthernet 1/5  2      PoE turned ON      7.0
  2.0    2.0   38     Low
-- more --, next page: Space, continue: g, quit: ^C
GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
Total Power Request : 104.0 [W]
Total Power Alloctaed : 5.7 [W]
Total Power Used : 5.7 [W]
Total Current Used : 108 [mA]

```

EXAMPLE 6 Show PoE Reboot Schedule:

```
SM24TBT2DPA# show poe reboot
```

```
PoE Reset Mode: Enable
```

```
PoE Reset Entry:
```

```

                Reset Time
Week Day      HH : MM
-----
Monday        - -
Tuesday       - -
Wednesday     - -
Thursday      - -
Friday        23 55
Saturday      - -
Sunday        - -

```

```
SM24TBT2DPA#
```

EXAMPLE 7 Show PoE Status. **Note:** FW vB6.54.3494 changed PoE 802.3bt FW version to actively send BT version of Power Via MDI TLVs. Reply with AT version of Power Via MDI TLV if PD is using such version of TLV, and additionally send 2 more BT TLVs.

```
SM24TBT2DPA# show poe status interface GigabitEthernet 1/3-4
```

```

Interface          PD Class  Port Status          Request Allocate
Power  Current  Priority
                                Pwr[W]  Pwr [W]
Used[W]  Used[mA]
-----
GigabitEthernet 1/3  -          No PD detected          0.0
  0.0    0.0    0      Low
GigabitEthernet 1/4  1          PoE turned ON          4.0
  1.7    1.7    33     Low
Total Power Request : 23.0 [W]
Total Power Alloctaed : 5.8 [W]
Total Power Used : 5.8 [W]
Total Current Used : 111 [mA]
SM24TBT2DPA#

```

port-security

Show Port Security information.

SYNTAX

```
show port-security port [ interface ( <port_type> [ <v_port_type_list> ] ) ]
```

```
show port-security switch [ interface ( <port_type> [ <v_port_type_list> ] ) ]
```

Parameters

port Show MAC Addresses learned by Port Security

switch Show Port Security status.

Interface

<port_type > GigabitEthernet

***** All Switches or All ports

Gigabit Ethernet 1 Gigabit Ethernet Port

<port_type_list> Port list in 1/1-24 for Gigabit Ethernet

| Output modifiers

begin Begin with the line that matches

exclude Exclude lines that match

include Include lines that match

<LINE> String to match output lines

EXAMPLE

```
SM24TBT2DPA# show port-security port
```

```
GigabitEthernet 1/1
```

```
-----
```

| MAC Address | VID | State | Added | Age/Hold Time |
|-------------|-----|-------|-------|---------------|
| ----- | | | | |
| <none> | | | | |

```
<none>
```

```
GigabitEthernet 1/2
```

```
-----
```

| MAC Address | VID | State | Added | Age/Hold Time |
|-------------|-----|-------|-------|---------------|
| ----- | | | | |
| <none> | | | | |

```
<none>
```

```
GigabitEthernet 1/3
```

```
-----
```

```

MAC Address      VID  State      Added      Age/Hold Time
-----
<none>

GigabitEthernet 1/4
-----
MAC Address      VID  State      Added      Age/Hold Time
-----
-- more --, next page: Space, continue: g, quit: ^C
SM24TBT2DPA# show port-security switch
Users:
L = Limit Control
8 = 802.1X
V = Voice VLAN
Interface          Users  State      MAC Cnt
-----
GigabitEthernet 1/1    ---  No users    0
GigabitEthernet 1/2    ---  No users    0
GigabitEthernet 1/3    ---  No users    0
GigabitEthernet 1/4    ---  No users    0
GigabitEthernet 1/5    ---  No users    0
GigabitEthernet 1/6    ---  No users    0
GigabitEthernet 1/7    ---  No users    0
GigabitEthernet 1/8    ---  No users    0
GigabitEthernet 1/9    ---  No users    0
GigabitEthernet 1/10   ---  No users    0
SM24TBT2DPA#

```

power**SYNTAX**

show power management

Parameters

management Management.

EXAMPLE 1: SM24TBT2DPA with one PSU-820 power supply installed in Boost mode:

```
SM24TBT2DPA# show power management
Power Management
=====
Power                : A          B
Detected PSU         : PSU-820   None
Power Good           : Good      Fail
FAN Speed (RPM)     : 8898    0
Temperature (Degree C) : 30      0
Operating Mode       : Boost
SM24TBT2DPA#
```

EXAMPLE 2: SM24TBT2DPB with two PSU-HV power supplies installed in Redundant mode:

```
SM24TBT2DPB# show power management
Power Management
=====
Power                : A          B
Detected PSU         : PSU-HV   PSU-HV
Power Good           : Good      Good
Power Input(AC/DC)   : AC        AC
Power Input Voltage (V) : 121    121
FAN Speed (RPM)     : 2886   3007
Temperature (Degree C) : 41     42
Operating Mode       : Redundant
SM24TBT2DPB#
```


EXAMPLE 3: SM24TBT2DPB with one PSU-HV power supply installed:

```
SM24TBT2DPB# show power management
Power Management
=====
Power           : A      B
Detected PSU    : PSU-HV  None
Power Good      : Good   Fail
FAN Speed (RPM) : 3014  0
Temperature (Degree C) : 40    0
Operating Mode  : Redundant
SM24TBT2DPB#
```

privilege

SYNTAX

```
show privilege [ | {begin | exclude | include } <LINE>
```

Parameters

| | |
|----------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |

EXAMPLE

```
SM24TBT2DPA# show privilege

-----
| The order is as the inputsequence and |
| the last one has the highest priority. |
-----

privilege line level 5 LINE
```

pvlan

Show PVLAN status.

SYNTAX

```

show pvlan [ <pvlan_list> ]
show pvlan isolation [ interface ( <port_type> [ <plist> ] ) ]

```

Parameters

| | |
|-------------------------------|--|
| <range_list> | PVLAN id to show configuration for |
| isolation | show isolation configuration |
| <port_type > | GigabitEthernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| interface | List of port type and port ID, ex, Fast 1/1 Gigabit 2/3-5 Gigabit 3/2-4 Tengigabit 4/6 |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```

SM24TBT2DPA# show pvlan 1
PVLAN ID  Ports
-----
1      GigabitEthernet 1/1, GigabitEthernet 1/2, GigabitEthernet 1/3,
      GigabitEthernet 1/4, GigabitEthernet 1/5, GigabitEthernet 1/6,
      GigabitEthernet 1/7, GigabitEthernet 1/8, GigabitEthernet 1/9,
      GigabitEthernet 1/10, GigabitEthernet 1/11, GigabitEthernet 1/12,
      GigabitEthernet 1/13, GigabitEthernet 1/14, GigabitEthernet 1/15,
      GigabitEthernet 1/16, GigabitEthernet 1/17, GigabitEthernet 1/18,
      GigabitEthernet 1/19, GigabitEthernet 1/20, GigabitEthernet 1/21,
      GigabitEthernet 1/22, GigabitEthernet 1/23, GigabitEthernet 1/24,
      GigabitEthernet 1/25, GigabitEthernet 1/26

SM24TBT2DPA# show pvlan isolation
Port          Isolation
-----

```

```
GigabitEthernet 1/1          Disabled
GigabitEthernet 1/2          Disabled
GigabitEthernet 1/3          Disabled
GigabitEthernet 1/4          Disabled
GigabitEthernet 1/5          Disabled
GigabitEthernet 1/6          Disabled
GigabitEthernet 1/7          Disabled
GigabitEthernet 1/8          Disabled
GigabitEthernet 1/9          Disabled
GigabitEthernet 1/10         Disabled
GigabitEthernet 1/11         Disabled
GigabitEthernet 1/12         Disabled
GigabitEthernet 1/13         Disabled
GigabitEthernet 1/14         Disabled
GigabitEthernet 1/15         Disabled
GigabitEthernet 1/16         Disabled
GigabitEthernet 1/17         Disabled
GigabitEthernet 1/18         Disabled
GigabitEthernet 1/19         Disabled
GigabitEthernet 1/20         Disabled
-- more --, next page: Space, continue: g, quit: ^C
```

qos

Show Quality of Service data.

SYNTAX

```
show qos [ { interface [ ( <port_type> [ <port> ] ) ] } | wred | { maps [ dscp-cos ] [ dscp-ingress-translation ]
[ dscp-classify ] [ cos-dscp ] [ dscp-egress-translation ] } | storm | { qce [ <qce> ] } ]
```

Parameters

| | |
|---------------------------------|--|
| interface | Interface |
| <port_type > | GigabitEthernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| maps | Global QoS Maps/Tables |
| qce | QoS Control Entry |
| storm | Storm policer |
| wred | Weighted Random Early Discard |
| cos-dscp | Map for cos to dscp |
| dscp-classify | Map for dscp classify enable |
| dscp-cos | Map for dscp to cos |
| dscp-egress-translation | Map for dscp egress translation |
| dscp-ingress-translation | Map for dscp ingress translation |
| <Qce : 1-256> | QCE ID |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show qos
interface GigabitEthernet 1/1
qos cos 0
qos pcp 0
qos dpl 0
qos dei 0
qos trust tag disabled
qos map tag-cos pcp 0 dei 0 cos 1 dpl 0
```

```

qos map tag-cos pcp 0 dei 1 cos 1 dpl 1
qos map tag-cos pcp 1 dei 0 cos 0 dpl 0
qos map tag-cos pcp 1 dei 1 cos 0 dpl 1
qos map tag-cos pcp 2 dei 0 cos 2 dpl 0
qos map tag-cos pcp 2 dei 1 cos 2 dpl 1
qos map tag-cos pcp 3 dei 0 cos 3 dpl 0
qos map tag-cos pcp 3 dei 1 cos 3 dpl 1
qos map tag-cos pcp 4 dei 0 cos 4 dpl 0
qos map tag-cos pcp 4 dei 1 cos 4 dpl 1
qos map tag-cos pcp 5 dei 0 cos 5 dpl 0
qos map tag-cos pcp 5 dei 1 cos 5 dpl 1
qos map tag-cos pcp 6 dei 0 cos 6 dpl 0
qos map tag-cos pcp 6 dei 1 cos 6 dpl 1
qos map tag-cos pcp 7 dei 0 cos 7 dpl 0
qos map tag-cos pcp 7 dei 1 cos 7 dpl 1

```

SM24TBT2DPA# **show qos maps**

qos map dscp-cos:

=====

| DSCP | Trust | Cos | Dpl |
|-----------|----------|-----|-----|
| ----- | ----- | --- | --- |
| 0 (BE) | disabled | 0 | 0 |
| 1 | disabled | 0 | 0 |
| 2 | disabled | 0 | 0 |
| 3 | disabled | 0 | 0 |
| 4 | disabled | 0 | 0 |
| 5 | disabled | 0 | 0 |
| 6 | disabled | 0 | 0 |
| 7 | disabled | 0 | 0 |
| 8 (CS1) | disabled | 0 | 0 |
| 9 | disabled | 0 | 0 |
| 10 (AF11) | disabled | 0 | 0 |
| 11 | disabled | 0 | 0 |
| 12 (AF12) | disabled | 0 | 0 |
| 13 | disabled | 0 | 0 |
| 14 (AF13) | disabled | 0 | 0 |
| 15 | disabled | 0 | 0 |

```
16 (CS2)  disabled 0  0
17        disabled 0  0
SM24TBT2DPA# show qos storm
qos storm:
=====
Unicast  : disabled          1
Multicast: disabled          1
Broadcast: disabled          1
SM24TBT2DPA#
SM24TBT2DPB# show qos qce

static qce 1:
=====
port: 1-26
key parameters:
tag:
type: any
vid: any
pcp: any
dei: any
smac: any
dmac: any
frametype: any
action parameters:
cos: 0
dpl: default
dscp: default

static qce 2:
=====
port: 1-26
key parameters:
-- more --, next page: Space, continue: g, quit: ^C
```

radius-server

Display RADIUS configuration.

SYNTAX

```
show radius-server [ statistics ]
```

Parameters

radius-server RADIUS configuration

<cr>

EXAMPLE

```
SM24TBT2DPA# show radius-server
Global RADIUS Server Timeout      : 5 seconds
Global RADIUS Server Retransmit   : 3 times
Global RADIUS Server Deadtime     : 0 minutes
Global RADIUS Server Key          : a8ae00879ff20e729f827a150b01a2a54007cffc758c
30f46a4908fddf165d7fa9f8105fbec27193d036ebf5be3a0baee0cb0bfa40cddc7c9e7b8d1080e5
0ee6
Global RADIUS Server Attribute 4  : 192.168.1.3
Global RADIUS Server Attribute 95 :
Global RADIUS Server Attribute 32 :
RADIUS Server #1:
  Host name   : RadSrvr1
  Auth port  : 1812
  Acct port  : 1813
  Timeout    : 60 seconds
  Retransmit : 350 times
  Key        : 996cd8e785af8137672f36005e765fe5854c439cb918cd7d12c6a2e5975c0a9c1
b2bfd4769976652cbfa56e99ec1ac9a393f139036f34549a6cff5fb5a3b9079
SM24TBT2DPA#
```

rapid-ring

Display Rapid Ring configuration. STP must be disabled.

SYNTAX

```
show rapid-ring <cr>
```

Parameters

EXAMPLE

```
SM24TBT2DPB# show rapid-ring
Entry Index          : 1
Rapid Ring Role      : Disabled
Rapid Ring Port 1    : 25
Rapid Ring Port 2    : 26
Rapid Ring Port 1 State : Forwarding
Rapid Ring Port 2 State : Forwarding

SM24TBT2DPB# show rapid-ring
Entry Index          : 1
Rapid Ring Role      : Master
Rapid Ring Port 1    : 25
Rapid Ring Port 2    : 26
Rapid Ring Port 1 State : Discarding
Rapid Ring Port 2 State : Discarding

