

**3onedata**



# Layer 2 Managed Industrial Ethernet Switch CLI User Manual

Version 02

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**Industrial Ethernet Communication Solution Expert**

**3onedata Co., Ltd.**

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# Preface

Switch CLI user manual has introduced the CLI configuration of this switch:

## Audience

This manual applies to the following engineers:

- Network administrators
- Technical support engineers
- Network engineer






## Port Convention

The port number in this manual is only an example, and does not represent the actual port with this number on the device. In actual use, the port number existing on the device shall prevail.

## Text Format Convention

Format	Description
" "	Words with "" represent the interface words. Such as: "Port No."
>	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	It represents the words clicked to achieve hyperlink. The font color is as follows: 'Light Blue'.
About this chapter	The section 'about this chapter' provide links to various sections of this chapter, as well as links to the Principles Operations Section of this chapter.

## Symbols

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

## Revision Record

Version No.	Date	Revision note
01	12/30/2013	Product release
02	12/21/2021	Upgrade

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# 1 Log in to the CLI Configuration Interface

## 1.1 Login to the Switch via Console Port

The PC can log in to the command line interface of the device by connecting to the Console port.

### Operation Steps

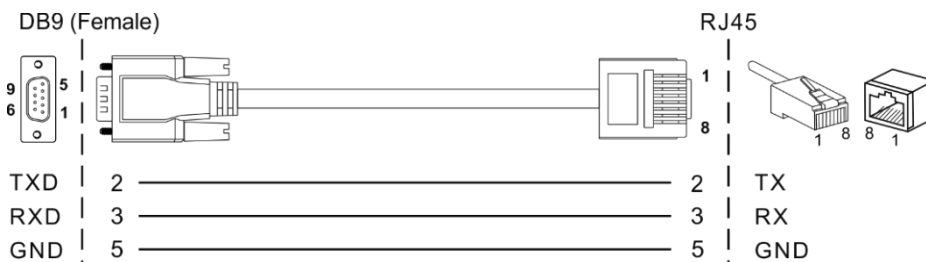
**Step 1** Connect the serial port of the computer to the Console port of the device through the serial port line to establish a local configuration environment, as shown in the topology diagram below.



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

Note:

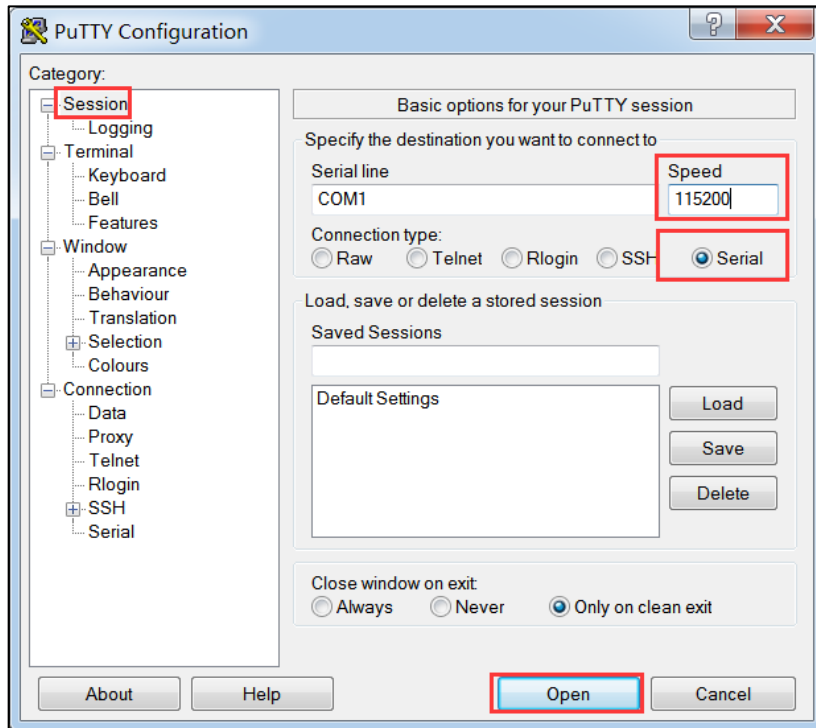
Diagram of internal connection line of serial port line/communication cable is shown below.



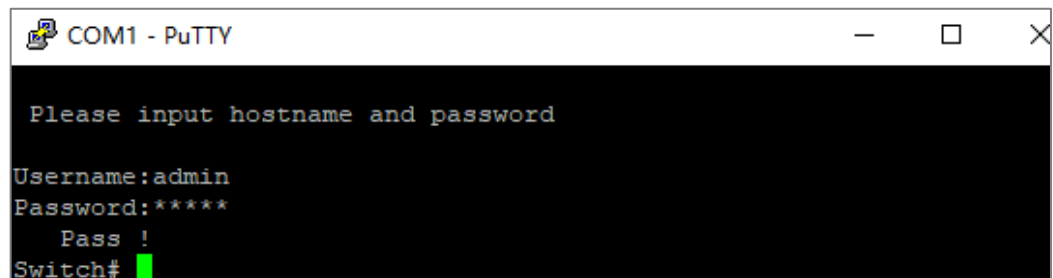
**Step 2** Open the terminal simulation software on the PC, create a new connection, and set the

interface and communication parameters of the connection. (Using PuTTY as an example here.)

- 1 Open PuTTY and click "Session" on the menu bar.
- 2 In the "Basic options for your PuTTY session" input box on the right, do the following:
  - Select "Connection type" to "Serial".
  - Enter "115200" in the "Speed" text box;
  - Click "Open".



- 3 The "COM1-PuTTY" command line edit dialog box pops up. Press enter key to enter user name and password. The user name and password of the device are both admin by default, as shown below.



**Step 3** End.

## 1.2 Login to the Switch via Telnet

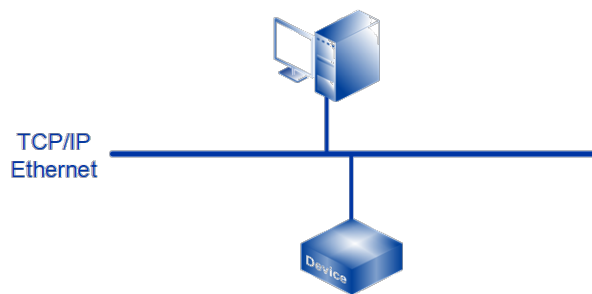
Through Telnet client login to the command line interface of the device, the client and the device should meet the following requires:

- 1 Configure the IP address of the switch correctly.
- 2 If the Telnet client and the device are in the same LAN, the IP address of the device and the client must be configured in the same network segment. Otherwise, the route between Telnet client and device must be accessible.

User can log in to the switch device through the Telnet client and configure the device if the two requires above are met.

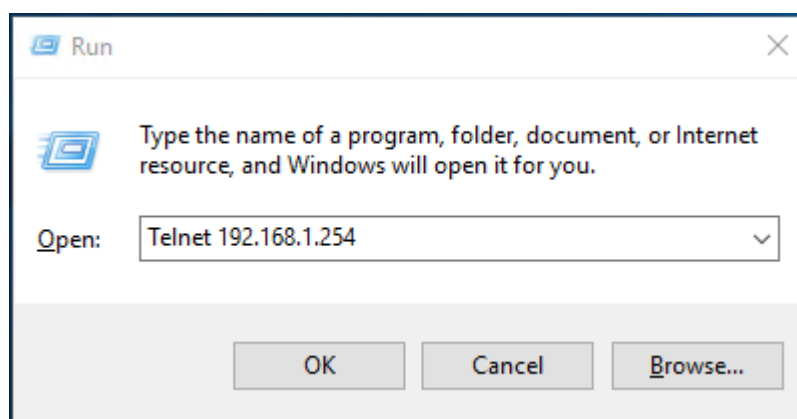
### Operation Steps

**Step 1** As shown in the figure below, set up the configuration environment to connect the Ethernet port of the computer to the Ethernet port of the device through the LAN.



