Managed Industrial Ethernet Switch

CLI User Manual

Version: 01

Issue Date: 2019-11-26

Preface

Managed Industrial Ethernet Switch CLI User Manual has introduced the following function of this series of switches:

- Command line configuration

Readers

This manual mainly suits for engineers as follows:

- Network administrator responsible for network configuration and maintenance
- On-site technical support and maintenance staff
- Hardware engineer

Text Format Convention

Format	Description
“”	Words with "" represent the interface words. e.g.: "The port number".
>	Multi-level path is separated by ">". Such as opening the local connection path description: Open "Control Panel> Network Connection> Local Area Connection".
Light Blue Font	Represent the words click to achieve hyperlink. Font color as: "Light blue".
About This Chapter	The "About This Chapter" section provides links to each section and corresponding principles / operating chapters in this chapter.

Icon Convention

Format	Description
 Notice	Reminder the announcements in the operation, improper operation may result in data loss or equipment damage.
 Warning	Pay attention to the notes on the mark, improper operation may cause personal injury.

Format	Description
 Note	Make a necessary supplementary instruction for operation description.
 Key	Configuration, operation, or tips for device usage.
 Tips	Pay attention to the operation or information to ensure success device configuration or normal working.

Port numbering in examples

The port numbers in this document are for illustration only and might be unavailable on your device.

Revision Record

Version NO.	Revision Date	Revision Description
01	2019-11-26	Product release

Content

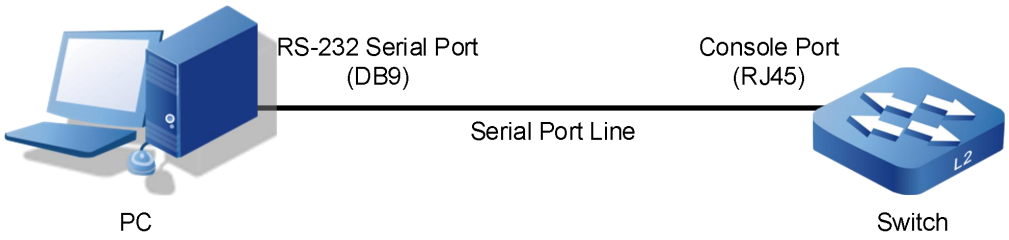
1 Log in to the CLI Configuration Interface

1.1 Set Up the Configuration Environment via Console Port

PC can log in to the command line interface of the device by being connected to the console port of the device.

Operation Steps

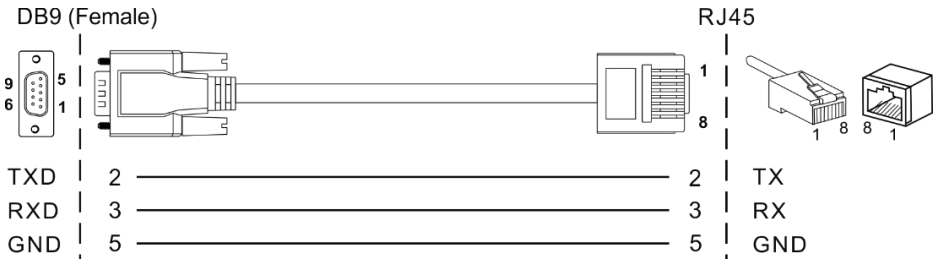
Step 1 Connect the serial port of the computer to the console port of the device through a serial cable to establish a local configuration environment. The topological graph as follows.



1. Connect DB9 on the one end of the serial cable to the RS-232 serial port of PC.
2. Connect RJ45 on the other end of the serial cable to the console port of the device.

Notes:

Schematic diagram of the internal wiring of serial cable/communication cable is shown below.



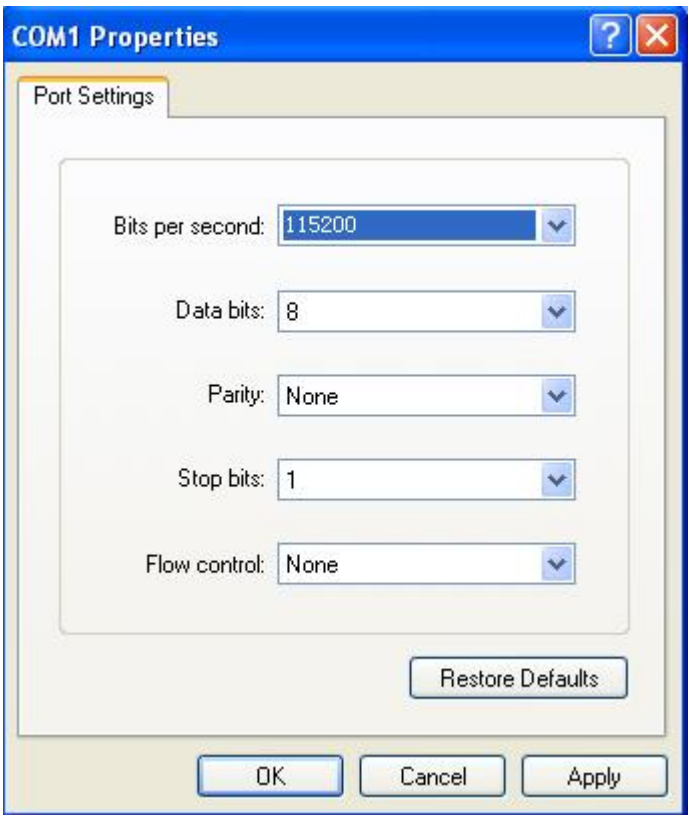
Step 2 Configure terminal parameters.

1. On the WinXP system interface, click "Start > Program > Accessories > Communication" to run the HyperTerminal program and create a new connection.
2. As shown in the figure below, enter the name of the new connection in the text box of "Name (N)" and click the button of "OK".

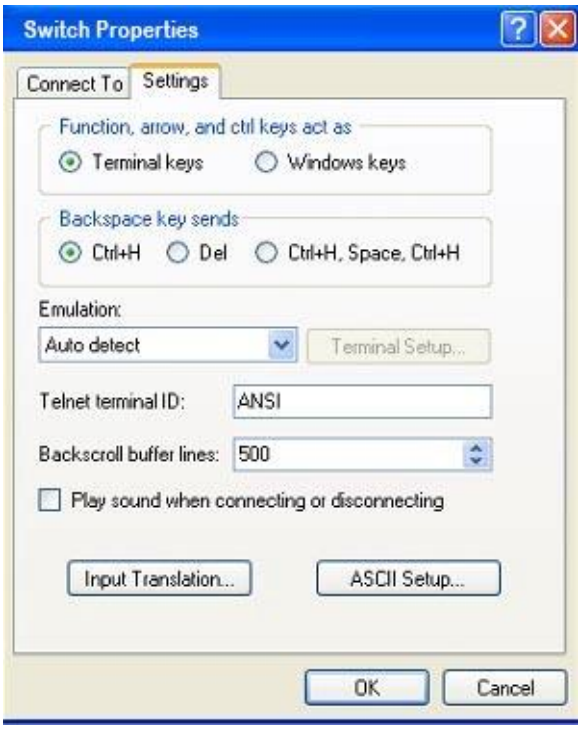
3. Select the serial port to be connected. As shown in the figure below, select the serial port to be connected in the drop-down list of "Connect using" and click the button of "OK".

Note:
The selected serial port should be consistent with the serial port to which the cable used for device configuration is actually connected.

4. Configure the serial port parameters.In the properties dialog box of the serial port, configure baud rate as 115200, data bit as 8, parity as none, stop bit as 1, and data flow control as none.Click the button of "OK" to enter the window of "Hyper Terminal".As the figure bellow:



5. Configure the properties of HyperTerminal.In the window of "HyperTerminal", click "File > Properties > Settings" to enter the property settings window as shown in the following figure.Select the type of "Emulator" as VT100 or auto detect, and click the button of "OK" to return to the window of "HyperTerminal".



6. Power on the switch. The HyperTerminal will display the self-test information of the switch.After the self-test is finished, user can press the Enter key until the command prompt of "username" appears on the HyperTerminal, and then enter the correct username and password to enter the command line configuration interface of the switch.

Step 3 End.

Notice

- If the serial cable is not connected to the COM1 port of PC, the serial port corresponding to the number 3 in step 2 must select the corresponding COM port.
- The number of "bits per second" corresponding to number 4 in step 2 must be 115200, otherwise it will not display properly.
- The configuration terminal in the operation steps adopts Windows XP system. The system comes with a HyperTerminal program. Win7, Win8, Win10 and other operating systems do not have the HyperTerminal program. Therefore, user needs to install a third-party serial debugging or terminal emulation software.