SM24TBT2DPB#
```


rmon

Display RMON statistics.

SYNTAX

```
show rmon alarm [ <id_list> ]
show rmon event [ <id_list> ]
show rmon history [ <id_list> ]
show rmon statistics [ <id_list> ]
```

Parameters

| | |
|------------------------|---|
| alarm | Display the RMON alarm table |
| event | Display the RMON event table |
| history | Display the RMON history table |
| statistics | Display the RMON statistics table |
| <1~65535> | Alarm/Event/History/Statistics entry list |

EXAMPLE

```
SM24TBT2DPA# show rmon event 1
```

```
Event ID : 1
```

```
-----
```

```
  Description      : one
  Type             : logandtrap
  Community        : public
  LastSent         : Never
```

```
SM24TBT2DPA# show rmon history
```

```
History ID : 1
```

```
-----
```

```
  Data Source       : .1.3.6.1.2.1.2.2.1.1.11
  Data Bucket Request : 50
  Data Bucket Granted : 50
  Data Interval     : 1800
```

```
SM24TBT2DPA#
```

```
SM24TBT2DPA# show rmon statistics 1
```

```
Statistics ID : 1
```

```
-----
```

```
Data Source : .1.3.6.1.2.1.2.2.1.1.1
etherStatsDropEvents      : 0
etherStatsOctets         : 0
etherStatsPkts           : 0
etherStatsBroadcastPkts  : 0
etherStatsMulticastPkts  : 0
etherStatsCRCAlignErrors : 0
etherStatsUndersizePkts  : 0
etherStatsOversizePkts   : 0
etherStatsFragments      : 0
etherStatsJabbers        : 0
etherStatsCollisions     : 0
etherStatsPkts64Octets   : 0
etherStatsPkts65to127Octets : 0
etherStatsPkts128to255Octets : 0
etherStatsPkts256to511Octets : 0
etherStatsPkts512to1023Octets : 0
etherStatsPkts1024to15180Octets: 0
SM24TBT2DPA#
```

running-config

Show running system information.

SYNTAX

```
show running-config [ all-defaults ]
show running-config feature <feature_name> [ all-defaults ]
show running-config interface ( <port_type> [ <list> ] ) [ all-defaults ]
show running-config interface vlan <list> [ all-defaults ]
show running-config line { console | vty } <list> [ all-defaults ]
show running-config vlan <list> [ all-defaults ]
```

Parameters

| | |
|---------------------|---|
| all-defaults | Include most/all default values |
| feature | Show configuration for specific feature |
| interface | Show specific interface(s) |
| line | Show line settings |
| vlan | VLAN |

CWORD Valid words are 'GVRP' 'access' 'access-list' 'activate' 'aggregation' 'arp-inspection' 'auth' 'broadcast-storm-protection' 'cli_telnet' 'clock' 'dhcp' 'dhcp-snooping' 'dhcp_server' 'dms server' 'dns' 'dot1x' 'green-ethernet' 'http' 'icli' 'ip-igmp-snooping' 'ip-igmp-snooping-port' 'ip-igmp-snooping-vlan' 'ipmc-profile' 'ipmc-profile-range' 'ipv4' 'ipv6' 'ipv6-mld-snooping' 'ipv6-mld-snooping-port' 'ipv6-mld-snooping-vlan' 'lacp' 'lldp' 'logging' 'loop-protect' 'mac' 'monitor' 'mstp' 'mvr' 'mvr-port' 'ntp' 'phy' 'poe' 'port' 'port-security' 'push_notification' 'pvlan' 'qos' 'rmon' 'sflow' 'smtp' 'snmp' 'source-guard' 'ssh' 'system' 'trap_event' 'upnp' 'user' 'vlan' 'voice-vlan' 'vtun' 'web' 'web-privilege-group-level'

| | |
|-------------------------------|--|
| <port_type > | GigabitEthernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |
| <vlan_list> | List of VLAN numbers |
| console | Console |
| vty | VTY |
| <range_list> | List of console/VTYs |

EXAMPLE

```
SM24TBT2DPA# show running-config
Building configuration...
enable secret 5 level 15 adminadmin
hostname SM24TBT2DPA
```

```
username admin privilege 15 password encrypted 5003cf1108a4b8ad3ad773ea99e921018
fba1a4aaf7fca1070c509a6f765b2f50614124a1bfcf8f5d3a0d71853f5cc16d6b7ce2ddba36dde1
e71b213cd444845
ip dhcp server per-port
!
vlan 1
!
!
!
snmp-server host BobB
!
mvr
ntp automatic
ntp interval 30
ntp server 1 ip-address 1.2.3.4
ntp server 2 ip-address time-a-g.nist.gov
tzidx 0
exec-timeout autologout 0
snmp-server trap
radius-server key encrypted a8ae00879ff20e729f827a150b01a2a54007cffc758c30f46a49
08fddf165d7fa9f8105fbec27193d036ebf5be3a0baee0cb0bfa40cddc7c9e7b8d1080e50ee6
radius-server attribute 4 192.168.1.3
radius-server host RadSrvr1 timeout 60 retransmit 350 key encrypted 996cd8e785af
8137672f36005e765fe5854c439cb918cd7d12c6a2e5975c0a9c1b2bfd4769976652cbfa56e99ec1
ac9a393f139036f34549a6cff5fb5a3b9079
system name SM24TBT2DPA
system description Managed Switch, 24-port Gigabit PoE++, 2-port SFP/RJ-45 Combo
!
interface GigabitEthernet 1/1
no spanning-tree
!
interface GigabitEthernet 1/2
no spanning-tree
poE mode force90w
poE priority critical
```

```
!  
interface GigabitEthernet 1/3  
  no spanning-tree  
!  
interface GigabitEthernet 1/4  
  no spanning-tree  
-- more --, next page: Space, continue: g, quit: ^C
```

sflow

Display Statistics flow information.

SYNTAX

```
show sflow statistics { receiver [ <rcvr_idx_list> ] | samplers [ interface [ <samplers_list> ] ( <port_type>
[ <v_port_type_list> ] ) ] }
```

Parameters

| | |
|-------------------------------|--|
| statistics | sFlow statistics. |
| receiver | Show statistics for receiver. |
| samplers | Show statistics for samplers. |
| <range_list> | runtime, see sflow_licl_functions.c |
| <port_type > | GigabitEthernet |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE 1

```
SM24TBT2DPA# show sflow
```

```
Agent Configuration:
```

```
=====
```

```
Agent Address: 127.0.0.1
```

```
Receiver Configuration:
```

```
=====
```

```
Owner      : <none>
```

```
Receiver   : 0.0.0.0
```

```
UDP Port   : 6343
```

```
Max. Datagram: 1400 bytes
```

```
Time left  : 0 seconds
```

```
No enabled collectors (receivers). Skipping displaying per-port info.
```

EXAMPLE 2

```

SM24TBT2DPA# show sflow statistics receiver
Tx Successes      Tx Errors      Flow Samples      Counter Samples
-----
                0                0                0                0
SM24TBT2DPA# show sflow statistics samplers

Per-Port Statistics:
=====

Interface          Rx Flow Samples  Tx Flow Samples  Counter Samples
-----
GigabitEthernet 1/1                0                0                0
GigabitEthernet 1/2                0                0                0
GigabitEthernet 1/3                0                0                0
GigabitEthernet 1/4                0                0                0
GigabitEthernet 1/5                0                0                0
GigabitEthernet 1/6                0                0                0
GigabitEthernet 1/7                0                0                0
GigabitEthernet 1/8                0                0                0
GigabitEthernet 1/9                0                0                0
GigabitEthernet 1/10               0                0                0
GigabitEthernet 1/11               0                0                0
GigabitEthernet 1/12               0                0                0
GigabitEthernet 1/13               0                0                0
GigabitEthernet 1/14               0                0                0
GigabitEthernet 1/15               0                0                0
GigabitEthernet 1/16               0                0                0
-- more --, next page: Space, continue: g, quit: ^C

```

smtp

Display SMTP email information.

SYNTAX

```
show smtp
smtp    Show email information
<cr>
```

EXAMPLE

```
SM24TBT2DPA# show smtp
Mail Server      : 192.168.1.77
User Name       : admin
Password        : *****
Sender          : 362-LRT
Return Path     : joes@lantronix.com
Email Adress 1  : jimt@ lantronix.com
Email Adress 2  :
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
SM24TBT2DPA#
```


snmp

Display SNMP configuration.

SYNTAX

```

show snmp
show snmp access [ <group_name> { v1 | v2c | v3 | any } { auth | noauth | priv } ]
show snmp community v3 [ <community> ]
show snmp host [ <conf_name> ] [ system ] [ switch ] [ interface ] [ aaa ]
show snmp info
show snmp mib context
show snmp mib ifmib ifIndex
show snmp security-to-group [ { v1 | v2c | v3 } <security_name> ]
show snmp user [ <username> <engineID> ]
show snmp view [ <view_name> <oid_subtree> ]

```

Parameters

| | |
|--------------------------|-----------------------------------|
| | Output modifiers |
| access | access configuration |
| community | Community |
| host | Set SNMP host's configurations |
| info | SNMP info |
| mib | MIB (Management Information Base) |
| security-to-group | security-to-group configuration |
| user | User |
| view | MIB view configuration |
| any | any security model |
| v1 | v1 security model |
| v2c | v2c security model |
| v3 | v3 security model |
| auth | authNoPriv Security Level |
| noauth | noAuthNoPriv Security Level |
| priv | authPriv Security Level |
| v3 | SNMPv3 |
| <Community : word127> | Specify community name |
| <GroupName : word32> | group name |
| <ConfName : word32> | Name of the host configuration |
| aaa | AAA event group |

| | |
|-------------------------|---------------------------------------|
| interface | Interface event group |
| switch | Switch event group |
| system | System event group |
| context | MIB context |
| ifmib | IF-MIB |
| ifIndex | The IfIndex that is defined in IF-MIB |
| <SecurityName : word32> | security group name |
| <Username : word32> | Security user name |
| <Engiedid : word10-32> | Security Engine ID |
| <ViewName : word32> | MIB view name |
| <OidSubtree : word255> | MIB view OID |

EXAMPLE 1

```

SM24TBT2DPA# show snmp user
User Name           : default_user
Engine ID           : 800007e5017f000001
Security Level      : NoAuth, NoPriv
Authentication Protocol : None
Privacy Protocol    : None
SM24TBT2DPA# show snmp info
SNMP Info:
EngineID: 800007e5017f000001
config.mk oid :1.3.6.1.4.1.5205.2.207, length:9
Using oid :1.3.6.1.4.1.868.2.75, length:9
Conf: EnterpriseId:868, SwitchId:2, ProductId:75, snmp-oid:868.2.75
SM24TBT2DPA# show snmp
SNMP Configuration
SNMP Mode           : enabled
SNMP Version        : 2c
Read Community      : public
Write Community     : private
Trap Mode           : disabled
Trap Version        : 1

SNMPv3 Communities Table:
Community           : public
Source IP           : 0.0.0.0

```

```
Source Mask : 0.0.0.0
```

```
Community   : private
```

```
Source IP   : 0.0.0.0
```

```
Source Mask : 0.0.0.0
```

```
SNMPv3 Users Table:
```

```
User Name           : default_user
```

```
Engine ID           : 800007e5017f000001
```

```
Security Level      : NoAuth, NoPriv
```

```
Authentication Protocol : None
```

```
Privacy Protocol    : None
```

```
SNMPv3 Groups Table;
```

```
Security Model : v1
```

```
Security Name  : public
```

```
Group Name     : default_ro_group
```

```
Security Model : v1
```

```
Security Name  : private
```

```
Group Name     : default_rw_group
```

```
Security Model : v2c
```

```
Security Name  : public
```

```
Group Name     : default_ro_group
```

```
Security Model : v2c
```

```
Security Name  : private
```

```
Group Name     : default_rw_group
```

```
Security Model : v3
```

```
-- more --, next page: Space, continue: g, quit: ^C
```

EXAMPLE 2

```
SM24TBT2DPA# show snmp mib context
BRIDGE-MIB :
  - dot1dBase (.1.3.6.1.2.1.17)
  - dot1dTp (.1.3.6.1.2.1.17.4)
ENTITY-MIB :
  - entityMIBObjects (.1.3.6.1.2.1.47.1)
EtherLike-MIB :
  - transmission (.1.3.6.1.2.1.10)
IEEE8021-MSTP-MIB :
  - ieee8021MstpMib (.1.3.111.2.802.1.1.6)
IEEE8021-PAE-MIB :
  - ieee8021paeMIB (.1.0.8802.1.1.1.1)
IEEE8023-LAG-MIB :
  - lagMIBObjects (.1.2.840.10006.300.43.1)
IF-MIB :
  - ifMIB (.1.3.6.1.2.1.31)
IP-FORWARD-MIB :
  - ipForward (.1.3.6.1.2.1.4.24)
IP-MIB :
  - ipv4InterfaceTable (.1.3.6.1.2.1.4.28)
  - ipv6InterfaceTable (.1.3.6.1.2.1.4.30)
  - ipTrafficStats (.1.3.6.1.2.1.4.31)
  - ipAddressTable (.1.3.6.1.2.1.4.34)
-- more --, next page: Space, continue: g, quit: ^C
```

```
M24TBT2DPA# show snmp mib ifmib ifIndex
```

| ifIndex | ifDescr | Interface |
|---------|--------------------|----------------------|
| 1 | Switch 1 - Port 1 | GigabitEthernet 1/1 |
| 2 | Switch 1 - Port 2 | GigabitEthernet 1/2 |
| ↓ | | |
| 25 | Switch 1 - Port 25 | GigabitEthernet 1/25 |
| 26 | Switch 1 - Port 26 | GigabitEthernet 1/26 |
| 50001 | VLAN 1 | vlan 1 |
| 60001 | IP Interface 1 | vlan 1 |