**Step 2** Run the Telnet client on the computer and input the administrative IP address of the Ethernet port connected the computer to the switch, as shown in the figure below.

- 1 Press "Win+R" to pop up the running window;
- 2 Enter "Telnet+ space + device IP address" in the "Open (O)" input box.
- 3 Click "OK" button.

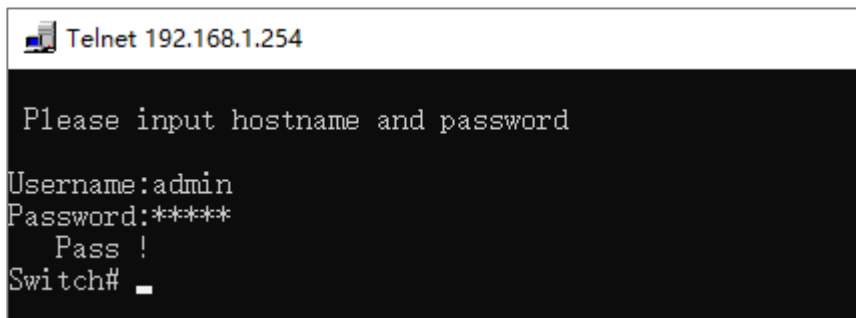


Note:

- Using the command line prompt interface of Win7/Win8/Win10 and other operating systems to configure the device needs to enable Telnet client in advance, user can check and enable Telnet client in the Windows function window under the path of "Control Panel > Program and Function > Enable or Disable Windows function", if Telnet client has been enabled, user can ignore this instruction.
- If the computer operating system does not support Telnet clients, a third party software PuTTY can be used as a Telnet client.
- The default IP address of the device is "192.168.1.254".

**Step 3** Click "OK" to start the Telnet connection request.

**Step 4** After successful connection, enter the correct user name and password according to the interface prompt, as shown in the figure below.



```
Telnet 192.168.1.254
Please input hostname and password
Username: admin
Password:*****
Pass !
Switch# _
```

Note:

The default user name and password of the device are "admin".

**Step 5** End.

## 1.3 Command Line Interface

The switch provides a command line interface and configuration commands to users for easy configuration and management. The command line interface has the following features:

- Local configuration through the Console port;
- Support history command save, 10 can be saved. Saved history command information can be selected through the upper and lower arrow key.
- User can enter "help" or "?" to get help;
- Command input supports Tab key intelligent completion;
- The command line interpreter adopts an incomplete search method for keywords, and the user only needs to type conflict-free keywords, for example, for the config command, just type conf.

## 1.3.1 Command Line Online Help

CLI provides the following kinds of online help:

- Complete help;
- Partial help.

### Complete help

1) In any view, enter <?> to get all commands and their simple description in this view.

```
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 “?” separated by space, all keywords and their simple description would be listed if this location has keywords.

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

### Partial help

1) Enter a character string followed by <?>, all character string that start with this character string will be listed.

```
Switch# M?
Mirror        <dir>  --Enter port mirror menu
Manage        <dir>  --Enter system manage menu
Multicast     <dir>  --Enter static multicast filters menu
```

2) Enter first several letters of the command and press <Tab>, if regard the first keyword of the entered letters as unique, then complete keyword would be displayed.

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

## 1.3.2 Command Line Common Error

All commands typed by the user, if they pass the syntax check will be executed correctly; otherwise, error messages are reported to the user. Common error messages are shown in the table below.

English error message	Cause of Error
Invalid Command	No command found
	No keyword found
	Parameter type error
	Parameter value out of range
Incomplete Command	The input command is incomplete
Too many parameters	Too many parameters

## 1.3.3 History Command

command line interface provides features like Doskey, which can save history Command entered by user automatically. User can call history Commands saved by command line interface at any time and execute them repeatedly.

Access history command:

Operation	Key	Result
Visit last history command	The up cursor key<↑>	If there are earlier history commands, the last history command would be fetched
Visit next history command	The down cursor key<↓>	If there are later history commands, the next history command would be fetched

## 1.3.4 Common Command

The regular command is the most frequently used command. For the convenience of operation, the command List, Help, Quit, Exit and Reboot is arranged in all modes.

Common Command:

Operation	Command	Note
Lists the names of command in this mode	List	Execute in any mode
Lists the names of command and their help information in this mode	Help	Execute in any mode
From the current mode back to the login interface	Quit	Execute in any mode
From the current mode back to the last mode, can not back to login interface	Exit	Execute in any mode
Reboot the device	Reboot	Execute in any mode

### Configuration Instance

1) Returns the previous layer from port configuration mode, enter the following bold font command and press enter key.

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

2) View the command format name in VLAN setting mode, enter the following bold font command and press enter key.

```
Switch(VLAN) # list
List
Help
Quit
Exit
Reboot
Show vlantype
Enable
Show_IsolateList
Delete_IsolateList
Config
PVLANSetting <dir>
QVLANSetting <dir>
```

3) restart the settings in the information view, enter the following bold font command and press enter.

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

Please input hostname and password

Username:



# 2 Port Configuration Command

Enter port configuration view.

Operation	Command	Note
Enter port configuration view	<b>Port</b>	Execute in the system view

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

## 2.1 Port Information Display

Port state and configuration information

Operation	Command	Note
Port state information display	<b>Show state</b> <portlist>	<portlist>: 1,2,3,.....or all
Port configuration information display	<b>Show config</b> <portlist>	<portlist>: 1,2,3,.....or all

### Configuration Instance

Display state information of port 1.

```
Switch(Port)# show state 1
      Speed  Port_status  Link_status  Interface_type
port 1  100M      FULL         LOS          TX
```

Display configuration information of port 1.

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

## 2.2 Port Enable

The user can enable or disable ports using the following commands. By default, the port is enabled.

Operation	Command	Note
Port Enable	<b>switch</b> <portlist> {enable disable}	<portlist>: 1,2,3,.....or all

### Configuration Instance

Disable port 1.

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

## 2.3 Port Flow Control

Enable or disable port flow control.

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

### Configuration Instance

Enable port 2 flow control

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

## 2.4 Port Speed and Working Mode

Configure the speed and duplex state of the port

Operation	Command	Note
Configure the speed and duplex mode of the port	<b>Mode</b> <portlist> <rate>	<portlist>: 1,2,3,.....or all <rate>: <ul style="list-style-type: none"> <li>• 10h: 10Mbps half duplex;</li> <li>• 10f: 10Mbps full duplex;</li> <li>• 100h: 100Mbps half duplex;</li> <li>• 100f: 100Mbps full duplex;</li> <li>• 1000f: 1000Mbps full duplex;</li> <li>• Auto: port rate auto-negotiation</li> </ul>

### Configuration Instance

Configure the speed of Port 3 to 100Mbps and working mode to half duplex.

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

## 2.5 Port MDI/MDIX Self-adaption

Configure straight-through line and cross line self-adaption.

Operation	Command	Note
Configure MDI/MDIX self-adaptation	<b>AutoMDI</b> <portlist> <mode>	<portlist>: 1,2,3,.....or all <mode>: <ul style="list-style-type: none"> <li>• 0: self-adaption</li> <li>• 1: MDI</li> <li>• 2: MDIX</li> </ul>

### Configuration Instance

Configure Port 3 self-adaptive MDI/MDIX twisted pair.