1.2 Set Up the Configuration Environment via Telnet

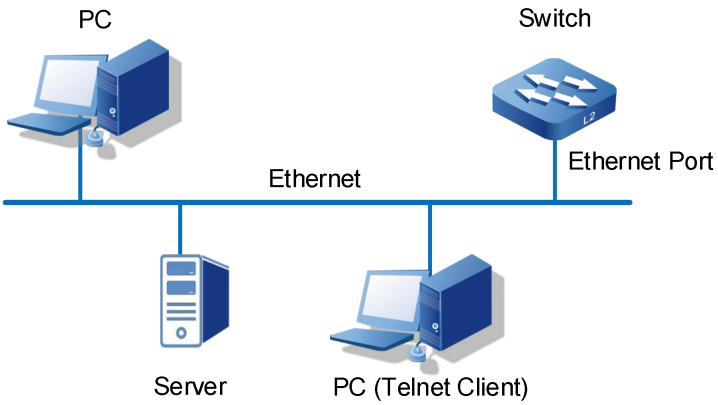
After the Telnet client logs in to the command line interface of the device, the client and device should meet the following conditions:

1. Configure the IP address of the device correctly on the switch.
2. If Telnet client and the device are in the same LAN, IP addresses of the device and the client must be in the same network segment. Otherwise, the Telnet client and device must be accessible via router.

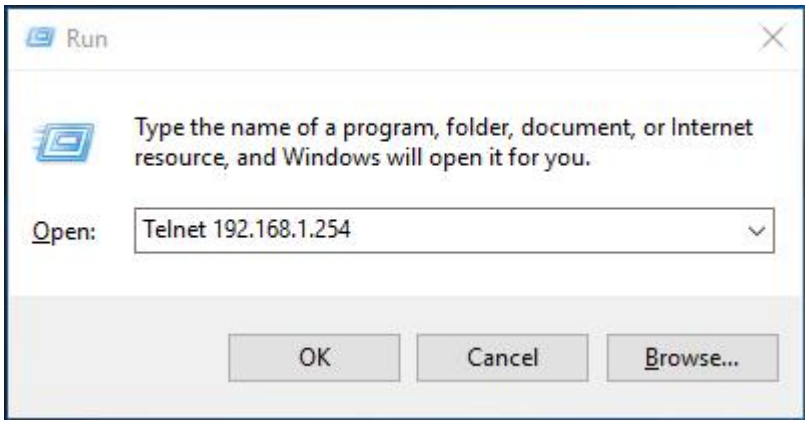
After meeting the above two points, user can log in to the switch through the Telnet client and configure the device.

Operation Steps

Step 1 As shown in the figure below, establish a configuration environment and connect the Ethernet port of the computer to the one of the device via the LAN.



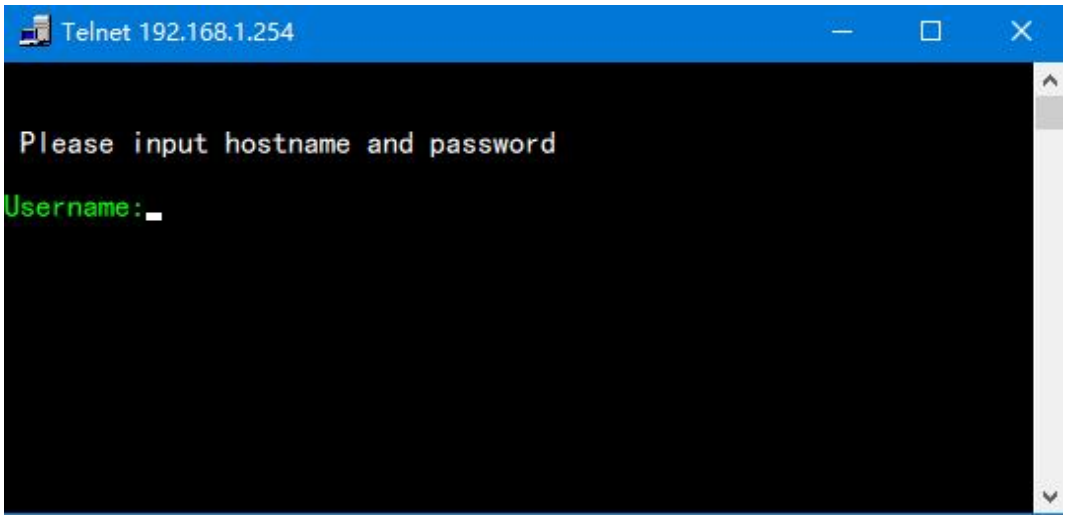
Step 2 Run the Telnet client on the computer and enter the management IP address of the Ethernet port that connects the switch to the computer, as shown in the following figure.



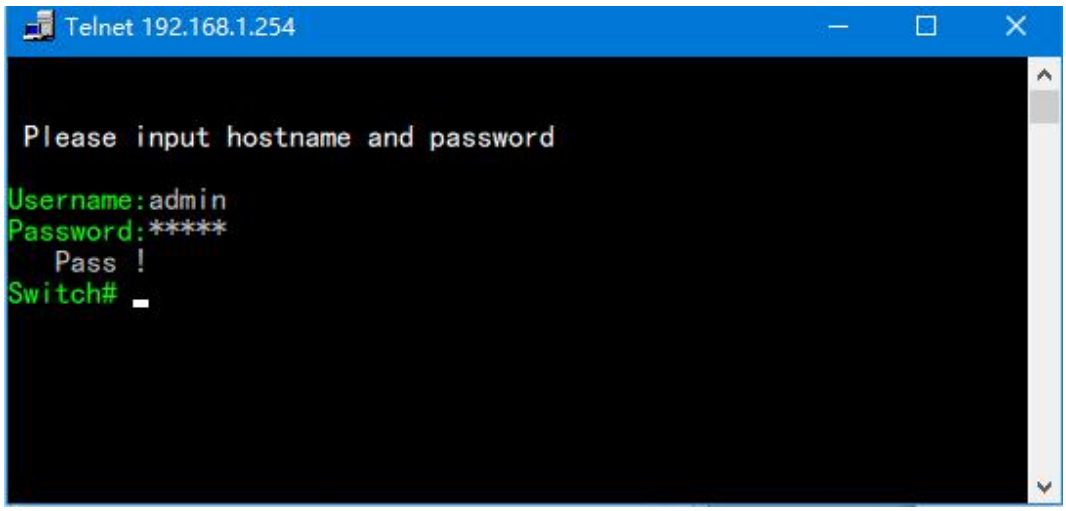
Notes:

- To configure the device via the command prompt interface of Win7/Win8/Win10 and other operating systems, user needs to enable the Telnet client in advance. User can check and enable it in the Windows function window under the path of "Control Panel > Programs and Features > Enable or Disable Windows Features". the instruction can be ignored if the Telnet client is enabled.
- The IP address of the device defaults to 192.168.1.254.

Step 3 Click "OK" to initiate Telnet connection request, after successful connection, the interface will display "Please input hostname and password" as below.



Step 4 Enter the correct user name and password. After the user name and password are verified, the interface will display "Pass!".As the figure below:



Notes:

For the default user name and password of the device, user can refer to the section "Logging in to the WEB Interface" in the "User Manual". The user name and password are generally admin by default. The user name and password of some industry-specific devices default to admin12345.

Step 5 End.

1.3 Command Line Interface

The device provides command line interface and configuration command to user for the convenience of user configuration and management.Command line interface has the following features:

- Implement local configuration through the console port;
- Support maximum 10 saved history commands.Select saved history command information via up and down key;
- User can enter "help" or "?" for help at any time;
- Support Tab key intelligent completion while entering commands;
- Command line interpreter adopts partial matching to search the keyword, user only needs to enter conflict-free keyword, eg. As for config command, enter "conf" is OK.

1.3.1 Online Help of Command Line

The command line interface provides the following online help:

- Full help;
- Partial help.

Full Help

1. In any view, enter <?> to get all the commands in the view and their brief description.

```
Switch# ?
  List                    --List commands of current menu
  Help                    --Help commands of current menu
Quit                      --Quit from CLI
Exit                       --Exit from current menu
  Reboot                  --Reboot switch
  ......
```

2. Enter a command followed by a space-separated "?", and if the space are keywords, list all keywords and their brief descriptions.

```
Switch(information)# show ?
  mac                     --Device MAC Address
  version                  --Device version
  others                   --Device type,name,etc
```

Partial Help

1. Type a character string followed by <?> to list all commands that begin with the string.

```
Switch# M?
  MultiFilter     <dir>    --Enter Multicast Filtering menu
  Multicast       <dir>    --Enter static multicast filters menu
```

```
  Mirror          <dir>    --Enter port mirror menu
 Manage           <dir>    --Enter system manage menu
```

2. Enter the first few letters of the command and press <Tab>. If the command corresponding to the entered letters is unique, the complete keyword will be displayed.

```
Switch# inf enter <Tab>
Switch# information
```

1.3.2 Common Error Messages of Command Line

As for the commands user enters, correctly conduct the commands that have passed grammar check, otherwise report error messages to user. And the common error messages as the chart below.