```
SM24TBT2DPA#
```

EXAMPLE 3

```
SM24TBT2DPB# show snmp info
```

```
SNMP Info:
```

```
Conf VendorName:TN, VENDOR_TN, PRODUCT:SM24TBT2DPB
```

```
EngineID: 800007e5017f000001
```

```
Using oid :1.3.6.1.4.1.868.2.77.6, length:10
```

```
SM24TBT2DPB#
```

spanning-tree

Show STP Bridge configuration.

SYNTAX

```
show spanning-tree [ summary | active | { interface ( <port_type> [ <v_port_type_list> ] ) } | { detailed [ interface
( <port_type> [ <v_port_type_list_1> ] ) } | { mst [ configuration | { <instance> [ interface ( <port_type>
[ <v_port_type_list_2> ] ) } ] } ] } ] }
```

Parameters

| | |
|-------------------------------|--|
| active | STP active interfaces |
| detailed | STP statistics |
| interface | Choose port |
| interface | List of port type and port ID, ex, 1/1-24 |
| mst | Configuration |
| summary | STP summary |
| * | All switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |
| interface | List of port type and port ID, ex, Fast 1/1 Gigabit 2/3-5 Gigabit 3/2-4 Tengigabit 4/6 |
| configuration | STP bridge instance number (0-7, CIST=0, MST2=1...) |
| <0-7> | Choose port |
| <port_type > | GigabitEthernet |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE 1

```
SM24TBT2DPA# show spanning-tree summary
```

```
Protocol Version: MSTP
Max Age          : 20
Forward Delay    : 15
Tx Hold Count    : 6
Max Hop Count    : 20
BPDU Filtering   : Disabled
BPDU Guard       : Disabled
Error Recovery   : Disabled
CIST Bridge is active
SM24TBT2DPA#
```

EXAMPLE 2

```

SM24TBT2DPA# show spanning-tree mst
CIST Bridge STP Status
Bridge ID      : 32768.00-C0-F2-49-38-6A
Root ID       : 32768.00-C0-F2-49-38-6A
Root Port     : -
Root PathCost: 0
Regional Root: 32768.00-C0-F2-49-38-6A
Int. PathCost: 0
Max Hops      : 20
TC Flag       : Steady
TC Count      : 59
TC Last       : 0d 05:36:22

Mst   Port      Port Role      State      Pri PathCost Edge P2P Uptime
-----
CIST  Gi 1/1      DesignatedPort Forwarding  128   20000 Yes  Yes 0d 02:58:15
CIST  Gi 1/25      BackupPort     Discarding  128   20000 No   Yes 0d 02:58:15
CIST  Gi 1/26      BackupPort     Discarding  128   20000 No   Yes 0d 02:58:15

SM24TBT2DPA# show spanning-tree
CIST Bridge STP Status
Bridge ID      : 32768.00-C0-F2-49-38-6A
Root ID       : 32768.00-C0-F2-49-38-6A
Root Port     : -
Root PathCost: 0
Regional Root: 32768.00-C0-F2-49-38-6A
Int. PathCost: 0
Max Hops      : 20
TC Flag       : Steady
TC Count      : 59
TC Last       : 0d 05:36:33

Port      Port Role      State      Pri PathCost Edge P2P Uptime
-----
Gi 1/1    DesignatedPort Forwarding  128   20000 Yes  Yes 0d 02:58:26
Gi 1/25    BackupPort     Discarding  128   20000 No   Yes 0d 02:58:26
Gi 1/26    BackupPort     Discarding  128   20000 No   Yes 0d 02:58:26

SM24TBT2DPA#

```

switchport

Display switching mode characteristics.

SYNTAX

```
show switchport forbidden [ { vlan <vid> } | { name <name> } ]
```

Parameters

| | |
|------------------------|--|
| forbidden | Lookup VLAN Forbidden port entry. |
| name | name - Show forbidden access for specific VLAN name. |
| vlan | vid - Show forbidden access for specific VLAN ID. |
| <vlan_id> | VLAN id |
| <word> | VLAN name |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPB# show switchport forbidden
VID  Interfaces
----  -
9    8
100  1
200  7
SM24TBT2DPB# show switchport forbidden vlan 100
VID  Interfaces
----  -
100  1
SM24TBT2DPB#
```

Messages:

Forbidden VLAN table is empty

system

Show system information.

SYNTAX

show system

show system cpu status

show system reboot

Parameters

cpu CPU

reboot Switch reboot scheduling

status Average load

EXAMPLE 1

```
SM24TBT2DPB# show system
Model Name                : SM24TBT2DPB
System Description        : Managed Switch, 24-port Gigabit PoE++, 2-
port SFP/RJ-45 Combo
Location                  :
Contact                   :
System Name               : SM24TBT2DPB
System Date               : 2024-05-14T14:16:21+00:00
System Uptime             : 5d 00:58:35
Bootloader Version        : v1.15g
Firmware Version          : VB6.64.0123 2024-05-14
PoE Firmware Version      : 200-352
Hardware Version          : v3.01
Mechanical Version        : v1.01
Serial Number             : A206122AR3300181
MAC Address               : 00-c0-f2-83-83-28
Memory                   : Total=70473 KBytes, Free=46804 KBytes,
Max=45699 KBytes
FLASH                     : 0x40000000-0x41ffffff, 512 x 0x10000 blocks
SM24TBT2DPB#
```

EXAMPLE 2

```
SM24TBT2DPA# show system cpu status
```

```
  Average load in 100 ms  : 32%
```

```
  Average load in   1 sec : 10%
```

```
  Average load in  10 sec : 11%
```

```
SM24TBT2DPA# show system reboot
```

```
Switch Reboot Mode: Enable
```

```
Switch Reboot Entry:
```

```
                Reboot Time
Week Day      HH : MM
-----      -
Monday        12 5
Tuesday       0 5
Wednesday     0 5
Thursday      0 5
Friday        4 5
Saturday      1 5
Sunday       18 5
```

```
SM24TBT2DPB#
```

tacacs-server

Show TACACS+ configuration.

SYNTAX

```
show tacacs-server [ | {begin | exclude | include } <LINE>
```

Parameters

| | |
|---------------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show tacacs-server
Global TACACS+ Server Timeout      : 5 seconds
Global TACACS+ Server Deadtime    : 0 minutes
Global TACACS+ Server Key         : cbc71a674ca5ed2e656449d68eadc2f55e18d5fac77
bee4d5d2011440d00a010081114cf301a74b1f2e9ff0047a445f19c74a7f33931cee87e96cca548e
33014
TACACS+ Server #1:
  Host name : TacSrvr1
  Port      : 49
  Timeout   : 60 seconds
  Key       : e7745aa968d0f9b7dd7674d1e7722af593ac21164b45c09e22659f2790ce2da59
e91ce899d23733ce4b31d0636d3fc15fdb6405f260f0234b584dde27de744dc
TACACS+ Server #2:
  Host name : TacSrvr2
  Port      : 49
  Timeout   : 45 seconds
  Key       : fd8a38dd7263e2bc09a330c1120a39e9216519b36ba04016db5e6263345fa60d9
eaf280813006b58c9f821a6875160a6bac033cfff933f65ae151576dcbbba39
SM24TBT2DPA#
```

Message: *No hosts configured!*

terminal

Show terminal configuration parameters.

SYNTAX

```
show terminal [ | {begin | exclude | include } <LINE>
```

Parameters

| | |
|----------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |

EXAMPLE

```
SM24TBT2DPA# show terminal
Line is vty 0.
  * You are at this line now.
  Alive from Telnet.
  Default privileged level is 2.
  Command line editing is disabled
  Display EXEC banner is enabled.
  Display Day banner is enabled.
  Terminal width is 80.
    length is 24.
    history size is 32.
    exec-timeout is 10 min 0 second.

  Current session privilege is 15.
  Elapsed time is 0 day 0 hour 4 min 31 sec.
  Idle time is 0 day 0 hour 0 min 0 sec.

SM24TBT2DPA#
```

upnp

Display Universal Plug and Play parameters.

SYNTAX

```
show upnp [ | {begin | exclude | include } <LINE>
```

Parameters

| | |
|---------------------|----------------------------------|
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show upnp
UPnP Mode           : Disabled
UPnP TTL            : 4
UPnP Advertising Duration : 100
SM24TBT2DPA# show upnp
UPnP Mode           : Enabled
UPnP TTL            : 5
UPnP Advertising Duration : 90
SM24TBT2DPA#
SM24TBT2DPB# show upnp
UPnP Mode           : Disabled
UPnP TTL            : 100
UPnP Advertising Duration : 86400
SM24TBT2DPB#
```

user-privilege

Display Users privilege configuration.

SYNTAX

```
show user priv
```

Parameters

```
user-privilege    Users privilege configuration
```

```
<cr>
```

EXAMPLE

```
SM24TBT2DPA# show user-privilege
username admin privilege 15 password encrypted YWRtaW4=
SM24TBT2DPA# show user-privilege
username admin privilege 15 password encrypted 5003cf1108a4b8ad3ad773ea99e921018
fba1a4aaf7fca1070c509a6f765b2f50614124a1bfcf8f5d3a0d71853f5cc16d6b7ce2ddba36dde1
e71b213cd444845
SM24TBT2DPA#
SM24TBT2DPB# show user-privilege
username admin privilege 15 password encrypted
98893c74dc11664ed475e58195a6fca713d3101b9e303d50c43ee3375da1d04bb808b3ad0cfa4aaaa74
77005fe2d2384ec2fd5b94181b365b3abdf7b65425e80
SM24TBT2DPB#
```

users

Display information about terminal lines.

SYNTAX

```
show users myself [| {begin | exclude | include } <LINE>
```

Parameters

| | |
|---------------------|----------------------------------|
| myself | Display information about mine |
| | Output modifiers |
| begin | Begin with the line that matches |
| exclude | Exclude lines that match |
| include | Include lines that match |
| <LINE> | String to match output lines |

EXAMPLE

```
SM24TBT2DPA# show users
Line is vty 0.
  * You are at this line now.
  Connection is from 192.168.1.99:58644 by Telnet.
  User name is admin.
  Privilege is 15.
  Elapsed time is 0 day 0 hour 12 min 1 sec.
  Idle time is 0 day 0 hour 0 min 0 sec.

SM24TBT2DPA#
SM24TBT2DPB# show users myself
Line is vty 0.
  * You are at this line now.
  Connection is from 192.168.1.75:53610 by SSH.
  User name is admin.
  Privilege is 15.
  Elapsed time is 0 day 22 hour 12 min 47 sec.
  Idle time is 0 day 0 hour 0 min 0 sec.

SM24TBT2DPB#
```

version

Show system hardware and software status.

SYNTAX

```
show version [ | {begin | exclude | include } <LINE>
```

Parameters

| Output modifiers

begin Begin with the line that matches

exclude Exclude lines that match

include Include lines that match

<LINE> String to match output lines

EXAMPLE

```
SM24TBT2DPB# show version
MEMORY           : Total=70473 KBytes, Free=46804 KBytes, Max=45699 KBytes
FLASH            : 0x40000000-0x41ffffff, 512 x 0x10000 blocks
MAC Address      : 00-c0-f2-83-83-28
Previous Restart : Warm

System Contact   :
System Name      : SM24TBT2DPB
System Location  :
System Time      : 2024-05-14T14:18:22+00:00
System Uptime    : 04:07:47

Active Image
-----
Image            : managed
Version          : SM24TBT2DPB (standalone) VB6.64.0123
Date             : 2023-09-19T16:02:35+08:00

Alternate Image
-----
Image            : managed.bk
Version          : SM24TBT2DPB (standalone) VB6.64.0101
Date             : 2023-08-28T19:04:14+08:00

SM24TBT2DPB#
```


vlan

Display VLAN parameters.

SYNTAX

```

show vlan [ id <vlan_list> | name <name> | brief ]
show vlan ip-subnet [ id <subnet_id> ]
show vlan mac [ address <mac_addr> ]
show vlan membership [ id <vlan_list> | name <name> ] [ combined | admin | nas | mvr | voice-vlan | mstp |
erps | vcl | evc | gvrp | forbidden | dms ]
show vlan protocol [ eth2 { <etype> | arp | ip | ipx | at } ] [ snap { <oui> | rfc-1042 | snap-8021h } <pid> ] [ llc
<dsap> <ssap> ]
show vlan status [ interface ( <port_type> [ <plist> ] ) ] [ combined | admin | nas | mvr | voice-vlan | mstp | erps |
vcl | evc | gvrp | all | conflicts ]

```

Parameters

| | |
|----------------|---|
| brief | VLAN summary information |
| id | VLAN status by VLAN id |
| ip-subnet | Show VLAN ip-subnet entries. |
| mac | Show VLAN MAC entries. |
| membership | VLAN membership |
| name | VLAN status by VLAN name |
| protocol | Protocol-based VLAN status |
| status | Show the VLANs configured for each interface. |
| id | Show a specific ip-subnet entry. |
| <1-128> | The specific ip-subnet to show. |
| address | Show a specific MAC entry. |
| <mac_ucast> | The specific MAC entry to show. |
| <vlan_list> | VLAN IDs 1-4095 |
| <vword32> | A VLAN name |
| protocol | Protocol-based VLAN status |
| eth2 | Ethernet protocol based VLAN status |
| <0x600-0xffff> | Ether Type(Range: 0x600 - 0xFFFF) |
| arp | Ether Type is ARP |
| ip | Ether Type is IP |
| ipx | Ether Type is IPX |
| at | Ether Type is AppleTalk |
| snap | SNAP-based VLAN status |

| | |
|-------------------------------|--|
| <0x0-0xfffff> | SNAP OUI (Range 0x000000 - 0FFFFFFF) |
| rfc_1042 | SNAP OUI is rfc_1042 |
| snap_8021h | SNAP OUI is 8021h |
| <0x0-0xffff> | PID (Range: 0x0 - 0FFFF) |
| llc | LLC-based VLAN status |
| <0x0-0xff> | DSAP (Range: 0x00 - 0xFF) |
| <0x0-0xff> | SSAP (Range: 0x00 - 0xFF) |
| admin | Show the VLANs configured by administrator. |
| combined | Show the VLANs configured by a combination. |
| dms | Show the VLANs configured by Device Management System. |
| forbidden | Show VLANs configurations that has forbidden |
| gvrp | Show the VLANs configured by GVRP |
| id | VLAN membership by VLAN id |
| conflicts | Show VLANs configurations that has conflicts. |
| gvrp | Show the VLANs configured by GVRP. |
| interface | Show the VLANs configured for a specific interface(s). |
| mstp | Show the VLANs configured by MSTP. |
| mvr | Show the VLANs configured by MVR. |
| nas | Show the VLANs configured by NAS. |
| voice-vlan | Show the VLANs configured by Voice VLAN. |
| interface | Show the VLANs configured for a specific interface(s). |
| <port_type > | GigabitEthernet |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-26 for Gigabit Ethernet |