```
Switch(Port) # autoMDI 3 0
```

```
[OK]
```

# 3 Serial Configuration Command

The serial port server configuration includes

- Port number configuration
- Serial Parameter Settings
- Work Mode Settings

## 3.1 Serial Port Introduction

The serial port supports TCP Client, TCP Server, UDP, TcpAuto, as well as TCP Server and UDP segment advanced working mode

Enter port configuration view command:

Operation	Command	Note
Enter serial port configuration view	<b>Serial</b>	Execute in the system view
Enter serial port configuration	<b>Com1、Com2、Com3、Com4</b>	Execute in the system view



Note

The number of serial ports entering the serial port configuration shall be subject to the number of serial ports possessed by the actual product.

## 3.2 Serial Port Information

Serial Port Information:

Operation	Command	Note
Display connection status of the serial port	<b>Show link</b> <port>	<port>: 1,2,3 or all
Statistics serial port information status	<b>Show err</b> <port>	<port>: 1,2,3 or all
Clean up serial port information	<b>clear err</b> <port>	<port>: 1,2,3 or all
Displays serial port configuration information	<b>Show config</b> <port>	<port>: 1,2,3 or all

### Configuration Instance

- Display the connection status of serial port 1

```
Serial (comsd1) # show link 1
```

- Statistics error message of serial port 1

```
Serial (com1) # show err 1
```

- Clean up the error message of serial port 1

```
Serial (com1) # clear err 1
```

- Display configuration information of serial port 1

```
Serial (com1) # show config 1
```

## 3.3 Serial Port Parameter

Configure the serial port parameter:

Operation	Command	Note
-----------	---------	------

Operation	Command	Note
Configure the serial port parameter	<b>config</b> <Baudrate><parity> <Databits><stopbits>	<Baudrate port>: baud rate {300,600,1200,2400,4800,9600,19200,38400,57600,115200} <parity>: Parity <ul style="list-style-type: none"> <li>• 0: None</li> <li>• 1: Odd</li> <li>• 2: Even</li> <li>• 3: Mark</li> <li>• 4: Space</li> </ul> <Databits>: Databits <ul style="list-style-type: none"> <li>• 0: 5bits</li> <li>• 1: 6bits</li> <li>• 2: 7bits</li> <li>• 3: 8bits</li> </ul> <stopbits>: Stop Bits <ul style="list-style-type: none"> <li>• 0: 1bit</li> <li>• 1: 1.5bits or 2bits</li> </ul>
Serial port data frame message	<b>Set packs_bytes</b> <bytes >	<bytes> : data frame range 0~1024 bytes
Serial character spacing	<b>Set packs_time</b> <time >	< time > : character interval of 1~500ms
COM Mode	<b>Set Com_mode</b> <Com_mode>	< Com_mode >: <ul style="list-style-type: none"> <li>• 0: RS232</li> <li>• 1: RS422</li> <li>• 2: RS485</li> </ul>

### Configuration Instance

- Configure the parameter of serial port 1  
Serial (com1) # config 115200 1 7 2
- Configure the data frame for serial port 1  
Serial (com1) # set packs\_bytes 500
- Configure character spacing for serial port 1  
Serial (com1) # set packs\_time 50
- Configure serial port 1 to RS485 work mode  
Serial (com1) # set\_com\_mode 2

## 3.4 COM Work Mode Configuration

COM work mode configuration information:

Operation	Command	Note
COM work mode configuration information	<b>Set oneToMulti</b> <oneToMulti>	<oneToMulti>: <ul style="list-style-type: none"> <li>0: basic mode</li> <li>1: advanced mode</li> </ul>

### Configuration Instance

Configure serial port 1 to advanced mode

```
Serial (com1) # set oneTomulti 1
```

## 3.5 TCP Client Working Mode Configuration

Configuration information of serial port TCP Client mode:

Operation	Command	Note
Serial TCP Client mode configuration information	<b>Set TCP_C</b> <session_list> <enable> <local_port> <dns> <dest_addr> <dest_port> <link_mode> <heartbeat> <TCP_timeout> <realCom>	<session_list>: sessions 1~4 <enable>: enable 1, disable 0 Local port Domain name <ul style="list-style-type: none"> <li>Enable</li> <li>0: disable</li> </ul> Destination address Destination port <link_mode> : <ul style="list-style-type: none"> <li>1: connect immediately</li> <li>0: data trigger</li> </ul> Heartbeat time Disconnected time out <realCom>: <ul style="list-style-type: none"> <li>1: Enabled</li> <li>0: disable</li> </ul>



Configuration Instance

Configure TCP Client working mode of the serial port 1

```
Serial (com1) # set TCP_C 4 1 30000 1 192.168.1.254 31000 1 0 300
1
```

### 3.6 UDP Working Mode Configuration

UDP mode configuration information of serial port:

Operation	Command	Note
TCP UDP mode configuration information of serial port	<b>Set UDP</b> <session_list> <enable> <local_port><dns> <dest_addr> <dest_port> <realCom>	<session_list>: sessions 1~4 <enable>: enable 1, disable 0 Local port Domain name Destination address Destination port <realCom>: • 1: Enabled • 0: disable

Configuration Instance

Configure UDP working mode of serial port 1

```
Serial (com1) # set UDP 4 1 30000 1 192.168.1.254 31000 31000 1
```

### 3.7 TCP Server Working Mode Configuration

Serial TCP Server mode configuration information:

Operation	Command	Note
-----------	---------	------

Operation	Command	Note
Serial TCP Server mode configuration information	<b>Set TCP_S</b> <session_list> <enable> <local_port> <heartbeat> <TCP_timeout> <realCom>	<session_list>: sessions 1~4 <enable>: enable 1, disable 0 Local port Heartbeat time Disconnected time out <realCom>: <ul style="list-style-type: none"> <li>• 1: Enabled</li> <li>• 0: disable</li> </ul>

### Configuration Instance

Configure the serial port 1 TCP Server working mode

```
Serial (com1) # set TCP_S 4 1 30000 10 300 1
```

## 3.8 TCP Auto Working Mode Configuration

Configuration information of serial port TCP Auto mode:

Operation	Command	Note
Serial port TCP Auto mode configuration information	<b>Set TCP_A</b> <session_list> <enable> <local_port> <dns> <dest_addr> <dest_port> <link_mode> <heartbeat> <TCP_timeout> <realCom>	<session_list>: sessions 1~4 <enable>: enable 1, disable 0 Local port Domain name Destination address Destination port <link_mode>: <ul style="list-style-type: none"> <li>• 1: connect immediately</li> <li>• 0: data trigger</li> </ul> Heartbeat time Disconnected time out <realCom>: <ul style="list-style-type: none"> <li>• 1: Enabled</li> <li>• 0: disable</li> </ul>

### Configuration Instance

Configure serial port 1 TCP Auto working mode

```
Serial (com1) # set TCP_A 4 1 30000 1 192.168.1.254 31000 1 10 300
1
```

## 3.9 Serial Port Advanced Mode

COM work mode configuration information:

Operation	Command	Note
Serial port advanced mode information	<b>Set Session_multi</b> <net_mode > <session_number>	<net_mode >: <ul style="list-style-type: none"> <li>1: TCP server</li> <li>2: UDP</li> </ul> <session_number>: sessions 0~4

### Configuration Instance

Configure advanced mode of serial port 1

```
Serial (com1) # set session_multi 1 4
```

## 3.10 TCP Server Advanced Mode Configuration

Advanced mode configuration information of serial TCP Server:

Operation	Command	Note
Serial TCP Server advanced mode configuration information	<b>Set TCP_S_multi</b> <local_port> <heartbeat> <TCP_timeout> <realCom>	Local port Heartbeat time Disconnected time out <realCom>: <ul style="list-style-type: none"> <li>1: Enabled</li> <li>0: disable</li> </ul>

### Configuration Instance

Configure the serial port 1 TCP Server advanced mode.