English Error Messages	Error Reason
Invalid Command	No command found
	No keywords found
	Incorrect parameter type
	Parameter value out of bounds
Imcomplete Command	Input command is incomplete
Too many parameters	Too many input parameters

1.3.3 History Command

The command line interface provides a Doskey-like function to automatically save the history commands entered by user. User can call the history commands saved by the command line interface at any time and repeat the execution.

Access to the history commands:

Operation	Key	Result
Access previous history command	Up cursor key < ↑ >	Take out the previous history command if there exists an earlier history command
Access next history command	Down cursor key < ↓ >	Take out the next history command if there exists a later history command

1.3.4 Regular Command

Regular commands are the most frequently used commands. For the convenience of operation, the List, Help, Quit, Exit, and Reboot commands are arranged in all modes.

Regular Commands:

Operation	Command	Description
List the command names in this mode	List	Carry out in any mode
List all commands in this mode and their help information	Help	Carry out in any mode
Return from the current mode to the login screen	Quit	Carry out in any mode
Go back to the previous level from the current mode and cannot return to the login screen.	Exit	Carry out in any mode
Reboot the device	Reboot	Carry out in any mode

Configuration Examples

1. Return to the previous level from port configuration mode, enter the following bold command and press the Enter key.

```
Switch(Port)#  exit
Switch#
```

2. To view the command format name in vlan setting mode, enter the following bold commands and press the Enter key.

```
Switch(Vlan)# list
List
  Help
  Quit
  Exit
  Reboot
  Show vlantype
  Enable
  PVLANSetting    <dir>
  QVLANSetting    <dir>
```

3. Restart the settings in the information view, enter the following bold commands and press the Enter key.

```
Switch(information)# reboot
Please waiting........

Please input hostname and password

Username:
```

2 Erps Configuration Commend

Enter Erps configuration view.

Operation	Command	Description
Enter Erps configuration view	**Erps**	Carry out under system view

```
Switch# Erps
Switch(ERPS)#
```

2.1 Timer Configuration

Operation	Command	Description
Create timer	switch(ERPS)# **timer creat timer-name** <*NAME*>	NAME: the name of the timer.
Delete timer	switch(ERPS)# **# no timer creat timer-name** <*NAME*>	NAME: the name of the timer.
Set the timing interval of WTR timer of timer instance;	switch(ERPS)#**timer** <*timer-name*> **set wtr** <*wtr-value*>	NAME: the name of timer instance; <1-12>: the value range of WTR timer, unit: second;
Set the timing interval of WTB timer of timer instance;	switch(ERPS)#**timer** <*timer-name*> **set wtb** < *wtb-value* >	NAME: the name of timer instance; <1-12>: the value range of WTB timer, unit: second;

Operation	Command	Description
Set the timing interval of guard timer of timer instance;	switch(config-timer)#**timer** *<timer-name>* **set guard** *<guard-value>*	NAME: the name of timer instance; <10-2000>: the value range of guard timer, unit: millisecond;
Set the timing interval of hold timer of timer instance;	switch(config-timer)#**timer** *<timer-name>* **set hold** *<hold-value>*	NAME: the name of timer instance; <0-10>: the value range of hold timer, unit: millisecond.

2.2 Ring Configuration

Operation	Command	Description
Create ring network name and ID	switch(ERPS)# **#ring creat ring-name** *<NAME>* **ring-id** *<ID>*	NAME: ring name. ID: 1-255, ring network ID.
Delete ring network	switch(ERPS)# **#no ring creat ring-name** *<NAME>*	NAME: ring name.
Configure ring port to specified ring instance	switch(ERPS)#**ring** *<NAME>* **set east-ifname** *<EAST-NAME>* **west-ifname** *<WEST-NAME>*	NAME: ring instance name; EASTIFNAME: port name; WESTIFNAME: port name;

2.3 ERPS Instance Configuration

Operation	Command	Description
Create ERPS instance	switch(erps)#**erps creat erps-name** *<NAME>*	NAME: the name of ERPS instance;
Delete ERPS instance	switch(erps)#**no erps creat erps-name** *<NAME>*	NAME: the name of ERPS instance;

Operation	Command	Description
Set the role of erps instance in ring network	switch(erps)#**erps** < erps-name > **set role** (rpl-owner|neighbor|interconnection) (east-ifindex|west-ifindex)	NAME: the name of erps instance; rpl-owner|neighbor|interconnection: device role • rpl-owner: host node • neighbor: neighbor node • interconnection: interconnection node east-ifindex|west-ifindex:RPL port
Configure ring instance to specified erps instance	switch(erps)# **erps** < erps-name > **set ring**<*Ring-NAME*>	NAME: the name of erps instance; Ring-NAME: the name of ring network instance;
Delete ring instance configuration of erps instance	switch(erps)#**no erps** < erps-name > **set ring**	NAME: the name of erps instance;
Configure timer instance to specified erps instance	switch(erps)#**erps** < erps-name > **set timer** <*Timer-NAME*>	NAME: the name of erps instance; Timer-NAME: the name of timer instance;
Delete timer instance configuration of erps instance	switch(erps)#**no erps** < erps-name > **set timer**	NAME: the name of erps instance;
Set raps protocol message channel of erps instance	switch(erps)#**erps** < erps-name > **set raps-channel** <*1-4094*>	erps-name：erps instance name; <1-4094>: vlan ID value range;

Operation	Command	Description
Delete the configuration of raps protocol message channel of erps instance	switch(erps)#**no erps** < erps-name> **set raps-channel**	erps-name: erps instance name;
Start erps instance	switch(erps)#**erps** start < erps-name >	erps-name：erps instance name;
Stop erps instance	switch(erps)#**erps** stop < erps-name >	erps-name：erps instance name;
Set the ring role of erps instance	switch(erps)#**erps** < erps-name > **set ring-role** (major-ring|sub-ring)	NAME: the name of erps instance; (major-ring|sub-ring) • major-ring: major-ring • sub-ring: sub-ring
Set erps instance	switch(erps)#**erps** < erps-name > **set major-instance-name**	erps-name：erps instance name

2.4 Instance Information Display

Operation	Command	Description
Show specified erps instance information;	switch(config)# **show erps** *<erps-name>*	NAME: the name of erps instance;
Show specified ring instance information;	switch(config)#**show ring** *<ring-name>*	NAME: the name of ring instance;
Show specified timer instance information;	switch(config)#**show timer** *<timer-name>*	NAME: the name of timer instance;

3 Dot1x Configuration Commend

Enter Dot1x configuration view.

Operation	Command	Description
Enter Dot1x configuration view	Dot1x	Carry out under system view

```
Switch#Dot1x
Switch(Dot1x)#
```

3.1 Enable Dot1x Authentication

Operation	Command	Description
Enable Dot1x authentication	switch(dot1x)# **enable dot1x**	
Disable Dot1xauthentication	switch(dot1x)# **disable dot1x**	
Enable/disable port Dot1x authentication	Port {enable|disable} <portlist>	{enable|disable} • Enable: enable; • Disable: disable. <portlist>: 1, 2, 3, ……or all

3.2 Configure Dot1x Authentication Parameter

Operation	Command	Description

Operation	Command	Description
Choose Radius server mode	switch(dot1x)# **auth-mode** {local_type|server_type}	{local_type|server_type} • local_type: local; • server_type: remote.
Add username and password	switch(dot1x)#add-user name < name > passwd < passwd >	< name >locally authenticated username < passwd >locally authenticated password
Delete username and password	switch(dot1x)#del-user name < name > passwd < passwd >	< name >locally authenticated username < passwd >locally authenticated password
Set re-authentication period	Switch(dot1x)# reauth-period <seconds>	<seconds>: update interval range of authentication 60~60000, unit: second.
Set authentication server address, port number, shared password	Switch(dot1x)# auth-server ip <ip_address> port_num <port_num> shared_secret <secret>	<ip_address>: authentication server address; <port_num> port number; <secret>shared password for authentication.

4 TFTP Configuration Command

Access to the TFTP configuration view.

Operation	Command	Description
Access to the TFTP configuration view.	**TFTP**	Carry out under system view

```
Switch# TFTP
Switch(TFTP)#
```

4.1 Display TFTP Configuration Information

Display TFTP configuration information.

Operation	Command	Description
Display TFTP configuration information	**Show TFTP_config**	Carry out under TFTP view

Configuration Examples

Display TFTP configuration information.

```
Switch(TFTP)# show tFTP_config
  TFTP Server ip:   192.168.1.1
```

4.2 TFTP Configuration

TFTP configuration command.

Operation	Command	Description

Operation	Command	Description
TFTP server address	Server <ip_address>	<ip_address>: TFTP server IP address, for example, 192.168.1.254
Upload configuration files	Get <File_name>	<File_name>: program name, such as xxxx.cfg.
Download configuration files	Put <File_name>	<File_name>: program name, such as xxxx.cfg.