EXAMPLE 1

```
SM24TBT2DPA# show vlan
```

```

VLAN Name                               Interfaces
-----
1    default                               Gi 1/1-26
SM24TBT2DPA#
```

EXAMPLE 2

```
SM24TBT2DPA# show vlan membership
VLAN Name                               User Type   Interfaces
---- -
1    default                               Admin       Gi 1/1-26
SM24TBT2DPA# show vlan membership voice-vlan
VLAN Name                               User Type   Interfaces
---- -
% No data exists for the selected user
SM24TBT2DPA#
```

EXAMPLE 3

```
SM24TBT2DPB# show vlan mac address 00-c0-f2-7c-58-77
Entry with MAC address 00-c0-f2-7c-58-77 not found
SM24TBT2DPB# show vlan brief
VLAN Name                               Interfaces
---- -
1    default                               Gi 1/1-26
2    VLAN0002                             Gi 1/7-8
3    VLAN0003                             Gi 1/7-8
4    VLAN0004                             Gi 1/7-8
5    VLAN0005                             Gi 1/7-8
6    VLAN0006                             Gi 1/7-8
7    VLAN0007                             Gi 1/7-8
8    VLAN0008                             Gi 1/7-8
9    VLAN0009                             Gi 1/7-8
10   VLAN0010                             Gi 1/7-8
100  VLAN0100                             Gi 1/7-8
200  VLAN0200                             Gi 1/7-8

SM24TBT2DPB# show vlan protocol llc 0x01 0x11
Entry not found
SM24TBT2DPB#
```

Messages: % No data exists for the selected user

voice

Show Voice VLAN attributes.

SYNTAX

```
show voice vlan [ oui <oui> | interface ( <port_type> [ <port_list> ] ) ]
```

Parameters

| | |
|-------------------------------|--|
| vlan | Vlan for voice traffic |
| interface | Select an interface to configure |
| oui | OUI configuration |
| <oui> | OUI value |
| <port_type> | * or Gigabit Ethernet |
| * | All Switches or All ports |
| Gigabit Ethernet | 1 Gigabit Ethernet Port |
| <port_type_list> | Port list in 1/1-24 for Gigabit Ethernet |

EXAMPLE

```
SM24TBT2DPB# show voice vlan
Switch voice vlan is enabled
Switch voice vlan ID is 100
Switch voice vlan aging-time is 5000 seconds
Switch voice vlan traffic class is 4

Telephony OUI  Description
-----  -----

Voice VLAN switchport is configured on following:

GigabitEthernet 1/1 :
-----
GigabitEthernet 1/1 switchport voice vlan mode is forced
GigabitEthernet 1/1 switchport voice security is enabled
GigabitEthernet 1/1 switchport voice discovery protocol is both

GigabitEthernet 1/2 :
-----
GigabitEthernet 1/2 switchport voice vlan mode is forced
GigabitEthernet 1/2 switchport voice security is enabled
GigabitEthernet 1/2 switchport voice discovery protocol is both

-- more --, next page: Space, continue: g, quit: ^C
```

web

Display web privileges.

SYNTAX

```
show web privilege group [ <group_name> ] level
```

Parameters

| | | | |
|------------------|---------------------------|------------------|----------------|
| privilege | Web privilege | | |
| group | Web privilege group | | |
| CWORD | Valid words are: | | |
| ACTIVATE | Aggregation | DHCP | DMS_client |
| DMS_server | Debug | Dhcp_Client | Diagnostics |
| EEE | GARP | GVRP | Green_Ethernet |
| IP2 | IPMC_Snooping | Install_Wizard | LACP |
| LLDP | Loop_Protect | MAC_Table | MVR |
| Maintenance | Mirroring | NTP | POE |
| PercepXion | Ports | Private_VLANs | QoS |
| RPC | R_RING | SMTP | Security |
| Spanning_Tree | System | TS_client | TS_server |
| Timer | Trap_Event | Trouble_Shooting | UPnP |
| VCL | VLANs | VTUN | Voice_VLAN |
| XXRP | cloud_management | level | sFlow |
| level | Web privilege group level | | |

EXAMPLE 1

```
SM24TBT2DPA# show web privilege group cloud_management level
Group Name          Privilege Level
                   CRO CRW SRO SRW
-----
cloud_management    5  10  5  10
SM24TBT2DPA# show web privilege group Install_Wizard level
Group Name          Privilege Level
                   CRO CRW SRO SRW
-----
Install_Wizard      5  10  5  10
```

EXAMPLE 2

```
SM24TBT2DPA# show web privilege group level
Group Name                Privilege Level
                          CRO CRW SRO SRW
-----
ACTIVATE                  5 10  5 10
Aggregation               5 10  5 10
BSC_Protection            5 10  5 10
cloud_management          5 10  5 10
Debug                     15 15 15 15
DHCP                      5 10  5 10
Dhcp_Client               5 10  5 10
Diagnostics                5 10  5 10
DMS_client                5 10  5 10
DMS_server                 5 10  5 10
EEE                       5 10  5 10
GARP                      5 10  5 10
Green_Ethernet            5 10  5 10
GVRP                      5 10  5 10
Install_Wizard            5 10  5 10
IP2                       5 10  5 10
IPMC_Snooping             5 10  5 10
LACP                      5 10  5 10
LLDP                      5 10  5 10
-- more --, next page: Space, continue: g, quit: ^C
```

18. Terminal Commands

Set terminal line parameters.

Syntax

terminal editing

terminal exec-timeout <min> [<sec>]

terminal help

terminal history size <history_size>

terminal length <lines>

terminal width <width>

Parameters

| | |
|----------------------------|---|
| editing | Enable command line editing |
| exec-timeout | Set the EXEC timeout |
| help | Description of the interactive help system |
| history | Control the command history function |
| length | Set number of lines on a screen |
| width | Set width of the display terminal |
| <0-1440> | Timeout in minutes |
| <0-3600> | Timeout in seconds |
| size | Set history buffer size |
| <0-32> | Number of history commands, 0 means disable |
| <0 or 3-512> | Number of lines on screen (0 for no pausing) |
| <0 or 40-512> | Number of characters on a screen line (0 for unlimited width) |

EXAMPLE

```
SM24TBT2DPA# terminal editing
SM24TBT2DPA# terminal exec-timeout 1440
SM24TBT2DPA#
```

19. IP Commands

IPv4 command.

Syntax

```
ip dhcp retry interface vlan <vlan_id>
```

Parameters

| | |
|------------------------|--------------------------------|
| dhcp | Dhcp command |
| retry | Restart the DHCP query process |
| interface | Interface |
| vlan | Vlan interface |
| <vlan_id> | Vlan ID |

EXAMPLE

```
SM24TBT2DPA# ip dhcp retry interface vlan 1
% Failed to restart DHCP client on VLAN = 1.
SM24TBT2DPA#
```


20. Interface Config Mode Commands

Interfaces:

| | |
|------------------|--|
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| vlan | VLAN interface configurations |
| <port_type_list> | Port list for all port types |
| <port_type_list> | Port list in 1/1-26 |
| <vlan_list> | List of VLAN interface numbers, 1~4095 |

Interface config mode commands:

| | |
|-------------------|---|
| access-list | Access list |
| aggregation | Create an aggregation |
| description | Up to 47 characters describing this interface |
| do | To run exec commands in config mode |
| dot1x | IEEE Standard for port-based Network Access Control |
| duplex | Interface duplex |
| end | Go back to EXEC mode |
| excessive-restart | Restart backoff algorithm after 16 collisions |
| exit | Exit from current mode |
| flowcontrol | Traffic flow control. |
| green-ethernet | Green ethernet (Power reduction) |
| gvrp | Enable GVRP on interface or interfaces |
| help | Description of the interactive help system |
| ip | Internet Protocol |
| ipv6 | IPv6 configuration commands |
| lacp | Enable LACP on this interface |
| lldp | LLDP configurations. |
| loop-protect | Loop protection configuration on port |
| mac | MAC keyword |
| mtu | Maximum transmission unit |
| mvr | Multicast VLAN Registration configuration |
| no | Negate a command or set its defaults |
| poe | Power Over Ethernet. |
| port-security | Enable/disable port security per interface. |
| pvlan | Private VLAN |

| | |
|---------------|---|
| qos | Quality of Service |
| rmon | Configure Remote Monitoring on an interface |
| sflow | Statistics flow. |
| shutdown | Shutdown of the interface. |
| spanning-tree | Spanning Tree protocol |
| speed | Configures interface speed. |
| switchport | Configure Switching mode characteristics. |

access-list

Configure Access list parameters.

Syntax

```

access-list action { permit | deny }
access-list logging
access-list mirror
access-list policy <policy_id>
access-list port-state
access-list rate-limiter <rate_limiter_id>
access-list shutdown
access-list { redirect | port-copy } interface { <port_type> <port_type_id> | (<port_type> [ <port_type_list> ] ) }

```

Parameters

| | |
|------------------------|---|
| action | Access list action |
| logging | Logging frame information. |
| mirror | Mirror frame to destination mirror port |
| policy | Policy |
| port-state | Re-enable shutdown port that was shutdown by access-list module |
| rate-limiter | Rate limiter |
| redirect | Redirect frame to specific port |
| shutdown | Shutdown incoming port. |
| deny | Deny action |
| permit | Permit action |
| <PolicyId : 0-255> | Policy ID |
| <RateLimiterId : 1-16> | Rate limiter ID |
| interface | Select an interface to configure |
| * | All switches or All ports |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| PORT_LIST | Port list for all port types |

EXAMPLE

```
SM24TBT2DPA(config-if)# access-list action permit
SM24TBT2DPA(config-if)# access-list action deny
SM24TBT2DPA(config-if)#
Username: admin
Password:
SM24TBT2DPA(config-if)# access-list logging
SM24TBT2DPA(config-if)# access-list mirror
SM24TBT2DPA(config-if)# access-list policy 0
SM24TBT2DPA(config-if)# access-list port-state
SM24TBT2DPA(config-if)# access-list rate-limiter 1
SM24TBT2DPA(config-if)#
```

aggregation

Create an aggregation.

Syntax

```
aggregation group <v_uint>
```

Parameters

| | |
|--------|-----------------------------|
| group | Create an aggregation group |
| <uint> | The aggregation group id |

EXAMPLE

```
SM24TBT2DPA(config-if)# aggregation group 1
SM24TBT2DPA(config-if)#
```

Messages: *The aggregation cannot include more than 16 ports*

description

Enter up to 47 characters describing this interface.

Syntax

```
description <port_descr>
```

Parameters

<line47>

EXAMPLE

```
SM24TBT2DPA(config-if)# description myline
SM24TBT2DPA(config-if)#
```

do

To run exec commands in Config mode.

Syntax

do <command>

Parameters

LINE Exec Command

<cr>

EXAMPLE

```
SM24TBT2DPA# do show vlan
VLAN  Name                               Interfaces
----  -
1     default                               Gi 1/1-26

SM24TBT2DPA# do show ip interface brief
Vlan Address                Method  Status
----  -
1 192.168.1.77/24        Manual  UP
SM24TBT2DPA#
```

dot1x

Configure IEEE Standard for port-based Network Access Control.