```
Serial (com1) # set TCP_S_multi 30000 10 300
```

## 3.11 UDP Advanced Mode Configuration

UDP advanced mode configuration information of serial port:

Operation	Command	Note
UDP advanced mode configuration information of serial port	<b>Set UDP_multi</b> <session_list> <local_port> <dns> <dest_addr> <dest_addr_end> <dest_port> <realCom>	<session_list>: sessions 0~4 Local port Domain name <dest_addr> : the starting destination address for the segment address <dest_addr_end> : end destination address of segment address <dest_port>: destination address <realCom>: <ul style="list-style-type: none"> <li>• 1: Enabled</li> <li>• 0: disable</li> </ul>

### Configuration Instance

Configure serial port 1 UDP advanced mode.

```
Serial (com1) # set UDP_multi 4 30000 1 192.168.0.1 192.168.0.254
31000 1
```

# 4 CAN Configuration Command

CAN server configuration includes:

- Port number configuration;
- CAN parameter configuration;
- Work mode configuration.

## 4.1 CAN Introduction

The CAN port supports TCP Client, TCP Server, UDP, TcpAuto, as well as TCP Server and UDP segment advanced working mode.

Enter port configuration view command:

Operation	Command	Note
Enter CAN port configuration view	<b>CAN</b>	Execute in the system view
Enter CAN port configuration	<b>Can1、Can2</b>	Execute in CAN configuration view



Note

The number of CAN ports entering the CAN port configuration shall be subject to the number of CAN ports possessed by the actual product.

## 4.2 Display CAN Information

CAN port information:

Operation	Command	Note
Displays CAN port configuration information	<b>Show config</b> <i>&lt;port_list &gt;</i>	<i>&lt;port_list &gt;</i> : 1, 2 or all
Display CAN port session connection information	<b>Show link</b> <i>&lt;port_list &gt;</i>	<i>&lt;port_list &gt;</i> : 1, 2 or all
Display CAN port error statistics information	<b>Show err</b> <i>&lt;port_list &gt;</i>	<i>&lt;port_list &gt;</i> : 1, 2 or all
Clean CAN port error statistics information	<b>clear err</b> <i>&lt;port_list &gt;</i>	<i>&lt;port_list &gt;</i> : 1, 2 or all

### Configuration Instance

1. Display configuration information of CAN port 1.

```
CAN(CAN1) # show config 1
```

```
CAN<1>
```

```
  Baudrate:          1000000 (bps)
```

```
  Can mode:          Normal
```

```
  Packs frame:       1 (frame)
```

```
  Packs time space:  1 (ms)
```

```
  Session Option:    OneToOne
```

```
  Session<1>
```

```
    State:           Enable
```

```
    Session mode:    TCP server
```

```
    local port:      32000
```

```
    heartbeat interval: 0(S)
```

```
    TCP link TimeOut: 300(S)
```

```
  Session<2>
```

```
    State:           Disable
```

```
    Session mode:    TCP server
```

```
    local port:      32001
```

```
    heartbeat interval: 0(S)
```

```
    TCP link TimeOut: 300(S)
```

```
  Session<3>
```

```
    State:           Disable
```

```
Session mode:      TCP server
local port:        32002
heartbeat interval: 0(S)
TCP link TimeOut:  300(S)
Session<4>
State:             Disable
Session mode:      TCP server
local port:        32003
heartbeat interval: 0(S)
TCP link TimeOut:  300(S)
```

## 2. Display CAN1 session connection information.

```
CAN(CAN1) # show link 1
```

```
CAN<1>
Session<1>
Session<2>
Session<3>
Session<4>
```

## 3. Statistics error message of CAN 1.

```
CAN(CAN1) # show err 1
```

```
CAN<1>
Can err:          0 frames
Bus err:          0 frames
Session<1>
ch err:           0 frames
Session<2>
ch err:           0 frames
Session<3>
ch err:           0 frames
Session<4>
ch err:           0 frames
```

## 4. Clean up the error message of CAN 1.

```
CAN(CAN1) # clear err 1
```

```
Clear OK!
```

## 4.3 Configure CAN Parameter

Configure the CAN port parameter:

Operation	Command	Note
CAN subcontract Frame Number Configuration	<b>Set Packs_frame</b> <packs_frame>	<packs_frame> : the range of subcontract frame number is 1-50.
CAN subcontract time interval configuration	<b>Set Packs_time</b> <Packs_time>	<Packs_time>: the range of CAN subcontract time interval is 1-254ms.
Clear CANBuffer information	<b>Set Clear_can_buff</b> {enable disable}	{enable disable}: <ul style="list-style-type: none"> <li>• Enable: clear up CANBuffer during TCP connection;</li> <li>• Disable: never clear up CANBuffer.</li> </ul>
Enable/Disable TCP Trubo	<b>Set TCP_Trube</b> {enable disable}	{enable disable}: <ul style="list-style-type: none"> <li>• Enable: Enable TCP Trubo;</li> <li>• Disable: Disable TCP Trubo.</li> </ul>
CAN port baud rate and CAN mode configuration	<b>Config</b> <baudrate> <can_mode>	<baudrate> : CAN baud rate supports optional 5000, 10000, 20000, 30000, 40000, 50000, 100000, 125000, 250000, 500000, 600000, 700000, 800000, 900000, 1000000, the unit is bps. <can_mode>: <ul style="list-style-type: none"> <li>• 0: normal;</li> <li>• 1: listen only;</li> <li>• 2: self testing.</li> </ul>

## 4.4 Basic/Advanced Mode Configuration

Basic/advanced mode configuration information:

Operation	Command	Note
Basic/Advanced Mode Configuration information	<b>Set oneToMulti</b> <oneToMulti>	<oneToMulti>: <ul style="list-style-type: none"> <li>• 0: basic mode</li> <li>• 1: advanced mode</li> </ul>

### Configuration Instance

Configure CAN1 to basic mode



```
CAN (CAN1) # set oneToMulti 0
[OK]
```

## 4.5 Work Mode Configuration in Basic Mode

### 4.5.1 TCP Client Working Mode Configuration

Configuration information of TCP Client mode:

Operation	Command	Note
TCP Client mode	<pre>Set TCP_C &lt;session_list&gt; &lt;enable&gt; &lt;local_port&gt; &lt;dns&gt; &lt;dest_addr&gt; &lt;dest_port&gt; &lt;link_mode&gt; &lt;heartbeat&gt; &lt;TCP_timeout&gt;</pre>	<p>&lt;session_list&gt;: session number, 1, 2, 3, 4 or all.</p> <p>&lt;enable&gt;:</p> <ul style="list-style-type: none"> <li>• 0: disable</li> <li>• 1: enable</li> </ul> <p>&lt;local_port&gt;: local port, 0-65535.</p> <p>Domain name</p> <ul style="list-style-type: none"> <li>• 1: Enable</li> <li>• 0: disable</li> </ul> <p>&lt;dest_addr&gt;: destination address, IP address or domain name.</p> <p>&lt;dest_port&gt;: destination port, 1-65535.</p> <p>&lt;link_mode&gt; :</p> <ul style="list-style-type: none"> <li>• 1: connect immediately</li> <li>• 0: data trigger</li> </ul> <p>&lt;Heartbeat&gt;: heartbeat time, 0-65535s.</p> <p>&lt;TCP_timeout&gt;: disconnected time out, 0-65535s.</p>

#### Configuration Instance

Configure TCP Client working mode of the CAN1.