5 Manage Configuration Command

Access to the system management view.

Operation	Command	Description
Access to the system management view	**Manage**	Carry out under system view

```
Switch# manage
Switch(Manage)#
```

5.1 Display the Configuration Information of BlueEyes

Check the configuration information of BlueEyes:

Operation	Command	Description
Display the configuration of BlueEyes	**show BlueEyes**	Carry out under system management view

Configuration Examples

Check the configuration information of BlueEyes.

Switch(Manage)# show BlueEyes

The BlueEyes is Disable !

5.2 Configure the Authority of BlueEyes

Configure the authority of BlueEyes:

Operation	Command	Description

Operation	Command	Description
Configure the authority of BlueEyes	**BlueEyes** {Enable|Search|Disable}	{Enable|Search|Disable} • Enable • Search • Disable

Configuration Examples

Configure BlueEyes tool to search this switch only:

Switch(Manage)# BlueEyes Search

[OK]

5.3 Enable Modbus TCP Function

Enable Modbus TCP:

Operation	Command	Description
Enable Modbus TCP	**ModBus** {Enable|Disable}	{Enable| Disable} • Enable • Disable

Configuration Examples

Enable Modbus TCP function:

Switch(Manage)# modbus Enable

[ok] !

5.4 Network Diagnostic Settings

Access to the command of system management view:

Operation	Command	Description
Network diagnostic settings	**Ping** <IP_address> <options> <content> <options> <content> <options>	<IP_address>;IP address, such as 192.168.1.254 <options>; • -t;Time To Live • -l;Data size • -n;Number of echo requests to send <content>; parameters matching with -t/-l/-n

Configuration Examples

The device with the Ping address of 192.168.5.117, packet size is 64, send out 2 packets.

```
Switch(Manage)# ping 192.168.5.117 -l 64 -n 2
Pinging 192.168.5.117 with 64 bytes of data:
Reply from 192.168.5.117: bytes=64 time<0ms TTL=64
Reply from 192.168.5.117: bytes=64 time<0ms TTL=64
Ping statistics for 192.168.5.117:
    Packets: Sent = 2, Received = 2, Lost = 0 (0.000000% loss).
Approximate round trIP times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

5.5 Display Network Address of the Device

View the device IP, subnet mask, default gateway.

Operation	Command	Description
Display the device IP, subnet mask and default gateway	**show net_address**	Carry out under system management view

Configuration Examples

View the device IP, subnet mask, default gateway.

```
Switch(Manage)# show net_address
  Device gateway      :   192.168.1.1
  Device mask address :   255.255.255.0
  Device IP address   :   192.168.1.254
  Device DNS address  :   202.96.134.133
```

5.6 IP Address and Default Gateway Settings

User can configure the device IP and default gateway address via the following commands.

Operation	Command	Description
Device IP address configuration	IP <IP_address> <mask>	<IP_address>: IP address <mask>: subnet mask
Default gateway configuration	Gateway <gateway>	<gateway>: gateway address

Configuration Examples

Configure the device IP as 192.168.5.25, the subnet mask as 255.255.255.0, and the default gateway as 192.168.5.1.

```
Switch(Manage)# IP 192.168.5.25 255.255.255.0
  [OK]
  The Switch is rebooting.Please waiting........
Switch(Manage)# gateway 192.168.5.1
  [OK]
  The Switch is rebooting.Please waiting.........
DHCP
```

5.7 System Timeout Settings

User can configure the system timeout via the following commands.

Operation	Command	Description
System Timeout Settings	Set <time_out>	<time_out>: system timeout, the value is [0-60], 0 means disabling the timeout function.

Configuration Examples

Configure the system timeout as 10 minutes.

```
SWitch (manage)# set 10
  [OK]
```

Note

The system timeout is used to define the timeout period when no operation is performed after entering CLI settings mode. After the system timeout, it will automatically jump to the user mode and re-authenticates the user name and password.

5.8 User Name and Password Settings

User can configure the user name and password via the following commands.

Operation	Command	Description

User index	**Index {0|1|2}**	{0|1|2} • 0;Administrator • 1;Administrator or Observer • 2;Administrator or Observer
Access level	**Limit {0|1}**	{0|1}; • 0;Observer • 1;Administrator
Username configuration	**Hostname <hostname>**	<hostname>: string of username
Password configuration	**Password <password> <password>**	<password>: string of password

5.9 Restore Factory Defaults

User can restore factory defaults of the device via the following commands.

Operation	Command	Description
Restore factory defaults of the device	**Restore**	Carry out under the system management view

Configuration Examples

Restore factory defaults of the device

```
Switch(manage)# restore
Restore Settings or not ? (yes/no) yes      //Press < Y> key
Wait...
```

6 Port Configuration Command

6.1 Port Configuration

Access to the port configuration view.

Operation	Command	Description
Access to the port configuration view	**Port**	Carry out under system view

```
Switch# Port
Switch(Port)#
```

6.1.1 Port Information Display

Port status and configuration information.

Operation	Command	Description
Port status information display	Show state <portlist>	<portlist>: port 1, 2, 3... or all
Port configuration information display	Show config <portlist>	<portlist>: port 1, 2, 3... or all

Configuration Examples

1. Display the status information of port 1.

```
Switch(Port)# show state 1
          Speed    Port_status     Link_status    Interface_type
  port 1  10M        HALF            LOS             TX
```

2. Display the configuration information of port 1.

```
Switch(Port)# show config 1
         Speed     Mode     Port_status    Flow_contorl
Interface_type
  port 1  Auto      HALF     Enable         Disable          TX
```

6.1.2 DDM Information Display

DDM status information.

Operation	Command	Description
SFP DDM status information display	DDM <portlist>	<portlist>: port 1, 2, 3... or all

Configuration Examples

3. Display DDM information of port 1.

```
Switch(Port)# DDM G1
Common information:
  Transceiver Type            :SFP/SFP+
  Compliance                  :10G BASE-LR
  Connector Type              :LC
  WaveLength(nm)              :1310
  Transfer Distance(m)         :10000(9um)
  Digital Diagnostic Monitoring :YES
  VendorName                  :OEM           H900S013881
2018-12-25
Manufacture information:
  Manu. Serial Number          :H900S013881    2018-12-25
  Manufacturing Date           :2018-12-25
Diagnostic information:
  Temperature(degree Celdius)             :37
  Temp High Threshold      :85
  Temp Low  Threshold      :-35
  Voltage(V)                  :3.30
  Voltage High Threshold(V)       :3.48
  Voltage Low  Threshold(V)       :3.10
  Bias Current(mA)            :27.03
  Bias High Threshold(mA)       :80.00
```

```
Bias Low  Threshold(mA)      :4.00
RX Power(dBM)               :0.00
RX Power High Threshold(dBM)  :-1.00
RX Power Low  Threshold(dBM)  :-14.40
TX Power(dBM)               :-2.22
TX Power High Threshold(dBM)  :-1.00
TX Power Low  Threshold(dBM)  :-6.00
[OK]
```

6.1.3 Port Enablement

The user can use the following command to enable or disable a port.By default, the port is enabled.

Operation	Command	Description
Port enablement	switch <portlist> {enable|disable}	<portlist>: port 1, 2, 3... or all

Configuration Examples

Disable port 1.

```
Switch(Port)# switch 1 disable
  [OK]
```

6.1.4 Flow Control of Port

Enable or disable flow control of port.

Operation	Command	Description
Enable flow control of port	Flow-con <portlist> enable	<portlist>: port 1, 2, 3... or all
Disable flow control of port.	Flow-con <portlist> disable	<portlist>: port 1, 2, 3... or all

Configuration Examples

Enable flow control of port 2.

```
Switch(Port)# flow-con 2 enable
  [OK]
```

6.1.5 Port Speed and Operating Mode

Configure port speed and duplex status.

Operation	Command	Description
Configure the speed and duplex mode of port	Mode <portlist> {10h|10f|100h|100f|1000h|auto}	<portlist>: port 1, 2, 3... or all; Mode: • 10h: 10Mbps half duplex; • 10f: 10Mbps full duplex; • 100h: 100Mbps half duplex; • 100f: 100Mbps full duplex; • 1000f: 1000Mbps full duplex; • Auto: Auto-negotiation

Configuration Examples

Configure the speed of port 3 to be 100 Mbps and its operating mode as half-duplex.