Syntax

dot1x guest-vlan

dot1x port-control { force-authorized | force-unauthorized | auto | single | multi | mac-based }

dot1x radius-qos

dot1x radius-vlan

dot1x re-authenticate

Parameters

| | |
|--------------------|--|
| guest-vlan | Enables/disables guest VLAN |
| port-control | Sets the port security state. |
| radius-qos | Enables/disables per-port state of RADIUS-assigned QoS. |
| radius-vlan | Enables/disables per-port state of RADIUS-assigned VLAN. |
| re-authenticate | Refresh (restart) 802.1X authentication process. |
| auto | Port-based 802.1X Authentication |
| force-authorized | Port access is allowed |
| force-unauthorized | Port access is not allowed |
| mac-based | Switch authenticates on behalf of the client |
| multi | Multiple Host 802.1X Authentication |
| single | Single Host 802.1X Authentication |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# dot1x guest-vlan
SM24TBT2DPA(config-if)# dot1x radius-qos
SM24TBT2DPA(config-if)# dot1x radius-vlan
SM24TBT2DPA(config-if)# dot1x re-authenticate
SM24TBT2DPA(config-if)#
```

duplex

Configure duplex mode for an interface.

Syntax

```
duplex { half | full | auto [ half | full ] }
```

Parameters

| | |
|--------------------|----------------------------------|
| duplex auto | Auto negotiation of duplex mode. |
| duplex full | Forced full duplex. |
| duplex half | Forced half duplex. |

EXAMPLE

```
SM24TBT2DPA(config-if)# duplex auto
SM24TBT2DPA(config-if)# duplex auto full
SM24TBT2DPA(config-if)# duplex half
GigabitEthernet 1/3 with current speed does not support half duplex, duplex changed to full duplex
SM24TBT2DPA(config-if)#
```

end

Go back to EXEC mode.

Syntax

```
end
```

Parameters

```
<cr>
```

EXAMPLE

```
SM24TBT2DPA(config-if)# end
SM24TBT2DPA#
```

excessive restarts

Syntax

excessive-restart

Parameters

excessive-restart Restart backoff algorithm after 16 collisions. (No excessive-restart means discard frame after 16 collisions).

<cr>

EXAMPLE

```
SM24TBT2DPA(config-if)# excessive-restart
SM24TBT2DPA(config-if)#
```

exit

Exit from current mode.

Syntax

end

Parameters

<cr>

EXAMPLE

```
SM24TBT2DPA# exit
```

```
Username:
```

```
Password:
```

flow control

Configure flow control for an interface.

Syntax

```
flowcontrol { on | off }
```

Parameters

- off** Disable flow control.
- on** Enable flow control.

EXAMPLE

```
SM24TBT2DPA(config-if)# flowcontrol off
SM24TBT2DPA(config-if)# flowcontrol on
SM24TBT2DPA(config-if)#
```

green-ethernet

Configure Green ethernet (Power reduction) for an interface.

Syntax

```
green-ethernet eee
green-ethernet eee urgent-queues [ <urgent_queue_range_list> ]
green-ethernet energy-detect
green-ethernet short-reach
```

Parameters

- eee** Powering down of PHYs when there is no traffic.
- energy-detect** Enable power saving for ports with no link partner.
- short-reach** Enable power saving for ports which is connect to link partner with short cable.
- urgent-queues** Enables EEE urgent queue. An urgent queue means that latency is kept to a minimum for traffic goin to that queue. Note: EEE power savings will be reduced.
- <range_list>** EEE Interface. Valid range is 1-8.

EXAMPLE

```
SM24TBT2DPA(config-if)# green-ethernet eee
GigabitEthernet 1/25 is not EEE capable. Skipping
GigabitEthernet 1/26 is not EEE capable. Skipping
SM24TBT2DPA(config-if)# green-ethernet energy-detect
SM24TBT2DPA(config-if)# green-ethernet short-reach
SM24TBT2DPA(config-if)# green-ethernet eee urgent-queues 1-4
SM24TBT2DPA(config-if)#
```


gvrp

Enable GVRP on interface or interfaces.

Syntax

gvrp

gvrp join-request vlan <v_vlan_list>

Parameters

join-request Emit a Join-Request for test purpose

vlan

<vlan_list> List of VLANs

EXAMPLE

```
SM24TBT2DPA(config-if)# gvrp join-request vlan 10
E xxrp 00:56:04 133/funktor_portvlan#247: Error: rc=-1
SM24TBT2DPA(config-if)#
```

help

Description of the interactive help system.

Syntax

See below.

Parameters

None.

EXAMPLE

```
SM24TBT2DPA(config-if)# help
Help may be requested at any point in a command by entering a question mark '?'.
If nothing matches, the help list will be empty and you must backup until entering
a '?' shows the available options. Two styles of help are provided:
1. Full help is available when you are ready to enter a command argument (e.g.
'show ?') and describes each possible argument.
2. Partial help is provided when an abbreviated argument is entered and you want to
know what arguments match the input (e.g. 'show pr?'.)

SM24TBT2DPA(config-if)#
```

ip

Configure Internet Protocol for an interface.

Syntax

```

ip arp inspection check-vlan
ip arp inspection logging { deny | permit | all }
ip arp inspection trust
ip dhcp snooping trust
ip igmp snooping filter <profile_name>
ip igmp snooping immediate-leave
ip igmp snooping max-groups <throttling>
ip igmp snooping mrouter
ip verify source
ip verify source limit <cnt_var>

```

Parameters

| | |
|------------------------|---|
| arp | Address Resolution Protocol |
| dhcp | Dynamic Host Configuration Protocol |
| igmp | Internet Group Management Protocol |
| verify | verify command |
| inspection | ARP inspection |
| check-vlan | ARP inspection VLAN mode config |
| logging | ARP inspection logging mode config |
| trust | ARP inspection trust config |
| all | log all entries |
| deny | log denied entries |
| permit | log permitted entries |
| filter | Access control on IGMP multicast group registration |
| immediate-leave | Immediate leave configuration |
| max-groups | IGMP group throttling configuration |
| mrouter | Multicast router port configuration |
| <ProfileName : word16> | Profile name in 16 char's |
| <Throttling : 1-10> | Maximun number of IGMP group registration |
| source | verify source |
| limit | limit command |
| <0-2> | the number of limit |

EXAMPLE

```
SM24TBT2DPA(config-if)# ip arp inspection check-vlan
SM24TBT2DPA(config-if)# ip arp inspection logging all
SM24TBT2DPA(config-if)# ip arp inspection trust
SM24TBT2DPA(config-if)#
SM24TBT2DPB(config-if)# ip igmp snooping filter IgmpProf1
% Please specify correct filter profile name.
SM24TBT2DPB(config-if)# ip igmp snooping immediate-leave
SM24TBT2DPB(config-if)# ip igmp snooping max-groups 1
SM24TBT2DPB(config-if)# ip igmp snooping mrouter
SM24TBT2DPB(config-if)# ip verify source limit 0
SM24TBT2DPB(config-if)#
```

ipv6

Configure IPv6 for an interface.

Syntax

```
ipv6 mld snooping filter <profile_name>
ipv6 mld snooping immediate-leave
ipv6 mld snooping max-groups <throttling>
ipv6 mld snooping mrouter
```

Parameters

| | |
|------------------------|--|
| mld | Multicasat Listener Discovery |
| snooping | Snooping MLD |
| filter | Access control on MLD multicast group registration |
| immediate-leave | Immediate leave configuration |
| max-groups | MLD group throttling configuration |
| mrouter | Multicast router port configuration |
| <ProfileName : word16> | Profile name in 16 characters |
| <Throttling : 1-10> | Maximun number of MLD group registration |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# ipv6 mld snooping
SM24TBT2DPA(config-if)# ipv6 mld snooping max 1
SM24TBT2DPA(config-if)# ipv6 mld snooping mrouter
SM24TBT2DPA(config-if)#
SM24TBT2DPB(config-if)# ipv6 mld snooping filter 1111
% Please specify correct filter profile name.
% Failed to set filtering profile 1111.
SM24TBT2DPB(config-if)# ipv6 mld snooping immediate-leave
SM24TBT2DPB(config-if)# ipv6 mld snooping max-groups 4
SM24TBT2DPB(config-if)#
```

lACP

Configure Enable LACP on this interface.

Syntax

lACP

lACP key { <v_1_to_65535> | auto }

lACP port-priority <v_1_to_65535>

lACP role { active | passive }

lACP timeout { fast | slow }

Parameters

| | |
|---------------|---|
| key | Key of the LACP aggregation |
| port-priority | LACP priority of the port |
| role | Active / Passive (speak if spoken to) role |
| timeout | The period between BPDU transmissions |
| <1-65535> | Key value |
| auto | Choose a key based on port speed |
| <1-65535> | Priority value, lower means higher priority |
| active | Transmit LACP BPDUs continuously |
| passive | Wait for neighbour LACP BPDUs before transmitting |
| fast | Transmit BPDU each second (fast timeout) |
| slow | Transmit BPDU each 30th second (slow timeout) |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# lACP key 1
SM24TBT2DPA(config-if)# lACP key auto
SM24TBT2DPA(config-if)# lACP
SM24TBT2DPA(config-if)# lACP port-priority 500
SM24TBT2DPA(config-if)# lACP role active
SM24TBT2DPA(config-if)# lACP role passive
SM24TBT2DPA(config-if)# lACP timeout fast
SM24TBT2DPA(config-if)# lACP timeout slow
SM24TBT2DPA(config-if)#
```

lldp

Configure LLDP parameters for an interface.

Syntax

lldp cdp-aware

lldp med media-vlan policy-list <v_range_list>

lldp med transmit-tlv [capabilities] [location] [network-policy]

lldp receive

lldp tlv-select { management-address | port-description | system-capabilities | system-description | system-name }

lldp transmit

Parameters

| | |
|-------------------------|---|
| cdp-aware | Sets the interface to CDP aware (CDP discovery info added to LLDP neighbor table) |
| med | Media Endpoint Discovery. |
| receive | Enable/Disable decoding of received LLDP frames. |
| tlv-select | Which optional TLVs to transmit. |
| transmit | Enable/Disabled transmission of LLDP frames. |
| media-vlan | Media VLAN assignment. |
| transmit-tlv | LLDP-MED Location Type Length Value parameter. |
| policy-list | Assignment of policies. |
| policies list e.g. 1,2, | Policies to assign to the interface. |
| management-address | Enable/Disable transmission of management address. |
| port-description | Enable/Disable transmission of port description. |
| system-description | Enable/Disable transmission of system description. |
| system-name | Enable/Disable transmission of system name. |
| capabilities | Enable transmission of the optional capabilities TLV. |
| location | Enable transmission of the optional location TLV. |
| network-policy | Enable transmission of the optional network-policy TLV. |

EXAMPLE

```
SM24TBT2DPA(config-if)# lldp cdp-aware
SM24TBT2DPA(config-if)# lldp med media-vlan policy-list 1
Ignoring policy 1 for port 15 because no such policy is defined
SM24TBT2DPA(config-if)# lldp receive
SM24TBT2DPA(config-if)# lldp tlv-select
SM24TBT2DPA(config-if)# lldp tlv-select management-address
SM24TBT2DPA(config-if)# lldp tlv-select port-description
SM24TBT2DPA(config-if)#
```

loop-protect

Configure Loop protection parameters on port.

Syntax

loop-protect

loop-protect action { [shutdown] [log] }*1

loop-protect tx-mode

Parameters

| | |
|----------|-------------------------|
| action | Action if loop detected |
| tx-mode | Actively generate PDUs |
| log | Generate log |
| shutdown | Shutdown port |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# loop-protect action log shutdown
SM24TBT2DPA(config-if)# loop-protect tx-mode
SM24TBT2DPA(config-if)#
```

mac

Configure MAC keyword for an interface.

Syntax

mac address-table learning [secure]

Parameters

| | |
|---------------|-------------------------|
| address-table | MAC table configuration |
| learning | Port learning mode |
| secure | Port Secure mode |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# mac address-table learning secure
SM24TBT2DPA(config-if)# mac address-table learning
SM24TBT2DPA(config-if)#
```

mtu

Configure Maximum transmission unit for an interface.

Syntax

```
mtu <max_length>
```

Parameters

1518-9600 Maximum frame size in bytes.

EXAMPLE

```
SM24TBT2DPA(config-if)# mtu 2000
SM24TBT2DPA(config-if)# mtu 1518
SM24TBT2DPA(config-if)# mtu 9600
SM24TBT2DPA(config-if)#
```

mvr

Multicast VLAN Registration configuration for an interface.

Syntax

```
mvr immediate-leave
```

```
mvr name <mvr_name> type { source | receiver }
```

```
mvr vlan <v_vlan_list> type { source | receiver }
```

Parameters

| | |
|--------------------|-------------------------------|
| immediate-leave | Immediate leave configuration |
| name | MVR multicast name |
| vlan | MVR multicast vlan |
| <MvrName : word16> | MVR multicast VLAN name |
| type | MVR port role configuration |
| receiver | MVR receiver port |
| source | MVR source port |
| <vlan_list> | MVR multicast VLAN list |

EXAMPLE

```
SM24TBT2DPA(config-if)# mvr name MvrVid1 type receiver
SM24TBT2DPA(config-if)# mvr name MvrVid1 type source
% Invalid MVR VLAN MvrVid1.    % Failed to set MVR port role.
SM24TBT2DPA(config-if)# mvr immediate-leave
SM24TBT2DPA(config-if)#
```


no

Negate a command or set its defaults for an interface.

Parameters

| | | | |
|---------------|-------------------|---------------|----------------|
| access-list | aggregation | description | dot1x |
| duplex | excessive-restart | flowcontrol | green-ethernet |
| gvrp | ip | ipv6 | lACP |
| lldp | loop-protect | mac | mtu |
| mvr | poE | port-security | pVlan |
| qos | rmon | sflow | shutdown |
| spanning-tree | speed | switchport | |

EXAMPLE

```
SM24TBT2DPA(config-if)# no description
SM24TBT2DPA(config-if)# no sflow
SM24TBT2DPA(config-if)#
```

poe

Configure PoE parameters on one or more interfaces ([before FW vB6.54.3494](#)).

Syntax

```

poe capacitor-detection
poe delay-mode
poe delay-time <v_0_to_300>
poe failure-action { nothing | reboot-Remote-PD }
poe interval-time <interval>
poe max-reboot-times <reboot>
poe mode { enable | disable | force | 2-pair | 4-pair }
poe ping-ip-addr <address>
poe ping-retry-time <retry>
poe port-profile name <entry_name>
poe power limit { <v_word9> }
poe priority { low | high | critical }
poe reboot-time <reboot>
poe startup-time <startuptime>

```

Parameters

| | |
|---------------------|---|
| capacitor-detection | Configure PoE port capacitor detection. |
| delay-mode | Configure PoE Power delay mode |
| delay-time | Setting power delay time from 0 to 300(sec). |
| failure-action | Configure PoE Auto Power Reset Failure Action. |
| interval-time | Configure PoE Auto Power Reset Interval Time. |
| max-reboot-times | Configure PoE Auto Power Reset Max Reboot Times. |
| <0-10> | Max. Reboot Times : 0 ~ 10 |
| mode | PoE mode. |
| 2-pair | Set mode to PoE 2-pair (Maximum power 30.0 W) |
| 4-pair | Set mode to PoE 4-pair (Maximum power 60.0 W) |
| disable | Set mode to PoE Disable |
| enable | Set mode to PoE Enable (Maximum power 90.0 W) |
| ping-ip-addr | Configure PoE Ping IP Address. |
| ping-retry-time | Configure PoE Auto Power Reset Retry Time. |
| port-profile | poes scheduling profile |
| power | Setting maximum power for port in allocation mode. |
| priority | Interface priority. |

| | |
|---------------------------|---|
| reboot-time | Configure PoE Auto Power Reset Reboot Time. |
| startup-time | Configure PoE Auto Power Reset Start up Time. |
| <0-300> | poe delay-time |
| nothing | Failure Action : Do Nothing. |
| reboot-Remote-PD | Failure Action : Reboot Remote PD. |
| <ipv4_addr> | Set PoE Ping IP Address. |
| name | poe scheduling profile name |
| <profile name : line32> | profile name, the name length is 32 |
| <profile name : line32> | Profile name, the name length is 32 |
| limit | The maximum power. |
| <Power in watts : option> | Maximum power for the interface (Class 4 PDs limited to 90W). |
| critical | Set priority to critical. |
| high | Set priority to high. |
| low | Set priority to low. |
| nothing | Failure Action : Nothing. |
| reboot-Remote-PD | Failure Action : Reboot Remote PD. |
| <Power in watts : option> | Maximum power for the interface (Class 4 PDs limited to 90W). |

EXAMPLE