```
CAN (CAN1) # set tcp_C 1 1 30000 0 192.168.1.66 31000 1 0 300
[OK]
```

## 4.5.2 UDP Working Mode Configuration

UDP mode configuration information:

Operation	Command	Note
UDP mode	<b>Set UDP</b> <session_list> <enable> <local_port> <dns> <dest_addr> <dest_port>	<session_list>: session number, 1, 2, 3, 4 or all. <enable>: <ul style="list-style-type: none"> <li>• 0: disable</li> <li>• 1: enable</li> </ul> <local_port>: local port, 0-65535. Domain name <ul style="list-style-type: none"> <li>• 1: Enable</li> <li>• 0: disable</li> </ul> <dest_addr>: destination address, IP address or domain name. <dest_port>: destination port, 1-65535.

### Configuration Instance

Configure the working mode of CAN1 UDP

```
CAN (CAN1) # set UDP 3 1 30002 1 192.168.1.66 32000
[OK]
```

## 4.5.3 TCP Server Working Mode Configuration

TCP Server mode configuration information:

Operation	Command	Note
TCP Server mode	<b>Set TCP_S</b> <session_list> <enable> <local_port> <heartbeat> <TCP_timeout>	<session_list>: session number, 1, 2, 3, 4 or all. <enable>: <ul style="list-style-type: none"> <li>• 0: disable</li> <li>• 1: enable</li> </ul> <local_port>: local port, 0-65535. <Heartbeat>: heartbeat time, 0-65535s. <TCP_timeout>: disconnected time out, 0-65535s.

### Configuration Instance

Configure TCP Server working mode of the CAN1.

```
CAN (CAN1) # set tcp_S 2 1 30001 0 300
[OK]
```

## 4.5.4 TCP Auto Working Mode Configuration

Configuration information of TCP Auto mode:

Operation	Command	Note
TCP Auto mode	<b>Set TCP_A</b> <session_list> <enable> <local_port> <dns> <dest_addr> <dest_port> <link_mode> <heartbeat> <TCP_timeout>	<session_list>: session number, 1, 2, 3, 4 or all. <enable>: • 0: disable • 1: enable <local_port>: local port, 0-65535. Domain name • 1: Enable • 0: disable <dest_addr>: destination address, IP address or domain name. <dest_port>: destination port, 1-65535. <link_mode> : • 1: connect immediately • 0: data trigger <Heartbeat>: heartbeat time, 0-65535s. <TCP_timeout>: disconnected time out, 0-65535s.

### Configuration Instance

Configure TCP Auto working mode of the CAN1.

```
CAN (CAN1) # set tcp_A 4 1 30000 0 192.168.1.66 34000 1 0 300
[OK]
```

## 4.6 Work Mode Configuration in Advanced Mode

Work mode configuration information:

Operation	Command	Note
Work mode selection in advanced mode	<b>Set Session_multi</b> <net_mode > <session_number>	<net_mode >: <ul style="list-style-type: none"> <li>• 1: TCP server</li> <li>• 2: UDP</li> </ul> <session_number>: session number, 0-4.

### Configuration Instance

Configure the advanced mode of CAN 1.

```
CAN (CAN1) # Set OneToMulti 1 //advanced mode
[OK]
CAN (CAN1) # Set Session_multi 1 4 //TCP work mode
[OK]
```

### 4.6.1 TCP Server Advanced Mode Configuration

The configuration information of TCP Server advanced mode:

Operation	Command	Note
TCP Server advanced mode	<b>Set TCP_S_multi</b> <local_port> <heartbeat> <TCP_timeout>	<local_port>: local port, 0-65535. <Heartbeat>: heartbeat time, 0-65535s. <TCP_timeout>: disconnected time out, 0-65535s.

### Configuration Instance

Configure the CAN1 TCP Server advanced mode.

```
CAN (CAN1) # Set TCP_S_multi 30000 0 300
[OK]
```

## 4.6.2 UDP Advanced Mode Configuration

The configuration information of UDP advanced mode:

Operation	Command	Note
UDP advanced mode	<b>Set UDP_multi</b> <session_list> <local_port> <dns> <dest_addr> <dest_addr_end> <dest_port>	<session_list>: session number, 1, 2, 3, 4 or all. <local_port>: local port, 0-65535. Domain name <ul style="list-style-type: none"> <li>• 1: Enable</li> <li>• 0: disable</li> </ul> <dest_addr> : the start destination address of the UDP segment address. <dest_addr_end>: the end destination address of the UDP segment address. <dest_port>: destination port, 1-65535.

# 5 Bandwidth Configuration Command

Enter bandwidth management view

Operation	Command	Note
Enter bandwidth management view	<b>Bandwidth</b>	Execute in the system view

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

## 5.1 Bandwidth configuration

Ingress bandwidth and egress bandwidth configuration commands.

Operation	Command	Note
Limit package type	<b>Config</b> <b>intype</b> <portlist> {0 1 2 3}	<portlist>: 1,2,3,.....or all; {0 1 2 3}: <ul style="list-style-type: none"> <li>• 0: all frames;</li> <li>• 1: broadcast, multicast and flood unicast data frames;</li> <li>• 2: broadcast and multicast packages only;</li> <li>• 3: broadcast package only</li> </ul>

Operation	Command	Note
Configure ingress bandwidth	<b>Config inrate</b> <portlist> <low_bw> <normal_bw> <medium_bw> <high_bw>	<portlist>: 1,2,3,.....or all; <low_bw> : low priority queue bandwidth (128k, 256k, 512k, 1M, 2M, 4M, 8M, 16M, 32M, 64M, 128M, 256M, 0 means unlimited); <Normal_bw>: bandwidth of normal priority queue, 1-2 times of lower priority bandwidth; <medium_bw>: bandwidth of medium priority queue, 1-2 times of ordinary low priority bandwidth; <high_bw>: bandwidth of high priority queue, 1-2 times medium priority bandwidth
Configure egress bandwidth	<b>Config egrate</b> <portlist> <bandwidth>	<portlist>: 1,2,3,.....or all; <bandwidth> : 128k, 256k, 512k, 1M, 2M, 4M, 8M, 0 means unlimited

### Configuration Instance

Set the restrict packet types of port 1 to broadcast packets only, low priority to 128K, normal priority to 256K, medium priority to 512K, high priority to 1M.

```
Switch(Bandwidth)# config intype 1 3
[OK]
Switch(Bandwidth)# config inrate 1 128k 256k 512k 1m
[OK]
```

Configure the egress bandwidth of port 1 as unlimited.

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

## 5.2 Bandwidth Display

Display commands of ingress bandwidth and egress bandwidth.

Operation	Command	Note
View limit package type	<b>Show intype</b> <portlist>	<portlist>: 1,2,3,.....or all

Operation	Command	Note
View ingress bandwidth information	<b>Show inrate</b> <portlist>	<portlist>: 1,2,3,.....or all
View egress bandwidth information	<b>Show egrate</b> <portlist>	<portlist>: 1,2,3,.....or all

### Configuration Instance

Display ingress bandwidth, egress bandwidth, and limited packet types of port 1.