```
Switch(Port)# mode 3 100h
  [OK]
```

7 Bandwidth Configuration Command

Access to the bandwidth management view.

Operation	Command	Description
Access to the bandwidth management view.	**Bandwidth**	Carry out under system view

```
Switch# bandwidth
Switch(Bandwidth)#
```

7.1 Bandwidth Configuration Enablement

Commands for bandwidth configuration enablement.

Operation	Command	Description
Enable/disable bandwidth configuration	**Set bandwidth {enable|disable}**	{enable|disable}: • Enable • Disable

7.2 Bandwidth Display

Commands for ingress and egress bandwidth display.

Operation	Command	Description
View ingress bandwidth information	**Show inrate** <portlist>	<portlist>: port 1, 2, 3... or all
View egress bandwidth information	**Show egrate** <portlist>	<portlist>: port 1, 2, 3... or all

Configuration Examples

Display the ingress and egress bandwidth of port 1.

```
Switch(Bandwidth)# show inrate 1
  port 1 egress bandwidth:  unlimited
Switch(Bandwidth)# show egrate 1
  port 1 egress bandwidth:  unlimited
```

7.3 Bandwidth Configuration

Commands for ingress and egress bandwidth configuration.

Operation	Command	Description
Configure ingress bandwidth	**Config inrate** <portlist> <bandwidth>	<portlist>: port 1, 2, 3... or all; <bandwidth>: 64k, 128k, 256k, 512k, 1M, 2M, 3M, 4M, 5M, 6M, 7M, 8M, 9M, 10M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M, 200M, 300M, 400M, 500M, 600M, 700M, 800M, 900M, 1000M, 0: unlimited
Configure egress bandwidth	**Config egrate** <portlist> <bandwidth>	<portlist>: port 1, 2, 3... or all; <bandwidth>: 64k, 128k, 256k, 512k, 1M, 2M, 3M, 4M, 5M, 6M, 7M, 8M, 9M, 10M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M, 200M, 300M, 400M, 500M, 600M, 700M, 800M, 900M, 1000M, 0: unlimited

Configuration Examples

Set the ingress speed of port 1 to 8M.

```
Switch (Bandwidth)# config inrate 1 8M
[OK]
```

Set the egress bandwidth of port 1 to unlimited.

```
Switch(Bandwidth)#  config egrate 1 0
 [OK]
```

8 Storm Configuration Command

Access to the configuration view of broadcast storm

Operation	Command	Description
Access to the view of broadcast storm	**Storm**	Carry out under the system view

```
Switch# storm
Switch(Storm)#
```

8.1 Display Broadcast Storm

Commands for displaying broadcast storm

Operation	Command	Description
Display the settings of broadcast storm	**Show storm**	Carry out under the view of broadcast storm

Configuration Examples

Display the broadcast storm

```
Switch(Storm)# show storm
  Maximum rate  : 30%
  Limited type  : Broadcast Only
```

8.2 Configuration of Storm Suppression Parameters

Configuration of the settings of broadcast storm

Operation	Command	Description

Operation	Command	Description
Configure the value of broadcast storm	**Config broadcast** <portlist> <rate>	<portlist>;1,2,3,… or all, <rate>;rate, unit;62.5kbps
Configure the unknown multicast parameters	**Config multicast** <portlist> <rate>	<portlist>;1,2,3,… or all, <rate>;rate, unit;62.5kbps
Configure the unknown unicast parameters	**Config unicast** <portlist> <rate>	<portlist>;1,2,3,…or all, <rate>;rate, unit;62.5kbps

8.3 Enablement of Storm Suppression

Configuration commands for enabling and disabling storm suppression.

Operation	Command	Description
Enable/disable storm suppression	**Enable** <portlist> {enable|disable}	<portlist>;1,2,3,…or all, {enable|disable}; • Enable • Disable

9 MultiFilter Configuration Command

Access to the view of multicast filtering

Operation	Command	Description
Access to the view of multicast filtering configuration	**Multifilter**	Carry out under the system view

```
Switch# multiFilter
Switch(MultiFilter)#
```

9.1 Multicast Filtering Type

Configuration of multicast filtering type

Operation	Command	Description
Configure the type of multicast filtering	**Choice{0|1}**	{0|1}; • 0;IGMP Snooping • 1;GMRP

Configuration Examples

IGMP snooping filtering

```
Switch(MultiFilter)# choice 0
  [OK]
```

9.2 IGMP Snooping Configuration Command

IGMP snooping configuration.

Operation	Command	Description

Operation	Command	Description
Configure IGMP snooping enablement	**Set IGMP** {enable|disable}	{enable|disable}; • Enable • Disable
Configure IGMP query enablement	**Set query** {enable|disable}	{enable|disable}; • Enable • Disable
Configure the IGMP query interval.	**Config query** <time>	<time>;60-300s
Display IGMP information	**Show IGMP**	Carry out under the view of multicast filtering

Configuration Examples

Enable IGMP snooping, enable IGMP query, set the query interval to 125s, display IGMP information.

```
Switch(MultiFilter)# set igmp enable
  [OK]
Switch(MultiFilter)# set query enable
  [OK]
Switch(MultiFilter)# config Query 125
  [OK]
Switch(MultiFilter)# show MAClist
  IGMP Snooping query time 125 seconds
  [  1] MAC List: 01-00-5E-00-00-FB  Port: 1
```

9.3 GMRP Configuration Command

GMRP configuration command

Operation	Command	Description
Configure GMRP enablement	**Set GMRP** {enable|disable}	{enable|disable}; • Enable • Disable
Configure GMRP port	**Config Query** <portlist>	<portlist>;1,2,3,…or all
Display GMRP information	**Show GMRP**	Carry out under the view of multicast filtering

Configuration Examples

Enable GMRP

```
Switch(MultiFilter)# set gmrp enable
[OK]
```

10 Multicast Configuration Command

Access to the static multicast filtering view

Operation	Command	Description
Enter static multicast view	**Multicast**	Carry out under the system view

```
Switch# multicast
Switch(Multicast)#
```

10.1 Display Multicast Filtering List

Commands for static multicast address display

Operation	Command	Description
Display static multicast filtering address	**Show multicast**	Carry out under the multicast view

Configuration Examples

Displays information about the static address table

```
Switch(Multicast)# show multicast
  ( 1)  MAC : 01-22-33-44-55-66
        PORT: 1,2,3
```

10.2 Add the Static Multicast Address

Commands for multicast address addition:

Operation	Command	Description

Operation	Command	Description
Add the multicast address	**Add** <macaddress> <portlist>	<macaddress>: multicast address, the format is XY-XX-XX-XX-XX-XX or XY.XX.XX.XX.XX.XX, X is any hexadecimal number <portlist>;1, 2, 3... or all

Configuration Examples

Add the multicast address 01-22-33-44-55-66, and its member ports are 1, 2, 3.

```
Switch(Multicast)# add 01.22.33.44.55.66 1-3
  [OK]
```

10.3 Delete Static Multicast Address

Commands for multicast address deletion.

Operation	Command	Description
Delete the multicast address	**Delete** <1-15>	<1-15>: multicast address entry 1-15

Configuration Examples

Delete the static multicast address entry 1.

```
Switch(Multicast)# delete 1
  [OK]
```

11 Vlan Configuration Command

Access to the Vlan configuration view:

Operation	Command	Description
Access to the Vlan configuration view	**Vlan**	Carry out under system view

```
Switch# vlan
Switch(VLAN)#
```

11.1 VLAN Type Configuration and Display

Commands for VLAN type configuration and display.

Operation	Command	Description
Access to the Vlan information view	**Show vlantype**	Carry out under VLAN view
Select Vlan type	**Enable {0|1}**	{0|1}: • 0: Port-based VLAN • 1:802.1Q VLAN

Configuration Examples

Enable port VLAN and display the VLAN type.

```
Switch(VLAN)# enable 0
  Based on port VLAN is enable!
  [OK]
  Tip: This configuration will be validated after restarting
Switch(VLAN)# show vlantype
Based on port VLAN is enable!
```

11.2 Port-based VLAN

Access to the port VLAN view.

Operation	Command	Description
Port Vlan view	**PVLANSetting**	Carry out under VLAN view

```
Switch(VLAN)# PVLANSetting
Switch(PortVlan)#
```

Port VLAN configuration.

Operation	Command	Description
Add Vlan	**Add** <item> <portlist>	<item>: VLAN ID range 1-4094 <portlist>: port 1, 2, 3... or all
Delete Vlan	**Delete** <items>	<items>: 1, 4, 5-4094 or all
View Vlan information	**Show vlan**<items>	<items>: 1, 4, 5-4094 or all

Configuration Examples

Add VLAN 2 and the port members are port 2 and port 3.