```
SM24TBT2DPA(config-if)# poe capacitor-detection
SM24TBT2DPA(config-if)# poe delay-mode
SM24TBT2DPA(config-if)# poe delay-time 200
SM24TBT2DPA(config-if)# poe ping-ip-addr 192.168.1.30
SM24TBT2DPA(config-if)# poe mode enable
SM24TBT2DPA(config-if)# poe port-profile name sabado
SM24TBT2DPA(config-if)# poe power limit 80
SM24TBT2DPA(config-if)# poe priority critical
SM24TBT2DPA(config-if)#
```

Message:

Maximum allowed power (for the current mode) for GigabitEthernet 1/5 is limited to 90.0 W
W poe 01:49:55 132/poe_ikli_mode_conf#671: Warning: The Max Power is restriced to 60W.
W poe 01:50:42 132/poe_ikli_mode_conf#648: Warning: The Max Power is restriced to 30W.
% profile name does not exist.

poe

Configure Power Over Ethernet on an interface (FW vB6.54.3494 and above).

Syntax

poe delay-mode

poe delay-time <v_0_to_300>

poe failure-action { nothing | reboot-Remote-PD }

poe interval-time <interval>

poe legacy

poe lldp

poe max-reboot-times <reboot>

poe mode disable

poe mode { 4pair60w | 4pair90w }

poe mode { 8023bt90w | 8023bt60w | 8023bt30w | force90w | force60w }

poe ping-ip-addr <address>

poe ping-retry-time <retry>

poe port-profile name <entry_name>

poe priority { low | high | critical }

poe reboot-time <reboot>

poe startup-time <startuptime>

Parameters

| | |
|------------------|--|
| delay-mode | Configure PoE Power delay mode |
| delay-time | Setting power delay time from 0 to 300(sec). |
| failure-action | Configure PoE Auto Power Reset Failure Action. |
| interval-time | Configure PoE Auto Power Reset Interval Time. |
| legacy | Enable poe legacy functionality |
| lldp | Enable poe lldp functionality |
| max-reboot-times | Configure PoE Auto Power Reset Max Reboot Times. |
| mode | PoE mode. |
| ping-ip-addr | Configure PoE Ping IP Address. |
| ping-retry-time | Configure PoE Auto Power Reset Retry Time. |
| port-profile | poe scheduling profile |
| priority | Interface priority. |
| reboot-time | Configure PoE Auto Power Reset Reboot Time. |
| startup-time | Configure PoE Auto Power Reset Start up Time. |
| <0-300> | poe delay-time (sec.) |

| | |
|---------------------------|---|
| nothing | Failure Action : Nothing. |
| reboot-Remote-PD | Failure Action : Reboot Remote PD. |
| <10-120> | Interval Time : 10 ~ 120(sec). |
| <0-10> | Max. Reboot Times : 0 ~ 10 |
| 4pair60w | Set mode to 4-pair 60w |
| 4pair90w | Set mode to 4-pair 90w |
| 8023bt | Set mode to 802.3bt |
| disable | Set mode to Disable |
| <ipv4_addr> | Set PoE Ping IP Address. |
| <1-5> | Retry Time : 1 ~ 5. |
| name | poe scheduling profile name |
| <profile name : line32> | profile name, the name length is 32 |
| limit | The maximum power. |
| <Power in watts : option> | Maximum power for the interface (Class 4 PDs limited to 90W). |
| critical | Set priority to critical. |
| high | Set priority to high. |
| low | Set priority to low. |
| <3-120> | Reboot Time : 3 ~ 120(sec). |
| <30-600> | Start up Time : 30 ~ 600(sec). |

EXAMPLE

```

SM24TBT2DPA(config-if)# poe delay-mode
SM24TBT2DPA(config-if)# poe delay-time 200
SM24TBT2DPA(config-if)# poe failure-action reboot-Remote-PD
SM24TBT2DPA(config-if)# poe interval-time 45
SM24TBT2DPA(config-if)# poe legacy
SM24TBT2DPA(config-if)# poe lldp
SM24TBT2DPA(config-if)# poe max-reboot-times 4
SM24TBT2DPA(config-if)# poe ping-ip-addr 192.168.1.77
SM24TBT2DPA(config-if)# poe ping-retry-time 2
SM24TBT2DPA(config-if)# poe priority critical
SM24TBT2DPA(config-if)# poe reboot-time 15
SM24TBT2DPA(config-if)# poe startup-time 150
SM24TBT2DPA(config-if)# poe mode 8023bt
SM24TBT2DPA(config-if)#

```

Firmware Upgrade to FW vB6.54.3494

Once you upgrade the SM24TBT2DPA to FW vB6.54.3494, you can't fall back to the old FW version. This is because the FW upgrade includes a PoE FW upgrade to support the IEEE 802.3bt standard, so you can't downgrade to an old FW version.

PoE Mode setting between v6.54.3303 with v6.54.3476 (and newer)

| v6.54.3303 | vB6.54.3476 |
|-------------|-------------|
| Disabled | Disabled |
| Enabled (*) | 4pair90w |
| 4pair | 4pair60w |
| 2pair | 8023bt (*) |

Notes:

1. The PoE mode setting will be mapping according to the table above after firmware upgrade.
2. It's not allowed to downgrade to v6.54.3303 or older version after firmware upgrade to vB6.54.3476 or newer version
3. It's not allowed to swap firmware image when the back image is v6.54.3303 or older version.

poe mode

Set Power Over Ethernet Mode on an interface (at FW VB6.64.0031).

Syntax

poe mode disable

poe mode { 4pair60w | 4pair90w }

poe mode { 8023bt90w | 8023bt60w | 8023bt30w | force90w | force60w }

Parameters

4pair60w Set mode to 4-pair 60w

4pair90w Set mode to 4-pair 90w

8023bt30w Set mode to 802.3bt 30w

8023bt60w Set mode to 802.3bt 60w

8023bt90w Set mode to 802.3bt 90w

disable Set mode to Disable

force60w Set mode to force 60w. **Caution:** using PoE 'Force' mode to force the switch to send PoE to non-PoE devices can physically damage those devices.

force90w Set mode to force 90w. **Caution:** using PoE 'Force' mode to force the switch to send PoE to non-PoE devices can physically damage those devices.

EXAMPLE

```

SM24TBT2DPA(config-if)# poe mode force90w
GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
SM24TBT2DPA(config-if)# do show poe config
Primary Power Supply [W]      : 820
Port  Mode          Schedule          Priority  LLDP      Legacy
----  -
1     8023bt60w        Disable          Low       Enabled   Disabled
2     force90w         Disable          Critical  Enabled   Disabled
3     8023bt60w        Disable          Low       Enabled   Disabled
-- more --, next page: Space, continue: g, quit: ^C
23    8023bt30w        Disable          Low       Enabled   Enabled
24    8023bt30w        Disable          Low       Enabled   Enabled
GigabitEthernet 1/25 does not have PoE support
GigabitEthernet 1/26 does not have PoE support
SM24TBT2DPA(config-if)#

```

port security

Configure port security for an interface.

Syntax

```
port-security <cr>
port-security maximum { <v_1_to_1024> }
port-security sticky
port-security sticky <v_mac_addr> vlan <v_vlan_id>
port-security violation { protect | trap | trap-shutdown | shutdown }
```

Parameters

| | |
|--------------------------------|--|
| maximum | Maximum number of MAC addresses that can be learned on this set of interfaces. |
| sticky | Enable/disable port security sticky function per interface. |
| violation | The action involved with exceeding the limit. |
| <Number of addresses : 1-1024> | Number of addresses |
| <mac_addr> | 48 bit MAC address: xx:xx:xx:xx:xx:xx |
| vlan | VLAN keyword |
| <vlan_id> | VLAN IDs 1-4095 |
| protect | Don't do anything |
| shutdown | Shutdown the port |
| trap | Send an SNMP trap |
| trap-shutdown | Send an SNMP trap and shutdown the port |

EXAMPLE

```
SM24TBT2DPA(config-if)# port-security maximum 500
SM24TBT2DPA(config-if)# port-security sticky 00:11:22:33:44:55 vlan 10
SM24TBT2DPA(config-if)# port-security violation protect
SM24TBT2DPA(config-if)# port-security violation trap
SM24TBT2DPA(config-if)#
```


pvlan

Configure Private VLAN parameters.

Syntax

pvlan <pvlan_list>

pvlan isolation

Parameters

<range_list> List of PVLANS. Range is from 1 to 26.

isolation Port isolation

EXAMPLE

```

SM24TBT2DPA(config-if)# pvlan isolation
SM24TBT2DPA(config-if)# pvlan 1
SM24TBT2DPA(config-if)# do show pvlan
PVLAN ID  Ports
-----  -----
1         GigabitEthernet 1/1, GigabitEthernet 1/2, GigabitEthernet 1/3,
         GigabitEthernet 1/4, GigabitEthernet 1/5, GigabitEthernet 1/6,
         GigabitEthernet 1/7, GigabitEthernet 1/8, GigabitEthernet 1/9,
         GigabitEthernet 1/10, GigabitEthernet 1/11, GigabitEthernet 1/12,
         GigabitEthernet 1/13, GigabitEthernet 1/14, GigabitEthernet 1/15,
         GigabitEthernet 1/16, GigabitEthernet 1/17, GigabitEthernet 1/18,
         GigabitEthernet 1/19, GigabitEthernet 1/20, GigabitEthernet 1/21,
         GigabitEthernet 1/22, GigabitEthernet 1/23, GigabitEthernet 1/24,
         GigabitEthernet 1/25, GigabitEthernet 1/26

SM24TBT2DPA(config-if)# pvlan 9
SM24TBT2DPA(config-if)# do show pvlan
PVLAN ID  Ports
-----  -----
1         GigabitEthernet 1/1, GigabitEthernet 1/2, GigabitEthernet 1/3,
         GigabitEthernet 1/4, GigabitEthernet 1/5, GigabitEthernet 1/6,
         GigabitEthernet 1/7, GigabitEthernet 1/8, GigabitEthernet 1/9,
         GigabitEthernet 1/10, GigabitEthernet 1/11, GigabitEthernet 1/12,
         GigabitEthernet 1/13, GigabitEthernet 1/14, GigabitEthernet 1/15,
         GigabitEthernet 1/16, GigabitEthernet 1/17, GigabitEthernet 1/18,
         GigabitEthernet 1/19, GigabitEthernet 1/20, GigabitEthernet 1/21,

```

```
GigabitEthernet 1/22, GigabitEthernet 1/23, GigabitEthernet 1/24,  
GigabitEthernet 1/25, GigabitEthernet 1/26  
9 GigabitEthernet 1/3  
SM24TBT2DPA(config-if)# do show pvlan 9  
PVLAN ID Ports  
-----  
9 GigabitEthernet 1/3  
SM24TBT2DPA(config-if)#
```

Messages:

% Invalid PVLAN detected

qos

Configure Quality of Service for an interface.

Syntax

```

qos cos <cos>
qos dei <dei>
qos dpl <dpl>
qos dscp-classify { zero | selected | any }
qos dscp-remark { rewrite | remap | remap-dp }
qos dscp-translate
qos map cos-tag cos <cos> dpl <dpl> pcp <pcp> dei <dei>
qos map tag-cos pcp <pcp> dei <dei> cos <cos> dpl <dpl>
qos pcp <pcp>
qos policer <rate> [ kbps | mbps | fps | kfps ] [ flowcontrol ]
qos qce { [ addr { source | destination } ] [ key { double-tag | normal | ip-addr | mac-ip-addr } ] }*1
qos queue-shaper queue <queue> <rate> [ excess ]
qos shaper <rate> [ kbps | mbps ]
qos tag-remark { pcp <pcp> dei <dei> | mapped }
qos trust dscp
qos trust tag
qos wrr <w0> <w1> <w2> <w3> <w4> <w5>

```

Parameters

| | |
|----------------|---------------------------------------|
| cos | Class of service configuration |
| dei | Drop Eligible Indicator configuration |
| dpl | Drop precedence level configuration |
| dscp-classify | DSCP ingress classification |
| dscp-remark | DSCP egress remarking |
| dscp-translate | DSCP ingress translation |
| map | QoS Map/Table configuration |
| pcp | Priority Code Point configuration |
| policer | Policer configuration |
| qce | QoS Control Entry |
| queue-shaper | Queue shaper configuration |
| shaper | Shaper configuration |
| tag-remark | Tag remarking configuration |
| trust | Trust configuration |
| wrr | Weighted round robin configuration |

| | |
|----------------------|--|
| <Cos : 0-7> | Specific class of service |
| <Dei : 0-1> | Specific Drop Eligible Indicator |
| <Dpl : dpl> | Specific drop precedence level |
| any | Classify to new DSCP always |
| selected | Classify to new DSCP if classify is enabled for specific DSCP value in global dscp-classify map |
| zero | Classify to new DSCP if DSCP is 0 |
| remap | Rewrite DSCP field using classified DSCP and DPL=0 remapped through global dscp-egress-translation map |
| remap-dp | Rewrite DSCP field using classified DSCP and DPL remapped through global dscp-egress-translation map |
| rewrite | Rewrite DSCP field with classified DSCP value (no translation) |
| cos-tag | Map for cos to tag configuration |
| tag-cos | Map for tag to cos configuration |
| cos | Specify class of service |
| <Cos : 0~7> | Specific class of service or range |
| dpl | Specify drop precedence level |
| <Dpl : 0~1> | Specific drop precedence level or range |
| pcp | Specify PCP (Priority Code Point) |
| <Pcp : 0-7> | Specific PCP |
| dei | Specify DEI (Drop Eligible Indicator) |
| <Dei : 0-1> | Specific DEI |
| <Rate : uint> | Policer rate <100-3276700>(kbps) or <1-3276>(mbps) or <100-3276700>(fps) or <1-3276>(kfps). |
| flowcontrol | Rate is fps |
| fps | Unit is frames per second |
| kbps | Unit is kilobits per second (default) |
| kfps | Unit is kiloframes per second |
| mbps | Unit is Megabits per second |
| destination | Match DMAC and DIP |
| source | Match SMAC and SIP (default) |
| queue | Specify queue |
| <Queue : 0~7> | Specific queue or range |
| <Rate : 100-3276700> | Shaper rate in kbps |
| excess | Allow use of excess bandwidth |
| mapped | Used mapped values (cos,dpl -> pcp,dei) |

| | |
|-------------|---|
| pcp | Specify default PCP |
| <Pcp : 0-7> | Specific PCP |
| dei | Specify default DEI |
| <Dei : 0-1> | Specific DEI |
| dscp | DSCP value |
| tag | VLAN tag |
| 0-100 | queue <w0> <w1> <w2> <w3> <w4> <w5> for wrr |
| <cr> | |

EXAMPLE