```
Switch(Bandwidth)# show inrate 1
port 1 egress bandwidth: unlimited
Switch(Bandwidth)# show egrate 1
port 1 egress bandwidth: unlimited
Switch(Bandwidth)# show intype 1
port 1 Limit packets: Broadcast only
```



# 6 Statistics Configuration Command

Enter port statistics configuration view.

Operation	Command	Note
Enter port statistics view	<b>Statistics</b>	Execute in the system view

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

## 6.1 Port Statistics Configuration

Port statistics configuration.

Operation	Command	Note
Count the frame number and type of ports	<b>Show frames</b> <port>	<portlist>: 1,2,3,.....or all
Clean up the frame count	<b>Clean frames</b>	Execute in port statistics view
Displays information of the MAC address table	<b>Show mac</b> <port>	<port>: <ul style="list-style-type: none"> <li>• 0: all ports</li> <li>• &gt;: 1, 2, 3, ..... or all</li> <li>• 11: CPU port</li> </ul>

### Configuration Instance

Count the frame number of port 1.

```
Switch(Statistics)# show frames 1
InGoodOctets    20887291          OutOctets    3177472
```

InbadOctets	0	OutUnicast	4505
InUnicasts	5138	OutBroadCasts	31
InBroadcasts	250416	OutMulticasts	1926
InMulticasts	15860	OutPause	0
InPause	0	Excessive	0
InUndersize	0	Collisions	0
InFragments	0	Deferred	0
InOversize	0	Single	0
InJabber	0	Multiple	0
IN RxErr	0	OutFCSErr	0
INFCSErr	0	Late	0

# 7 IGMP Configuration Command

Enter IGMP snooping view

Operation	Command	Note
Enter the multicast filter configuration view	<b>IGMP Snooping</b>	Execute in the system view

```
Switch# igmp
Switch(Igmp)# ?
```

## 7.1 IGMP Snooping Configuration Command

IGMP-snooping configuration

Operation	Command	Note
Configure IGMP snooping enablement	<b>Set IGMP</b> {enable disable}	{enable disable}: <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> </ul>
Configure IGMP query enablement	<b>Set query</b> {enable disable}	{enable disable}: <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> </ul>
Configure the IGMP query interval	<b>Query</b> <time>	<time>: 60-1000s
Display IGMP information	<b>Show MAClist</b>	Execute under the IGMP snooping view

## Configuration Instance

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

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

# 8 LLDP Configuration Command

Enter LLDP View

Operation	Command	Note
Enter LLDP configuration view	<b>LLDP</b>	Execute in the system view

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

## 8.1 LLDP Enablement

Enable/disable LLDP configuration command

Operation	Command	Note
Enable/disable LLDP	<b>Lldp</b> {enable disable}	{enable disable}: <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> </ul>

## 8.2 Display LLDP Information

Display LLDP information

Operation	Command	Note
Display LLDP configuration	<b>Show</b>	Execute in LLDP configuration view

## 8.3 LLDP Configuration

LLDP configuration command

Operation	Command	Note
Send LLDP configuration	<b>Config</b> <TxInterval> <TxHold> <TxDelay> <TxReinit>	<TxInterval>: Tx Interval [5-32768] <TxHold>: Tx Hold [2-10] <TxDelay>: Tx Delay [1-8192 and <= TxInterval/4] <TxReinit>: Tx Reinit [1-10]
Port configuration	<b>Set</b> <portlist> {0 1 2 3}	<portlist>: 1,2,3,.....or all {0 1 2 3}: <ul style="list-style-type: none"> <li>• 0: Disabled</li> <li>• 1: Rx Tx</li> <li>• 2: Tx only</li> <li>• 3: Rx only</li> </ul>
Display neighbor information	<b>Print neighbors</b>	Execute in LLDP configuration view
Display local LLDP statistics	<b>print local</b>	Execute in LLDP configuration view
Clear local LLDP statistics	<b>clear</b>	Execute in LLDP configuration view

# 9 VLAN Configuration Command

Enter VLAN configuration view:

Operation	Command	Note
Enter VLAN configuration view	<b>Vlan</b>	Execute in the system view

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

## 9.1 VLAN Type Configuration and Display

VLAN type configuration and display commands.

Operation	Command	Note
Enter VLAN information view	<b>Show vlantype</b>	Execute in VLAN view
Select the VLAN type	<b>Enable {0 1}</b>	{0 1}: <ul style="list-style-type: none"> <li>0: port-based VLAN</li> <li>VLAN of 1: 802.1Q</li> </ul>

### Configuration Instance

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!
```

## 9.2 Port Isolation

Configure port isolation.

Operation	Command	Note
Configure isolated port	<b>Config</b> <isolatelist> <portlist>	<Isolatelist>: isolation group 1, 2, 3, 4, 5 <portlist>: port 1,2,3,.....or all
Delete isolated entry	<b>Delete_IsolateList</b> <isolatelist>	<Isolatelist>: isolation group 1, 2, 3, 4, 5
Display isolated entry	<b>Show_IsolateList</b> <isolatelist>	<Isolatelist>: isolation group 1, 2, 3, 4, 5

## 9.3 Port-based VLAN

Enter port VLAN view.

Operation	Command	Note
Port VLAN view	<b>PVLANSSetting</b>	Execute in VLAN view

```
Switch(VLAN) # PVLANSSetting
Switch(PVlan) #
```

Port VLAN configuration

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

### Configuration Instance

Add VLAN 2 with port members of port 2 and port 3.



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

## 9.4 IEEE802.1Q VLAN

Enter 802.1Q VLAN view

Operation	Command	Note
802.1Q Vlan view	<b>QVLANSetting</b>	Execute in VLAN view

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

802.1Q VLAN Configuration

Operation	Command	Note
Set port type	<b>Config type</b> <portlist> {Trunk Access}	<portlist>: 1,2,3,.....or all {Trunk Access}: <ul style="list-style-type: none"> <li>Trunk: keep VID unchanged</li> <li>Access: replace VID with port default VID</li> </ul>
Pvid setting	<b>config pvid</b> <portlist> <pvid>	<portlist> : 1, 2, 3... or all, 0 represents the CPU port <pvid>: 1-4094
Add Vlan	<b>Add</b> <vid> <portlist> <typelist>	<vid>: 1-4094 <portlist> : 1, 2, 3... or all, 0 represents the CPU port <typelist>: <ul style="list-style-type: none"> <li>M: UnModified</li> <li>U: UnTagged</li> <li>T: Tagged</li> </ul>
Delete VLAN	<b>Delete</b> <vidlist>	<Vidlist>: 1-4094 or all
View vlan information	<b>Show vlan</b> <vidlist>	<Vidlist>: 1-4094 or all
View port pvid	<b>Show pvid</b> <portlist>	<portlist> : 1, 2, 3... or all, 0 represents the CPU port
View port type	<b>Show type</b> <portlist>	<portlist> : 1, 2, 3... or all, 0 represents the CPU port

## Configuration Instance

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

```
Switch(QVlan) # add 3 2-3 M
VID           : 3
Port_cpu     : ----
port 1       : ----
port 2       : UnModified
port 3       : UnModified
...
[OK]
```

# 10 QoS Configuration Command

Enter QoS configuration view.

Operation	Command	Note
Enter QoS configuration view	<b>QoS</b>	Execute in the system view

```
Switch# QoS
Switch(QoS)#
```

## 10.1 QoS Queue Mechanism Configuration

QoS queue mechanism configuration command.