```
Switch(PortVlan)# add 2 2,3
  [OK]
```

11.3 IEEE802.1Q VLAN

Access to the 802.1Q VLAN view.

Operation	Command	Description
802.1Q VLAN view	**QVLANSetting**	Carry out under VLAN view

```
Switch(Vlan)# qVLANSetting
Switch(QVlan)#
```

802.1Q VLAN configuration.

Operation	Command	Description
Configure the replacement configuration of VLAN identification	**Config replace {0|1}**	{0|1}: • 0: keep the VID unchanged • 1: adopt the port default VID to replace VID inside the identification
Pvid settings	**config pvid <portlist> <pvid>**	<portlist>: port 1, 2, 3... or all. <pvid>:1-4094

Operation	Command	Description
Add Vlan	**Add <vid> <portlist> <typelist>**	<vid>:1-4094 <portlist>: port 1, 2, 3... or all. <typelist>: • M:UnModified • U:UnTagged
Delete Vlan	**Delete <vidlist>**	<vidlist>: 1-4094 or all
View Vlan information	**Show vlan <vidlist>**	<vidlist>: 1-4094 or all
View port pvid	**Show pvid <portlist>**	<portlist>: port 1, 2, 3... or all.
View the replacement configuration of VLAN identification	**Show replace**	Carry out under 802.1Q VLAN view

Configuration Examples

Add VLAN 3, port 2-3, member type of UnModified.

```
Switch(QVlan)# add 3 2-3 M
  [OK]
```

12 QoS Configuration Command

Access to the QoS configuration view.

Operation	Command	Description
Access to the QoS configuration view	**QoS**	Carry out under system view

Switch# QoS
Switch(QoS)#

12.1 QoS Queue Mechanism Configuration

Commands for QoS queue mechanism configuration.

Operation	Command	Description
QoS queue mechanism configuration	**Queuingm** {0|1}	{0|1}; • 0: weighted average scheduling algorithm • 1: strict priority scheduling algorithm

Configuration Examples

Set the QoS queue mechanism to weighted average scheduling algorithm (8:4:2:1).

Switch(QoS)# queuingm 0
[OK]

12.2 Display QoS Configuration Information

Users can view QoS information via the following commands.

Operation	Command	Description

Operation	Command	Description
View QoS queue mechanism	**Show queuingm**	Carry out under QoS view
View CoS value mapping	**Show cos** <coslist>	<coslist>:cos mapping value, 0, 1, 2-7
View ToS value mapping	**Show tos** <dscplist>	<dscplist>: Dscp mapping value, 1, 2, 3-64
View the ToS/CoS enablement status	**Show state** <portlist>	<portlist>: port 1, 2, 3... or all
View the priority of default port	**Show default** <portlist>	<portlist>: port 1, 2, 3... or all

12.3 Dscp/Tos Value Mapping

The user can configure the Dscp/cos value mapping via the following commands.

Operation	Command	Description
Cos value mapping configuration	**Configcos** <coslist> <classlist>	<coslist>: CoS mapping value, 0, 1, 2-7 <classlist>: • L:low • N: normal • M:medium • H:high
Dscp value mapping configuration	**Config dscp** <dscplist> <classlist>	<dscplist>: ToS mapping value, 1, 2, 3-64 <classlist>: • L:low • N: normal • M: medium • H: high

Configuration Examples

1. Set the priority queues corresponding to 0, 2, 5, and 7 of the CoS value to Low, Normal, Medium and High.

```
Switch(QoS)# config cos 0,2,5,7 l,n,m,h
  CoS value:0   priority:Low
  CoS value:2   priority:Normal
  CoS value:5   priority:Medium
  CoS value:7   priority:High
```

2. Set the priority queues corresponding to 1, 17, 42, and 62 of the Dscp value to Low, Medium, High and Normal.

```
Switch(QoS)# config dscp 1,17,42,62 l,m,h,n
 DSCP( 1):Low       DSCP(17):Medium    DSCP(42):High
DSCP(62):Normal
```

12.4 Priority Configuration of Default Port

User can configure the default port priority via the following commands.

Operation	Command	Description
Priority configuration of default port	**Default priority** <portlist> <0-7>	<portlist>: port 1, 2, 3... or all <0-7>: port priority

Configuration Examples

Set the default priority of port 1 to 3.

```
Switch(QoS)# default priority 1 3
  [OK]
```

13 Ring Configuration Command

Access to the ring configuration view.

Operation	Command	Description
Access to the ring configuration view	**ring**	Carry out under system view

Switch# ring

Switch(Ring)#

13.1 Ring3 Configuration

After enable Ring3, user can configure Ring3 via the following commands.

Operation	Command	Description
Configure ring3	**Config ring3** {1|2} <id> <LoopType> <port> <hellotime>	{1|2}: 1 means ring group 1, 2 means ring group 2 <id>: it represents the ring network ID, the value is 0-255 <LoopType>: • 0: Single • 1: Couple • 2: chain • 3: Daul_homing <portlist>: ring port <hellotime>: the value is 0-300

Operation	Command	Description
Modify ring3	**Modify ring3** {1|2} <options> <parameter>	{1|2}: 1 means ring group 1, 2 means ring group 2 <options>: -h: Hellotime, range [0-300]*100ms -i: Ring ID, range 0-255 -t: ring type, {0|1|2|3} -p: ring port -s: ring status, {enable or disable} <parameter>: parameter

Configuration Examples

Configure port 3 and 4 as the ring port of the first group in Ring 3, ring ID as 1, hellotime as 0, and the ring type as Couple.

```
Switch(Ring)#Open 3                    //enable Ring3
  [OK]
  Tip: This configuration will be validated after restarting
Switch(Ring)#config ring3 1 1 1 3,4 0 //Configure port 7,8 as Ring3,
ring type is Couple
  [OK]
  Tip: This configuration will be validated after restarting
```

13.2 RSTP Configuration

After enable RSTP, user can configure RSTP via the following commands.

Operation	Command	Description
Configure RSTP status	**Config rstp_state** <priority> <hellotime> <delaytime> <maxage>	<priority>:RSTP priority {0|4096|8192|12288|16384|20480|24576|28672|32768|36864|40960|45056|49152|53248|57344|61440} <hellotime>: polling interval, the range is 1-10s <delaytime>: forward delay time, the range is 4-30s <maxage>: address lifetime, the range is 6-40s

Operation	Command	Description
Modify RSTP status parameters	**Modify rstp_s** <options> <parameter>	<options>: • -p: priority {0|4096|8192|12288|16384|20480|24576|28672|32768|36864|40960|45056|49152|53248|57344|61440} • -h: polling interval, the range is 1-10s • -d: forward delay time, the range is 4-30s • -m: address lifetime, the range is 6-40s <parameter>: parameter
Modify RSTP port parameters	**Modify rstp_p**<port> <options> <parameter>	<port>: RSTP port <options>: • -c: port path cost, the range is 0-200000000 • -p: port priority, the range is {0|16|32|48|64|80|96|112|128|144|160|176|192|208|224|240} • -t: point-to-point network connection, the value is {no|yes|auto} • -e: directly connected to the terminal, the value is {no|yes} • -a: participate in the spanning tree or not, the value is {no|yes} <parameter>: parameter

Configuration Examples

1. Configure the path cost of RSTP port 1 as 2000.

```
Switch(Ring)# modify rstp_p 1 -c 2000
  [OK]
  Tip: This configuration will be validated after restarting
```

2. Configure the switch priority of rstp as 4096

```
Switch(Ring)# modify rstp_s -p 4096
```

```
[OK]
Tip: This configuration will be validated after restarting
```

13.3 Display RSTP Current Status Information

After configure RSTP, user can view the current status of Rstp via the following commands.

Operation	Command	Description
Display RSTP current status information	**RSTP Status**	Carry out under the ring view

14 LoopDetect Configuration Command

Access to loop protection view.

Operation	Command	Description
Access to loop protection view	**LoopDetect**	Carry out under system view

```
Switch# LoopDetect
Switch(Loop_Detect)#
```

14.1 Display Port Status

Display port status.

Operation	Command	Description
Display port status	**Show Status** <portlist>	<portlist>: 1、2、3、…… or all

Configuration Examples

Display port status:

Switch(Loop_Detection)# Show Status 1

	STATE	ENABLE	TRAP
port 1	Los	Disable	Disable
port 2	Los	Disable	Disable
port 3	Los	Disable	Disable
port 4	Los	Enable	Enable
port 5	Los	Disable	Disable
port 6	Los	Disable	Disable
port 7	Los	Disable	Disable
port 8	Los	Enable	Enable

port 9	Los	Enable	Enable
port10	Los	Enable	Disable
port11	Link	Enable	Enable
port12	Los	Enable	Enable
port13	Los	Enable	Enable
port14	Los	Enable	Enable
port15	Los	Enable	Enable

14.2 Enable Port Loop Detection

Enable port loop detection:

Operation	Command	Description
Loop detection of enable port	**Enable** <portlist> <enable|disable>	<portlist>：1、2、3、……or all <enable|disable>： • Enable • Disable

Configuration Examples

Enable loop detection function of Port 1:

Switch(Loop_Detection)# Enable 1 enable

[ok]!

14.3 Enable Port Trap Sending

Trap sending of enable port:

Operation	Command	Description
Trap sending of enable port	**Trap Enable <portlist> <enable|disable>**	<portlist>：1、2、3、……or all <enable|disable>： • Enable • Disable

Configuration Examples

Set Port 1 to enable trap sending function:

Switch(Loop_Detection)# Trap Enable 1 enable

[ok]!

15 Trunk Configuration Command

Access to the port trunking view.

Operation	Command	Description
Access to the port trunking view	**trunk**	Carry out under system view

```
Switch# trunk
Switch(Trunk)#
```

15.1 Port Trunking Configuration

Users can configure the port trunking via the following commands.

Operation	Command	Description
Port trunking configuration	**Config** <trunkgroup> <portlist>	<trunkgroup>: trunk group 1, 2, 3, 4 <portlist>: trunk port 1, 2, 3... or all
Delete port trunking	**Clean** <trunkgroup>	<trunkgroup>: 1, 2, 3, 4 respectively represent trunk groups 1, 2, 3, 4; all means all trunk groups

Configuration Examples

Configure ports 2 and 3 as trunk group 1.