```

SM24TBT2DPA(config-if)# qos cos 0
SM24TBT2DPA(config-if)# qos dei 0
SM24TBT2DPA(config-if)# qos dpl 1
SM24TBT2DPA(config-if)# qos dscp-classify any
SM24TBT2DPA(config-if)# qos dscp-classify selected
SM24TBT2DPA(config-if)# qos dscp-remark remap-dp
SM24TBT2DPA(config-if)# qos dscp-remark rewrite
SM24TBT2DPA(config-if)# qos dscp-translate
SM24TBT2DPA(config-if)# qos map cos-tag cos 1 dpl 0 pcp 0 dei 1
SM24TBT2DPA(config-if)# qos policer 500000 flowcontrol
SM24TBT2DPA(config-if)# qos qce addr destination
SM24TBT2DPA(config-if)# qos qce addr source
SM24TBT2DPA(config-if)# qos queue-shaper queue 0 6000 excess
SM24TBT2DPA(config-if)# qos tag-remark mapped
SM24TBT2DPA(config-if)# qos tag-remark pcp 0 dei 0
SM24TBT2DPA(config-if)# qos trust dscp
SM24TBT2DPA(config-if)# qos trust tag
SM24TBT2DPA(config-if)# qos wrr 30 40 50 60 70 80
SM24TBT2DPA(config-if)#

```

rmon

Configure Remote Monitoring on an interface.

Syntax

```
rmon collection history <id> [ buckets <buckets> ] [ interval <interval> ]
```

```
rmon collection stats <id>
```

Parameters

| | |
|------------|--|
| collection | Configure Remote Monitoring Collection on an interface |
| history | Configure history |
| stats | Configure statistics |
| <1-65535> | History entry ID |
| buckets | Requested buckets of intervals. Default is 50 buckets |
| interval | Interval to sample data for each bucket. Default is 1800 seconds |
| 1-65535> | Requested buckets of intervals |
| <1-3600> | Interval in seconds to sample data for each bucket |
| <1-65535> | Statistics entry ID |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# rmon collection history 1 buckets 5000 interval 450  
SM24TBT2DPA(config-if)# rmon collection stats 3000  
SM24TBT2DPA(config-if)#
```

sflow

Statistics flow.

Syntax

sflow [<sampler_idx_list>]

sflow counter-poll-interval [sampler <sampler_idx_list>] [<poll_interval>]

sflow max-sampling-size [sampler <sampler_idx_list>] [<max_sampling_size>]

sflow sampler-type [sampler <sampler_idx_list>] { rx | tx | all }

sflow sampling-rate [sampler <sampler_idx_list>] [<sampling_rate>]

Parameters

| | |
|-------------------------|--|
| counter-poll-interval | The interval - in seconds - between counter poller samples. |
| max-sampling-size | Specifies the maximum number of bytes to transmit per flow sample. |
| sampler-type | Specifies the types of flow sample. |
| sampling-rate | Specifies the statistical sampling rate. The sample rate is specified as N to sample 1/Nth of the packets in the monitored flows. There are no restrictions on the value, but the switch will adjust it to the closest possible sampling rate. |
| <PollInterval : 1-3600> | seconds |
| <14-200> | bytes |
| all | sampler type All |
| rx | sampler type RX |
| tx | sampler type TX |
| <1-4294967295> | Sampling rate |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# sflow counter-poll-interval 450
```

```
SM24TBT2DPA(config-if)# sflow max-sampling-size 50
```

```
SM24TBT2DPA(config-if)# sflow sampler tx
```

```
SM24TBT2DPA(config-if)# sflow sampling-rate 75000
```

Note: Sampling rate modified from 75000 to 4096 to cater for H/W limitations

```
SM24TBT2DPA(config-if)#
```

shut down

Shut down an interface.

Syntax

shutdown <cr>

Parameters

shutdown Shutdown of the interface.

<cr>

EXAMPLE

```
SM24TBT2DPA(config-if)# shutdown?
shutdown
SM24TBT2DPA(config-if)# shutdown
SM24TBT2DPA(config-if)#
```


spanning-tree

Configure Spanning Tree protocol for an interface.

Syntax

```

spanning-tree
spanning-tree auto-edge
spanning-tree bpdu-guard
spanning-tree edge
spanning-tree link-type { point-to-point | shared | auto }
spanning-tree mst <instance> cost { <cost> | auto }
spanning-tree mst <instance> port-priority <prio>
spanning-tree restricted-role
spanning-tree restricted-tcn
  
```

Parameters

| | |
|----------------------|---|
| auto-edge | Auto detect edge status |
| bpdu-guard | Enable/disable BPDU guard |
| edge | Edge port |
| link-type | Port link-type |
| mst | STP bridge instance |
| restricted-role | Port role is restricted (never root port) |
| restricted-tcn | Restrict topology change notifications |
| auto | Auto detect |
| point-to-point | Forced to point-to-point |
| shared | Forced to Shared |
| <Instance : 0-7> | instance 0-7 (CIST=0, MST2=1...) |
| cost | STP Cost of this port |
| port-priority | STP priority of this port |
| <Cost : 1-200000000> | Cost range |
| auto | Use auto cost |

EXAMPLE

```

SM24TBT2DPA(config-if)# spanning-tree auto-edge
SM24TBT2DPA(config-if)# spanning-tree bpdu-guard
SM24TBT2DPA(config-if)# spanning-tree edge
SM24TBT2DPA(config-if)# spanning-tree link-type auto
SM24TBT2DPA(config-if)# spanning-tree mst 0 cost 500000
SM24TBT2DPA(config-if)# spanning-tree restricted-role
  
```

speed

Configure speed for an interface.

Syntax

```
speed { 10g | 2500 | 1000 | 100 | 10 | 100fx | 100fx-ams | 1000x | 1000x-ams | sfp-auto-ams | auto { [ 10 ]
[ 100 ] [ 1000 ] } }
```

Parameters

speed Configures interface speed. If you use 10, 100, or 1000 keywords with the Auto keyword the port will only advertise the specified speeds.

| | |
|------|------------------|
| 10 | 10Mbps |
| 100 | 100Mbps |
| 1000 | 1Gbps |
| auto | Auto negotiation |

EXAMPLE

```
SM24TBT2DPA(config-if)# speed 1000
SM24TBT2DPA(config-if)# speed auto
SM24TBT2DPA(config-if)# speed auto 1000
SM24TBT2DPA(config-if)# speed auto 1000 100
SM24TBT2DPA(config-if)# speed 100fx-ams
                        ^
% Invalid word detected at '^' marker.

SM24TBT2DPA(config-if)# do show interface GigabitEthernet 1/3 status
Interface          Mode    Speed & Duplex  Flow Control  Max Frame  Excessive
Link
-----
GigabitEthernet 1/3  enabled Auto          disabled      9600       Discard
100fdx
SM24TBT2DPA(config-if)#
```

switchport

Configure Switching mode characteristics for an interface.

Syntax

```

switchport access vlan <pvid>
switchport forbidden vlan { add | remove } <vlan_list>
switchport hybrid acceptable-frame-type { all | tagged | untagged }
switchport hybrid allowed vlan { all | none | [ add | remove | except ] <vlan_list> }
switchport hybrid egress-tag { none | all [ except-native ] }
switchport hybrid ingress-filtering
switchport hybrid native vlan <pvid>
switchport hybrid port-type { unaware | c-port | s-port | s-custom-port }
switchport mode { access | trunk | hybrid }
switchport trunk allowed vlan { all | none | [ add | remove | except ] <vlan_list> }
switchport trunk native vlan <pvid>
switchport trunk vlan tag native
switchport vlan ip-subnet id <vce_id> <ipv4> vlan <vid>
switchport vlan mac <mac_addr> vlan <vid>
switchport vlan protocol group <grp_id> vlan <vid>
switchport voice vlan discovery-protocol { oui | lldp | both }
switchport voice vlan mode { auto | force | disable }
switchport voice vlan security

```

Parameters

| | |
|-----------------------|--|
| access | Set access mode characteristics of the interface |
| forbidden | Adds or removes forbidden VLANs from the current list of forbidden VLANs |
| hybrid | Change PVID for hybrid port |
| mode | Set mode of the interface |
| trunk | Change PVID for trunk port |
| vlan | VLAN commands |
| voice | Voice appliance attributes |
| <vlan_id> | VLAN ID of the VLAN when this port is in access mode |
| vlan | Add or modify VLAN entry in forbidden table. |
| add | Add to existing list. |
| remove | Remove from existing list. |
| <vlan_list> | VLAN IDs - add or remove – forbidden |
| acceptable-frame-type | Set acceptable frame type on a port |

| | |
|--------------------|---|
| allowed | Set allowed VLAN characteristics when interface is in hybrid mode |
| egress-tag | Egress VLAN tagging configuration |
| ingress-filtering | VLAN Ingress filter configuration |
| native | Set native VLAN |
| port-type | Set port type |
| access | Set mode to ACCESS unconditionally |
| hybrid | Set mode to HYBRID unconditionally |
| trunk | Set mode to TRUNK unconditionally |
| allowed | Set allowed VLAN characteristics when interface is in trunk mode |
| native | Set native VLAN |
| vlan | Vlan commands |
| ip-subnet | VCL IP Subnet-based VLAN configuration. |
| mac | MAC-based VLAN commands |
| protocol | Protocol-based VLAN commands |
| vlan | Vlan for voice traffic |
| discovery-protocol | Set Voice VLAN port discovery protocol |
| mode | Set Voice VLAN port mode |
| security | Enable Voice VLAN port security mode |
| id | id keyword |
| <1-128> | Unique VCE ID for each VCL entry (1-128) |
| <ipv4_subnet> | Source IP address and mask (Format: xx.xx.xx.xx/mm.mm.mm.mm). |
| group | Protocol-based VLAN group commands |
| <word16> | Group Name (Range: 1 - 16 characters) |
| vlan | vlan keyword |
| <vlan_id> | VLAN ID required for the group to VLAN mapping (Range: 1-4095) |
| vlan | Vlan for voice traffic |
| discovery-protocol | Set Voice VLAN port discovery protocol |
| mode | Set Voice VLAN port mode |
| security | Enable Voice VLAN port security mode |
| both | Detect telephony device by OUI address and LLDP |
| lldp | Detect telephony device by LLDP |
| oui | Detect telephony device by OUI address |
| auto | Enable auto detect mode |
| disable | disjoin Voice VLAN |
| force | Force to join Voice VLAN |
| <cr> | |

EXAMPLE

```
SM24TBT2DPA(config-if)# switchport access vlan 10  
SM24TBT2DPA(config-if)# switchport forbidden vlan add 100  
SM24TBT2DPA(config-if)# switchport forbidden vlan remove 100  
SM24TBT2DPA(config-if)# switchport hybrid acceptable-frame-type all  
SM24TBT2DPA(config-if)# switchport mode access  
SM24TBT2DPA(config-if)# switchport trunk native vlan 10  
SM24TBT2DPA(config-if)# switchport vlan protocol group 1 vlan 100  
SM24TBT2DPA(config-if)# switchport voice vlan security  
SM24TBT2DPA(config-if)# switchport voice vlan discovery-protocol oui  
SM24TBT2DPA(config-if)#
```

VLAN Interface Configuration

Syntax

do <command>

end

exit

help

ip address { { <address> <netmask> } | { dhcp [fallback <fallback_address> <fallback_netmask> [timeout <fallback_timeout>]] } }

ip dhcp server

ip dhcp server disable

ip igmp snooping

ip igmp snooping compatibility { auto | v1 | v2 | v3 }

ip igmp snooping last-member-query-interval <ipmc_lmqi>

ip igmp snooping priority <cos_priority>

ip igmp snooping querier { election | address <v_ipv4_ucast> }

ip igmp snooping query-interval <ipmc_qi>

ip igmp snooping query-max-response-time <ipmc_qri>

ip igmp snooping robustness-variable <ipmc_rv>

ip igmp snooping unsolicited-report-interval <ipmc_uri>

ipv6 address <subnet>

ipv6 mld snooping

ipv6 mld snooping compatibility { auto | v1 | v2 }

ipv6 mld snooping last-member-query-interval <ipmc_lmqi>

ipv6 mld snooping priority <cos_priority>

ipv6 mld snooping querier election

ipv6 mld snooping query-interval <ipmc_qi>

ipv6 mld snooping query-max-response-time <ipmc_qri>

ipv6 mld snooping robustness-variable <ipmc_rv>

ipv6 mld snooping unsolicited-report-interval <ipmc_uri>

no ip address

no ip dhcp server

no ip igmp snooping

no ip igmp snooping compatibility

no ip igmp snooping last-member-query-interval

no ip igmp snooping priority