Operation	Command	Note
QoS Queue Mechanism Configuration	<b>Queuingm {0 1}</b>	{0 1}: <ul style="list-style-type: none"> <li>• 0: weighted average scheduling algorithm</li> <li>• 1: strict priority scheduling algorithm</li> </ul>

### Configuration Instance

QoS queue mechanism was set as weighted average scheduling algorithm (8:4:2:1).

```
Switch(QoS)# queuingm 0
[OK]
```

## 10.2 ToS and CoS Enablement

ToS and CoS enablement configuration command

Operation	Command	Note
ToS and CoS enablement	<b>Check</b> <portlist> {0 1 2 3}	<portlist>: 1,2,3,.....or all {0 1 2 3}: <ul style="list-style-type: none"> <li>• 0: Forbid</li> <li>• 1: use ToS</li> <li>• 2: use Cos</li> <li>• 3: all use</li> </ul>

### Configuration Instance

1) Enable the Cos of port 1, 3, 4 and 6.

```
Switch(QoS)# Check 1,3,4,6 1
[OK]
```

2) Enable ToS of port 2, 3, 5 and 6.

```
Switch(QoS)# Check 2,3,5,6 2
[OK]
```

## 10.3 ToS/CoS Value Mapping

The user can configure the ToS/CoS value mapping using the following command.

Operation	Command	Note
CoS value mapping configuration	<b>Config cos</b> <coslist> <classlist>	<coslist> : CoS mapping value, 0, 1, 2-7 <classlist>: <ul style="list-style-type: none"> <li>• L: low</li> <li>• N: normal</li> <li>• M: medium</li> <li>• H: high</li> </ul>

Operation	Command	Note
ToS mapping configuration	<b>Config tos</b> <dscplist> <classlist>	<dscplist> : ToS mapping value, 1, 2, 3-64 <classlist>: <ul style="list-style-type: none"> <li>• L: low</li> <li>• N: normal</li> <li>• M: medium</li> <li>• H: high</li> </ul>

### Configuration Instance

1) set 0, 2, 5, and 7 of CoS value to correspond to the priority queues of Low, Normal, Medium, and High respectively.

```
Switch(QoS)# config cos 0,2,5,7 1,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 1,17,42 and 62 of Dscp values to correspond to the priority queues of Low, Medium, High and Normal.

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

## 10.4 Default Port Priority Configuration

The user can configure the default port priority using the following command.

Operation	Command	Note
Default Port Priority Configuration	<b>Default priority</b> <portlist> <0-7>	<portlist>: 1,2,3,.....or all <0-7> : port priority

### Configuration Instance

Set the default priority of port 1 to 3.

```
Switch(QoS)# default priority 1 3
```

[OK]

## 10.5 Display QoS configuration information

The user can view the QoS information using the following command.

Operation	Command	Note
View the QoS queue mechanism	<b>Show queuingm</b>	Execute in QoS view
View CoS value mapping	<b>Show cos</b> <coslist>	<coslist> : cos mapping value, 0, 1, 2-7
View ToS value mapping	<b>Show tos</b> <dscplist>	<dscplist> : tos mapping value, 1, 2, 3-64
View ToS/CoS enablement state	<b>Show state</b> <portlist>	<portlist>: 1,2,3,.....or all
View the default port priority	<b>Show default</b> <portlist>	<portlist>: 1,2,3,.....or all

# 11 Ring Configuration Command

Enter ring configuration view.

Operation	Command	Note
Enter ring configuration view	<b>ring</b>	Execute in the system view

```
Switch# ring
Switch(Ring)#
```

## 11.1 Enable or Disable Ring Network Function

Users can set up ring network enablement using the following command.

Operation	Command	Note
Ring network enablement	<b>Open</b> {3 4}	{3 4}: <ul style="list-style-type: none"> <li>3: enable ring3;</li> <li>4: enable rstp</li> </ul>
Ring network close	<b>Close</b> {0 3 4}	{0 3 4}: 0: disable ring network function; 3: disable Ring3; 4: disable rstp

### Configuration Instance

Enable ring3

```
Switch(Ring)# Open 3
[OK]
Tip: This configuration will be validated after restarting
```

## 11.2 Ring3 Configuration

Once Ring3 is enabled, Ring3 can be set using the following command.

Operation	Command	Note
Configure ring3	<b>Config ring3</b> {1 2} <id> <LoopType> <Ringport> <hellotime> <Master>	{1 2} : 1 represents ring group 1, 2 represents ring group 2 <id> : represents the ring network identity, and the value is 0-255 <LoopType>: Loop type <ul style="list-style-type: none"> <li>• 0: Single</li> <li>• 1: Couple</li> <li>• 2: chain</li> <li>• 3: Daul_homing</li> </ul> <portlist>: 2 ring network ports, such as: 1, 2 <hellotime>: value range is [0-300]*100ms <Master>: single-ring master-slave station <ul style="list-style-type: none"> <li>• 0: Master</li> <li>• 1: Slave</li> </ul>
Modify ring3	<b>Modify ring3</b> {1 2} <options> <parameter>	{1 2} : 1 represents ring group 1, 2 represents ring group 2 <options>: the options that can be modified are as follows: <ul style="list-style-type: none"> <li>• -h: Hello packet interval time,with the value of [0-300]*100ms.</li> <li>• -i: ring network ID, ranging [0-255]</li> <li>• -t: ring network type, ranging {0 1 2 3}</li> <li>• -p: ring network port</li> <li>• -s: ring network status, {enable or disable}</li> <li>• -m: ring network master-slave station, with the value of {0:Master   1:Slave}</li> </ul> <parameter> : parameters matched with -h -i -p

### Configuration Instance

Configure Port 1 and Port 2 to the first group loop port, loop id is 1, hello time is 0 and loop type is Couple.

```
Switch(Ring)#Open 3 //enable Ring3
```



```
[OK]
```

```
Tip: This configuration will be validated after restarting
Switch(Ring)#config ring3 1 1 1 1,2 0 1// configure port 1, 2 to
Ring3, Ring type to Couple, mo master station
```

```
[OK]
```

```
Tip: This configuration will be validated after restarting
```

## 11.3 Display Ring Network Configuration Information

After configuring ring network, user can use the following command to view ring network configuration information.

Operation	Command	Note
Display Ring Network Configuration Information	<b>show ring</b>	Execute in Ring network view
Display ring network status	<b>show ring_state</b>	Execute in Ring network view

### Configuration Instance

View the current Ring network configuration information