```
Switch(Trunk)# config 1 2,3
  [OK]
```

15.2 Port Trunking Display

User can view the configuration information of port trunking via the following commands.

Operation	Command	Description
Display the configuration information of port trunking.	**Show** <trunkgroup>	<trunkgroup>: 1, 2, 3, 4 respectively represent trunk groups 1, 2, 3, 4; all means all trunk groups

Configuration Examples

View the port trunking information of trunk group 1.

```
Switch(Trunk)# show 1
  Group: 1
     state: enable
     Port:  2,3
```

16 Security Configuration Command

Access to the Security view

Operation	Command	Description
Access to the Security configuration view	Security	Carry out under the system view

```
Switch# Security
Switch(Security)#
```

16.1 MAC Filtering Configuration

Access to the command of MAC filtering configuration

Operation	Command	Description
Access to the MAC filtering configuration view	MAC_Filter	Carry out under the Security view

```
Switch(Security)# MAC_Filter
Switch(MAC_Filter)#
```

MAC filtering configuration:

Operation	Command	Description
Enablement of MAC filtering entry	**Enable {blacklist|whitelist|forbidden}**	**{blacklist|whitelist|forbidden}:** • Blacklist • Whitelist • Forbidden
Display MAC filtering entry	**Show Filter**	Display the status of MAC filtering entry, it will display after enabled.

Operation	Command	Description
Add MAC filtering entry	**Add_entry <port_list> {source|destination|both} <SA|DA> <DA>**	**<port_list>; port** 1, 2, 3… or all **{source|destination|both};** • Source: source MAC address • Destination;destination MAC address • Both;source MAC address and destination MAC address **<SA|DA>;** • SA: source address, format: XX-XX-XX-XX-XX-XX • DA:destination address,format:;XX-XX-XX-XX-XX-XX
Delete MAC filtering entry	**Delete_entry <index>**	**<index>;1,2,3…**

Configuration Examples

1) Display the MAC filtering status

Switch(MAC_Filter)# show filter

Whitelist Enable

-- [OK]

2) Add MAC filtering entry

```
Switch(MAC_Filter)# ADD_Entry 1 Destination 11-22-33-01-03-16
  [OK]
```

16.2 IP Filtering Configuration

Access to the command of IP filtering configuration

Operation	Command	Description
Access to the IP filtering configuration view	IP_Filter	Carry out under the Security view

```
Switch(Security)# IP_Filter
Switch(IP_Filter)#
```

IP filtering configuration

Operation	Command	Description
IP filtering entry enablement	**Enable {blacklist|whitelist|forbidden}**	**{blacklist|whitelist|forbidden}:** • Blacklist • Whitelist • Forbidden
Display IP filtering entry	**Show Filter**	Display the status of IP filtering entry, it will display after enabled.
Add IP filtering entry	**Add_entry <port_list> {source|destination|both} <SA|DA> <DA>**	**<port_list>;** port 1, 2, 3… or all **{source|destination|both};** • Source: source IP address • Destination; Destination IP address • Both;source IP address and destination IP address **<SA|DA>;** • SA: source address • DA:destination address
Delete IP filtering entry	**Delete_entry <index>**	**<index>;1, 2, 3…**

Configuration Examples

1)IP filtering enablement

Switch(IP_Filter)# enable whitelist

[OK]

2)Delete IP filtering entry

Switch(IP_Filter)# delete_entry 1

[OK]

17 Access Configuration Command

Access to the view of access control

Operation	Command	Description
Access to the MAC port lock view	**Access**	Carry out under the system view

```
Switch# access
Switch(Access)#
```

17.1 MAC Port Lock Configuration

Command for MAC port lock configuration

Operation	Command	Description
Add MAC port lock information	**Add** <macaddress> <port>	<macaddress> : unicast MAC address, format: XX.XX.XX.XX.XX.XX or XX-XX-XX-XX-XX-XX. <portlist>;1, 2, 3… or all,
Delete MAC port lock information	**Delete**<1-16>	<1-16>**;entry in the** MAC port lock information

Configuration Examples

1） Add the lock information of a MAC port

```
Switch(Access)# add 02.00.00.00.00.02 2
  MAC address: 02.00.00.00.00.02       Port:  2
  [OK]
```

2） Delete the lock information of a MAC port

```
Switch(Access)# delete 2
```

```
[OK]
```

17.2 Display the lock information of MAC port

Display the lock information of MAC port

Operation	Command	Description
Display the lock view of MAC port	**Show lock**	Carry out under the view of access control

Configuration Examples

Display the lock information of MAC port

```
Switch(Access)# show lock
  Num       MAC address          PORT
    1     00-00-00-00-01-01         5
```

18 SNMP Configuration Command

Access to the SNMP configuration view

Operation	Command	Description
Access to the SNMP configuration view.	**SNMP**	Carry out under the system view

```
Switch# snmp
Switch(Snmp)# ?
```

18.1 SNMP Enablement

Commands for SNMP enablement configuration

Operation	Command	Description
Enable SNMP	**OPEN SNMP**	Carry out under the SNMP view
Disable SNMP	**CLOSE SNMP**	

Configuration Examples

Enable the SNMP function.

```
Switch(Snmp)# open snmp
  SNMP configuration :Enable
  SNMP_ver  : V1/V2
  Read_only : public
  Read/Write: private
  Gateway   : 192.168.1.1
  [OK]
```

18.2 SNMP TRAP Configuration

Command for community name configuration

Operation	Command	Description
Configure the Snmp reading and writing community	**Config community** {0|1} <string>	{0|1}; • 0;read - only community name • 1;read - write community name <string>;parameters

18.3 SNMP Display

Commands for SNMP display.

Operation	Command	Description
Display SNMP information	**SHOW SNMP**	Carry out under the SNMP view

Configuration Examples

Display SNMP information:

```
Switch(Snmp)#show
Switch(Snmp)# SHOW SNMP
  SNMP configuration :Enable
  SNMP_ver  : V1/V2
  Read_only : public
  Read/Write: private
```

19 Email Configuration Command

Access to the Email alarm configuration view

Operation	Command	Description
Access to the Email alarm configuration view	**Email**	Carry out under the system view

```
Switch# email
Switch(Email)#
```

19.1 Configure Email Alarm Information

Configure Email alarm information

Operation	Command	Description
Email alarm enablement	**Set email** {enable|disable}	{enable|disable}; • Enable • Disable
E-mail server address	**Set Server** <mail-server>	<mail-server>; E-mail server address
Recipient address	**Set recipient** <mail-address>	<mail-address>;Recipient address
Sender address and password	**Set send** <mail-address> <password>	<mail-address>;Sender address <password>;password

Operation	Command	Description
E-mail interval time	**Set interval** {0|1|2|4|12|24}	{0|1|2|4|12|24}; • 0;any time • 1;1 hour • 2;2 hours • 4;4 hours • 12;12 hours • 24;24 hours
Send the system test E-mail	**send email**	Display the E-mail sending status information

Configuration Examples

Enable Email alarm function

```
Switch(Email)# set email enable
  [OK]
```

19.2 Display Email Alarm Information

Display E-mail alarm information view

Operation	Command	Description
Display E-mail alarm information view	**Show email**	Carry out under the system view

Configuration Examples

Display E-mail alarm information

```
Switch(Email)# show email
  Email alarm  : Enable
  Email server : smtp.163.com
  Recipient    :
  Send address :
  Send Password: ******
  Mail time interval: Anytime
```

20 Alarm Configuration Command

Access to the alarm configuration view

Operation	Command	Description
Access to the alarm configuration view	**Alarm**	Carry out under system view

```
Switch# alarm
Switch(Alarm)#
```

20.1 Configure/Delete Alarm

Users can configure alarm via the following commands.

Operation	Command	Description
Relay alarm	**Relay** Type{0|1}	{0|1}; • 0: disable • 1: enable
Configure power alarm	**Power relay** <powerID> {enable|disable}	<powerID>; • 1: it represents the first power supply; • 2: it represents the second power supply; • All: All power supplies {enable|disable}; • Enable; • Disable
Configure port alarm	**Port relay** <portlist> {enable|disable}	<portlist>: port 1, 2, 3... or all {enable|disable}; • Enable; • Disable

Operation	Command	Description
Disable the alarm messages	**Close alarm**	Carry out under alarm view

Configuration Examples

1. Enable alarm for ports 1, 3, 5 and 7.