```

no ip igmp snooping querier { election | address }
no ip igmp snooping query-interval
no ip igmp snooping query-max-response-time
no ip igmp snooping robustness-variable
no ip igmp snooping unsolicited-report-interval
no ipv6 address [ <ipv6_subnet> ]
no ipv6 mld snooping
no ipv6 mld snooping compatibility
no ipv6 mld snooping last-member-query-interval
no ipv6 mld snooping priority
no ipv6 mld snooping querier election
no ipv6 mld snooping query-interval
no ipv6 mld snooping query-max-response-time
no ipv6 mld snooping robustness-variable
no ipv6 mld snooping unsolicited-report-interval

```

Parameters

| | |
|----------------------------|---|
| <vlan_list> | List of VLAN interface numbers, 1~4095 |
| do | To run exec commands in config mode |
| end | Go back to EXEC mode |
| exit | Exit from current mode |
| help | Description of the interactive help system |
| ip | Interface Internet Protocol config commands |
| ipv6 | IPv6 configuration commands |
| no | Negate a command or set its defaults |
| address | Address configuraton |
| dhcp | Configure DHCP server parameters |
| igmp | Internet Group Management Protocol |
| snooping | Snooping IGMP |
| compatibility | Interface compatibility |
| last-member-query-interval | Last Member Query Interval in tenths of seconds |
| priority | Interface CoS priority |
| querier | IGMP Querier configuration |
| query-interval | Query Interval in seconds |
| query-max-response-time | Query Response Interval in tenths of seconds |
| robustness-variable | Robustness Variable (RV) |

| | |
|-----------------------------|--|
| unsolicited-report-interval | Unsolicited Report Interval in seconds |
| address | Configure the IPv6 address of an interface |
| mld | Multicast Listener Discovery |
| X:X:X:X::X/<0-128> | IPv6 prefix x:x::y/z |
| snooping | Snooping MLD |
| <ipv4_addr> | IP address |
| dhcp | Enable DHCP client |
| <ipv4_netmask> | IP netmask |
| fallback | DHCP fallback settings |
| <ipv4_addr> | DHCP fallback address |
| <ipv4_netmask> | DHCP fallback netmask |
| timeout | DHCP fallback timeout |
| seconds | DHCP fallback timeout in seconds. Legal values are 0 to 4294967295 seconds |
| auto | Compatible with IGMPv1/IGMPv2/IGMPv3 |
| v1 | Forced IGMPv1 |
| v2 | Forced IGMPv2 |
| v3 | Forced IGMPv3 |
| <IpmcLmqi : 0-31744> | 0 - 31744 tenths of seconds |
| <CosPriority : 0-7> | CoS priority ranges from 0 to 7 |
| address | IGMP Querier address configuration |
| election | Act as an IGMP Querier to join Querier-Election |
| <ipv4_ucast> | A valid IPv4 unicast address |
| <IpmcQi : 1-31744> | 1 - 31744 seconds |
| <IpmcQri : 0-31744> | 0 - 31744 tenths of seconds |
| <IpmcRv : 1-255> | Packet loss tolerance count from 1 to 255 |
| <IpmcUri : 0-31744> | 0 - 31744 seconds |
| auto | Compatible with MLDv1/MLDv2 |
| v1 | Forced MLDv1 |
| v2 | Forced MLDv2 |

EXAMPLE

```
SM24TBT2DPA(config-if-vlan)# ip dhcp server
SM24TBT2DPA(config-if-vlan)# ip address 1.2.3.4 255.255.255.0
SM24TBT2DPA(config-if-vlan)# ip address dhcp fallback 2.4.6.8 255.255.255.0 timeout
90000
SM24TBT2DPA(config-if-vlan)#
```


21. Traceroute Commands

Configure Traceroute parameters.

SYNTAX

```
traceroute ip <v_ip_addr> [ protocol { icmp | udp | tcp } ] [ wait <v_wait_time> ] [ ttl <v_max_ttl> ] [ nqueries <v_nqueries> ]
```

Parameters

| | |
|---------------------------------|--|
| ip | IP |
| <word1-255> | destination address |
| nqueries | Specify number of probe packets |
| protocol | Specify protocol including icmp, udp and tcp |
| ttl | Specify max TTL |
| wait | Specify wait time |
| <nqueries : 1-10> | 1-10; Default is 3 |
| icmp | icmp/udp/tcp; Default is icmp |
| tcp | Use TCP |
| udp | Use UDP |
| <max_ttl : 1-255> | 1-255; Default is 30 |
| <wait_time : 1-60> | 1-60 seconds; default is 5 seconds |

EXAMPLE

```
SM24TBT2DPA# traceroute ip 192.168.1.77  
traceroute to 192.168.1.77 (192.168.1.77), 30 hops max, 140 byte packets  
1 192.168.1.77 (192.168.1.77) 0 ms 0 ms 0 ms  
SM24TBT2DPA#
```

22. Cable Diagnostic Commands

The Cable Diagnostic command is used for running the Cable Diagnostics for 10/100 and 1G copper ports. This will take about 5-20 seconds. When completed, you can view the cable diagnostics results for the selected interface in the cable status table. Parameters reported are Link Status, Test Result, and Length. Note that Cable Diagnostic is only accurate for cables of length 7 - 120 meters with 5-meter accuracy. The 10 and 100 Mbps ports will be linked down while running Cable Diagnostics. So running Cable Diagnostics on a 10 or 100 Mbps management port will cause the switch to stop responding until Cable Diagnostics is complete.

SYNTAX

CableDiag interface <port_type> <port_type_id>

Parameters

| | |
|-----------------|--------------------------|
| CableDiag | Cable Diagnostic keyword |
| interface | Interface keyword |
| GigabitEthernet | 1 Gigabit Ethernet Port |
| <port_type_id> | Port ID in 1/1-26 |

EXAMPLE

```
SM24TBT2DPA# CableDiag interface GigabitEthernet 1/1
Starting Cable Diagnostic - Please wait
Interface          Link Status   Test Result   Length
-----
GigabitEthernet 1/1  1G           detect error or check cable length is between 7-120 meters
SM24TBT2DPA# CableDiag interface GigabitEthernet 1/2
Starting Cable Diagnostic - Please wait
Interface          Link Status   Test Result   Length
-----
GigabitEthernet 1/2  Link Down    Abnormal      3(m)
SM24TBT2DPA#
```

Test Result Parameters

Link Status : The status of the cable:

10M : Cable is link up and correct. Speed is 10Mbps

100M : Cable is link up and correct. Speed is 100Mbps

1G : Cable is link up and correct. Speed is 1Gbps

Link Down : Link down or cable is not correct.

Test Result : Test Result of the cable:

OK : Correctly terminated pair

Abnormal : Incorrectly terminated pair or link down

Length : The length (in meters) of the cable pair. The resolution is 3 meters. When Link Status is shown as follows, the length has different definition.

1G : The length is the minimum value of 4-pair.

10M/100M : The length is the minimum value of 2-pair.

Link Down : The length is the minimum value of non-zero of 4-pair.

23. Configure DHCP per Port

You can configure DHCP Per Port via the CLI and Web UI. The DHCP Per Port factory default mode is Disabled. See the *SM24TBT2DPA Web User Guide* for web UI operation.

The switch's DHCP server assigns IP addresses. Clients get IP addresses in sequence and the switch assigns IP addresses to on a per-port basis starting from the configured IP range. For example, if the IP address range is configured as 192.168.10.20 - 192.168.10.37 with one DHCP device connected to port 1, the client will always get IP address 192.168.10.20, then port 3 is always distributed IP address 192.168.10.22, even if port 2 is an empty port (because port 2 is always distributed IP address 192.168.10.21).

The switch does not allow a DHCP per Port pool to include the switch's address.

IP address assigned range and VLAN 1 should stay in the same subnet mask.

The configurable IP address range is allowed to configure over 18 IP addresses, but the switch always assigns one IP address per port connecting device.

When the DHCP Per Port function is enabled, the switch software will automatically create the related DHCP pool named "DHCP_Per_Port".

Once the DHCP Per Port function is enabled on one switch, IPv4 DHCP client at VLAN1 mode (DMS DHCP mode), DHCP server mode are all limited to be enabled at the same time (an error message displays if attempted).

If the DHCP server pool has been configured, once you enable the DHCP Per port function that DHCP server pool configuration will be overwritten.

Only for VLAN 1, clients issued DHCP packets will not be broadcast/forwarded to other ports. DHCP packets in others VLANs will be broadcast/forwarded to others ports.

The DHCP Per Port function allows the switch to connect only one DHCP client device.

The DHCP Per Port function is configured and shown using these CLI commands:

```
# show ip dhcp server
(config)# ip dhcp server per-port
(config)# no ip dhcp server per-port
```

The CLI commands to configure and show DHCP Per Port are described below.

Command: Show the current DHCP Server and DHCP Per Port configuration

Syntax: **show ip dhcp server** <cr>

Description: Show if DHCP server is globally enabled or disabled, if all VLANs are disabled or enabled, and if the DHCP server Per Port function is disabled or enabled.

Example: Display the current DHCP Server and Per Port configuration, change the config, and display the results:

```
SM24TBT2DPA(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is disabled.

SM24TBT2DPA(config)# ip dhcp server per-port
SM24TBT2DPA(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is enabled.

SM24TBT2DPA(config)# no ip dhcp server per-port
SM24TBT2DPA(config)# do show ip dhcp server

DHCP server is globally enabled.
  Enabled VLANs are 1.
  DHCP server per port is disabled.

SM24TBT2DPA(config)#
```

```
SM24TBT2DPA# show ip dhcp pool ?
|      Output modifiers
WORD   Pool name in 32 characters
<cr>

SM24TBT2DPA# show ip dhcp pool DHCP_Per_Port

Pool Name: DHCP_Per_Port
-----

Type is network
IP or IP Start is 192.168.1.0
Subnet mask or IP End is 255.255.255.0
Subnet broadcast address is -
Lease time is 100 days 0 hours 0 minutes
Default router is 192.168.1.254
Domain name is -
DNS server is 8.8.8.8
TFTP server is -
Boot file is -
NTP server is -
Netbios name server is -
Netbios node type is -
Netbios scope identifier is -
NIS domain name is -
NIS server is -
Vendor class information is -
Client identifier is -
Hardware address is -
Client name is -

SM24TBT2DPA#
```

Command: Configure the DHCP per Port function

Syntax: `ip dhcp server per-port <cr>`

Description: Toggle the DHCP Per Port function from Disabled (default) to Enabled.

Example: Toggle the DHCP Per Port function and show the resulting config:

```
SM24TBT2DPA# show ip dhcp server
DHCP server is globally disabled.
  All VLANs are disabled.

SM24TBT2DPA# con ter

SM24TBT2DPA(config)# ip dhcp ?
  excluded-address  Prevent DHCP from assigning certain addresses
  pool              Configure DHCP address pools
  relay             DHCP relay agent configuration
  server            Enable DHCP server
  snooping          DHCP snooping

SM24TBT2DPA(config)# ip dhcp server ?
  <cr>

SM24TBT2DPA(config)# ip dhcp server
SM24TBT2DPA(config)# end

SM24TBT2DPA# show ip dhcp server

DHCP server is globally enabled.
  All VLANs are disabled.

SM24TBT2DPA#
```

23-1 DHCP IP per Port

The SM24TBT2DPB supports the DHCP IP Per Port function. It lets you have an IP address from a DHCP pool on a switch be statically assigned to a switchport, such that whichever device plugs into the switchport it will always be assigned that specific IP address. The IP address is configured in the interface config settings.

Note that this is binding an IP address to an interface, not to a MAC address, which is the classic binding technique found on most switches.

23-1.1 DHCP Per Port VLAN Command

Command: `ip dhcp server per-port`

Description: Set DHCP per port VLAN (the VLAN associated with the IP interface). Only ports in this VLAN will be able to access the IP interface. This command is only available for input when creating a new interface. Added at FW v 8.50.0079.

Mode: Config mode

Syntax: `ip dhcp server per-port [vlan { <portVLAN> }]`

Parameters:

| | |
|------------------------------|-------------------------------|
| <code>per-port</code> | Enable DHCP server per port |
| <code>vlan</code> | DHCP server per port VLAN |
| <code><vlan_id></code> | Set DHCP server per port VLAN |

Example:

```
SM24TBT2DPB(config)# ip dhcp server per-port vlan 10
% Failed to create interface vlan 10
SM48TAT4XA-RP(config)# ip dhcp server per-port vlan 1
SM48TAT4XA-RP(config)# do show ip dhcp vlan 10

VLAN: 10
-----
Mode:          Disabled
Type:          Network
IP Range:      0.0.0.0 - 0.0.0.0
Lease Time:    86400
Subnet Mask:   0.0.0.0
Default Router: 0.0.0.0
DNS Server:    0.0.0.0
-----
SM24TBT2DPB(config)# do show ip dhcp vlan 1
```



```
VLAN: 1
-----
Mode:          Disabled
Type:          Network
IP Range:      0.0.0.0 - 0.0.0.0
Lease Time:    86400
Subnet Mask:   0.0.0.0
Default Router: 0.0.0.0
DNS Server:    0.0.0.0
-----
SM24TBT2DPB(config)#
```

Appendix A. Service, Warranty & Tech Support

See the *SM24TBT2DPA Install Guide* or the *SM24TBT2DPB Install Guide* for related information.

Appendix B. Compliance Information

See the *SM24TBT2DPA Install Guide* or the *SM24TBT2DPB Install Guide* for related information.

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