```
Switch(Alarm)# port relay 1,3,5,7 enable
  [OK]
```

2. Disable alarm.

```
Switch(Alarm)# close alarm
[OK]
```

20.2 Display Alarm Information

Users can view alarm information via the following commands.

Operation	Command	Description
Display relay alarm information	**Show type**	Carry out under alarm view
Display power alarm information	**Show power** <powerID>	<powerID>; • 1: it represents the first power supply; • 2: it represents the second power supply; • All: all power supplies
Display port alarm information	**Show port** <portlist>	<portlist>: port 1, 2, 3... or all

Configuration Examples

View port alarm information.

```
Switch(Alarm)# show type
  Relay type: open
```

21 Statistics Configuration Command

Access to the port statistics configuration view

Operation	Command	Description
Access to the port statistics view	**Statistics**	Carry out under system view

```
Switch# statistics
Switch(Statistics)#
```

21.1 Port Statistics Configuration View

Port statistics configuration

Operation	Command	Description
Count the port frame number and type	Show frames <port>	<portlist>: port 1, 2, 3... or all
Clean the number of statistical frames	**Clean frames**	Carry out in the port statistics view
Total flow of statistical port	**Show traffic** <port>	<portlist>;1,2,3,…or all
Clear the total flow of statistical port	**Clean traffic**	Carry out in the port statistics view
Display MAC address table information	**Show mac**<port>	<portlist>;1,2,3,…or all

Configuration Examples

1) Count the frame number and type of port 5.

```
Switch(Statistics)# show frames 5
  InUnicasts     2386              OutUnicasts    3534
  InMulticasts   12915              OutMulticasts  149
```

```
  InBroadcasts   26715              OutBroadcasts  37
  InDrop         0                      OutDrop        0
  InPause        0                     OutPause       0
  Undersize      0                    Collisions     2
  Oversize       0                    Multiple       1
  Fragments      0                   Late           0
  Jabber         0                    Conflict       0
  SysbolErr      0                   ResBusy        0
```

2) Display the total flow of port 5.

```
Switch(Statistics)# show traffic 5
  Tx         2985150
  Rx         5209616
  Unicast     6260
  Multicast   13165
  Broadcast   26838
  Error       2
```

22 Mirror Configuration View

Access to the port mirror configuration view

Operation	Command	Description
Access to the port mirror configuration view	**Mirror**	Carry out under system view

```
Switch# mirror
Switch(Mirror)#
```

22.1 Port Mirroring Configuration/Deletion

Users can configure/delete port mirroring via the following commands.

Operation	Command	Description
Configure the ingress mirror	**Config Ingress <mirror_port>**	<mirror_port >; it represents the mirror port 1, 2, 3 … or all
Configure the egress mirror	**Config Egress** <mirror_port>	<mirror_port >;it represents the mirror port 1, 2,3 … or all
Configure the collection port	**Config Collect <mirror_port>**	<mirror_port >;it represents the collection port 1, 2, 3 … or all
Delete the mirror information	**Close mirror**	Carry out under the view of port mirroring
Clear the data of ingress mirroing	**Clean Ingress**	Carry out under the view of port mirroring
Clear the data of egress mirroing	**Clean Egress**	Carry out under the view of port mirroring

22.2 Display Port Mirroring Information

Commands for viewing the mirroring information:

Operation	Command	Description
Display the mirroring information	**Show mirror**	Carry out in the port mirroring view

Configuration Examples

View the port mirroring information.

```
Switch(Mirror)#show mirror
  Mirror portlist: 1,2
  Collect port   : 3
```

23 Time Configuration Command

Access to the time configuration view

Operation	Command	Description
Access to the time configuration view.	**Time**	Carry out under the system view

```
Switch# time
Switch(Time)#
```

23.1 Time Configuration

Command for time configuration

Operation	Command	Description
Time configuration enablement	**Time** {enable|disable}	{enable|disable}; • Enable • Disable
World time zone selection	**Zone** <time-zone>	<time-zone>: World time zone, {-12|-11|-10|-9|-8|-7,1|-7,2|-6,1|-6,2|-5,1|-5,2|-4,1|-4,2|-3,1|-3,2|-2|-1|0,1| 0,2| 1,1| 1,2 | 2,1| 2,2| 3| 4| 5| 6| 7| 8,1| 8,2| 9| 10,1| 10,2| 11| 12,1| 12,2}
NTP server address	**Server** <serveraddr>	<serveraddr>: NTP server address

Configuration Examples

Set the mapping value of the world time zone to +8,1.

Switch(Time)# zone +8,1

[OK]

23.2 Display Time Configuration View

Display time configuration information.

Operation	Command	Description
Display time configuration information	**Show time**	Carry out under the time view

Configuration Examples

Display the time configuration information.

```
Switch(Time)# show time
  Time anable  : Enable
  Time zone    : 8
  NTP server   : time-a.nist.gov
  System time  : time-a.nist.gov
```

24 Information Configuration Command

Access to the device information view:

Operation	Command	Description
Access to the device information view	**Information**	Carry out under the system view

```
Switch# information
Switch(information)#
```

24.1 Display Device Information

Commands for the device information display.

Operation	Command	Description
Display the system version	**show version**	Carry out under the device information view
Display MAC address of the device	**show mac**	Carry out under the device information view
Display the device model, name etc.	**show others**	Carry out under the device information view

24.2 Device Information Configuration

Configure the device information, including device type, name, description and contact information.

Operation	Command	Description

Operation	Command	Description
Device information configuration	**Config** <options> <string>	<options>: • -t: device type • -n: device name • -p: device description • -c: contact information • <string>: parameter

Notice

The input type should conform to the type of GB2312 encoding, otherwise a display error will occur.

24.3 Clear the Device Information

Clear the device information, including device type, name, number, description and contact information.

Operation	Command	Description
Clear the device information	**Clean** <options>	<options>: • -t: device type • -n: device name • -p: device description • -c: contact information

25 LLDP Configuration Command

Access to the LLDP view

Operation	Command	Description
Access to the LLDP configuration view	**LLDP**	Carry out under system view

```
Switch# lldp
Switch(Lldp)#
```

25.1 LLDP Enablement

Enable/disable LLDP configuration commands.

Operation	Command	Description
Enable/disable LLDP	Enable {0|1}	{0|1}; • Enable • Disabled

25.2 Display LLDP information

Display LLDP information.

Operation	Command	Description
Display LLDP configuration	**Show LLDP_config**	Carry out under the view of LLDP configuration
Display LLDP neighbor information	**Show neighbors**	Carry out under the view of LLDP configuration

25.3 LLDP Configuration

LLDP configuration commands.

Operation	Command	Description
Send LLDP configuration	**Config** <Tx_Interval_seting>	<Tx_Interval_seting>;Tx Interval [5-32768]
Port configuration	**Port <portlist>** {0:Disable|1:Rx_Tx|2:Tx_Only|3:Rx_Only}	<portlist>;1,2,3… or all {0|1|2|3}; • 0;Disabled • 1;Rx Tx • 2;Tx only • 3;Rx only

26 DHCP Configuration View

Access to the DHCP configuration view

Operation	Command	Description
Access to the DHCP configuration view	**DHCP**	Carry out under the system view

```
Switch# DHCP
Switch(DHCP)#
```

26.1 DHCP Enablement

Enable/disable DHCP configuration command

Operation	Command	Description
Enable/disable LLDP	Enable {0|1}	{0|1}; • Disabled • Enable

26.2 DHCP Parameters Configuration

Configure the DHCP information

Operation	Command	Description
Set the default domain name	**Domain name** <domain name>	<domain name>;default domain name
Set the default gateway	**Default gw** <Default gw>	<Default gw>;default gateway

Operation	Command	Description
Set DNS1 address	**Dns1 address** <Dns1 address>	<Dns1 address>;DNS1 address
Set DNS2 address	**Dns2 address** <Dns2 address>	<Dns2 address>: DNS2 address
Set the lease time	**Config Lease** <time>	<time>; valid time, optional 1-360 hours.
Add	**Add** <IP_Address> <port>	<IP_Address>;IP address <port>;address port
Delete	**Delete** <IP_Address>	<IP_Address>;IP address

Configuration Examples

Set the DHCP lease time

```
Switch(DHCP)# config lease 1
  [OK]
```