```
Switch(Ring)# show ring
Ring III Enable
Group:1 ID: 1 port:6,5 type: Couple Hello_time: 0*100ms
Mster:Slave state:Enable
Group:2 ID: 2 port:3,4 type: Single Hello_time: 0*100ms
Mster:Slave state:Disable
```

## 11.4 RSTP Configuration

Once RSTP is enabled, RSTP can be set using the following command.

Operation	Command	Note
-----------	---------	------

Operation	Command	Note
Configure RSTP status	<b>Config rstp_state</b> <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 time, ranging 1-10s <delaytime> : forwarding delay time, ranging from 4 to 30s <maxage> : address survival time, ranging 6-40s
Modify RSTP state parameter	<b>Modify rstp_state</b> <options> <parameter>	<options>: <ul style="list-style-type: none"> <li>-P: priority {0 4096 8192 12288 16384 20480 24576 28672 32768 36864 40960 45056 49152 53248 57344 61440}</li> <li>-h: polling interval time, ranging from 1 to 10s</li> <li>-d: forwarding delay time, ranging from 4 to 30s</li> <li>-m: address survival time, ranging 6-40s</li> </ul> <parameter>
Configure RSTP port	<b>Config rstp_port</b> <port> <pathcost> <portpriority> <p2p> <edge> <enable>	<port>: RSTP port <pathcost> : port path cost, ranging 0-200000000 <portpriority> : port priority, the range is {0 16 32 48 64 80 96 112 128 144 160 176 192 208 224 240} <p2p> : point-to-point network connection, values are {no yes auto} <edge>: directly connected terminal, values are {no yes} <enable> : participate in spanning tree, values are {no yes}

Operation	Command	Note
Modify the RSTP port parameters	<b>Modify rstp_port</b> <port> <options> <parameter>	<port>: RSTP port <options>: <ul style="list-style-type: none"> <li>-c: port path cost, ranging 0-200000000</li> <li>-p: port priority, ranging {0 16 32 48 64 80 96 112 128 144 160 176 192 208 224 240}</li> <li>-t: point-to-point network connection, values are {no yes auto}</li> <li>-e: direct connection terminal, values are {no yes}</li> <li>-a: participate in spanning tree, values are {no yes}</li> </ul> <parameter>

### Configuration Instance

1) Configure the path cost of RSTP port 1 to 2000.

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

2) Configure priority of switch of rstp to 4096

```
Switch(Ring)# modify rstp_state -p 4096
[OK]
Tip: This configuration will be validated after restarting
```

## 11.5 Display RSTP Current Status

After configuring RSTP, user can use the following command to view the current status of RSTP.

Operation	Command	Note
Display RSTP current status	<b>RSTP Status</b>	Execute in Ring network view

# 12 LoopDetection Configuration Command

Enter the loop protection view.

Operation	Command	Note
Enter the loop protection view	<b>LoopDetection</b>	Execute in the system view

```
Switch# LoopDetection
Switch(Loop)#
```

## 12.1 Display Port State

Display port status.

Operation	Command	Note
Display port state	<b>Show Status</b> <portlist>	<portlist>: 1,2,3,.....or all

### Configuration Instance

Display loop detection status of Port 1.

```
Switch(Loop)# show status 1
Loop Time: 30
Range Time: 3
STATE          ENABLE      Trap
```

## 12.2 Enable Port Loopback Detection

Enable port loopback detection;

Operation	Command	Note
Enable port loopback detection	<b>Enable</b> <portlist> <enable disable>	<portlist>: 1,2,3,.....or all <enable disable>: <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> </ul>

### Configuration Instance

Set port 1 to enable loop detection:

```
Switch(Loop)# enable 1 enable
[OK]
```

## 12.3 Enable the Port to Send Trap

Enable the port to send trap:

Operation	Command	Note
Enable the port to send trap	<b>Trap Enable</b> <portlist> <enable disable>	<portlist>: 1,2,3,.....or all <enable disable>: <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> </ul>

### Configuration Instance

Set port 1 to enable sending trap function:

```
Switch(Loop)# trap 1 enable
[OK]
```

## 12.4 Configure Loop Detection Time

Configure loop detection time.

Operation	Command	Note
Loop detection time after loop formation	<b>Config_LoopTime</b> <time>	<time>: time interval, 1-600, unit: second.
Loop detection time before loop formation	<b>Config_RangeTime</b> <time>	<time>: time interval, 1-60, unit: second.

### Configuration Instance

Set the loop detection interval to 5 seconds.

```
Switch(Loop)# config_RangeTime 10  
[OK]
```

# 13 Trunk Configuration Command

Enter port trunking view.

Operation	Command	Note
Enter port trunking configuration view	<b>trunk</b>	Execute in the system view

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

## 13.1 Port Trunking Configuration

The user can configure the port trunking using the following command.

Operation	Command	Note
Port trunking configuration	<b>Config</b> <trunkgroup> <portlist>	<trunkgroup> : trunk group 1, 2, 3 <portlist>: trunking port 1,2,3,.....or all
Port trunking clear	<b>Clean</b> <trunkgroup>	<trunkgroup> : 1, 2, 3 respectively represent the trunk group 1, 2, 3; all represents all trunk groups

### Configuration Instance

Set ports 2 and 3 to trunk group 1.

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

## 13.2 Port Trunking Display

Users can view port trunking configuration information using the following command.

Operation	Command	Note
Display configuration information of port trunking	<b>Show</b> <trunkgroup>	<trunkgroup> : 1, 2, 3 respectively represent the trunk group 1, 2, 3; all represents all trunk groups

### Configuration Instance

View the port trunking information of trunk group 1.

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



# 14 SNMP Configuration Command

Enter SNMP configuration view.

Operation	Command	Note
Enter SNMP configuration view	<b>snmp</b>	Execute in the system view

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

## 14.1 SNMP Enable

SNMP enable and disable configuration command.

Operation	Command	Note
Enable/Disable SNMP	<b>snmp {enable disable}</b>	{enable disable}: <ul style="list-style-type: none"> <li>• Enable: enable SNMP</li> <li>• Disable: disable SNMP</li> </ul>

### Configuration Instance

Enable SNMP function

```
Switch(Snmp)# snmp enable
[OK]
```

## 14.2 SNMP Configuration

Community name and gateway address configuration commands.

Operation	Command	Note
Configure Read/Write community	SNMP <b>Config</b> <orcomm> <rwcomm>	<orcomm>: read-only community name <rwcomm>: read-write community name
Configure gateway.	SNMP <b>Trap</b> {1 2 3} <ip>	{1   2   3}: IP address 1-3 <IP>: the IP address of the trip destination, such as 192.168.1.1

### Configuration Instance

Set SNMP gateway address 2 to 192.168.11.1.

```
Switch(Snmp) # trap 2 192.168.11.1
[OK]
```

## 14.3 SNMP Display

SNMP display command.

Operation	Command	Note
Display Information	SNMP <b>SHOW</b>	Execute in SNMP view

### Configuration Instance

Display SNMP configuration information.

```
Switch(Snmp) # show
The only read community name      :public

The read or write community name:private

The SNMP gateway                   :192.168.1.1
```

The SNMP gateway :192.168.11.1

# 15 Alarm Configuration Command

Enter alarm configuration view.

Operation	Command	Note
Enter alarm configuration view	<b>Alarm</b>	Execute in the system view

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

## 15.1 Alarm Configuration/Delete



Note

- Single power supply device does not support power off alarm.
- After the dual power supply device is connected to two power supplies at the same time, it supports power failure alarm.

The user can configure the alarm using the following commands

Operation	Command	Note
Relay Output Type	<b>type</b> {0 1}	{0 1}: <ul style="list-style-type: none"> <li>• 0: normally closed</li> <li>• 1: normally open</li> </ul>

Operation	Command	Note
Configure the power supply alarm.	<b>Power relay</b> {1 2 all} {enable disable}	{1 2 all}: <ul style="list-style-type: none"> <li>• 1: represents the first power supply;</li> <li>• 2: represents the second power supply;</li> <li>• All: all the power supplies</li> </ul> {enable disable}: <ul style="list-style-type: none"> <li>• Enable;</li> <li>• Disable</li> </ul>
Configure the port alarm.	<b>Port relay</b> <portlist> {enable disable}	<portlist>: 1,2,3,.....or all {enable disable}: <ul style="list-style-type: none"> <li>• Enable;</li> <li>• Disable</li> </ul>
close the alarm information	<b>Close alarm</b>	Execute in alarm view

### Configuration Instance

1) enable the alarm of port 1, 3, 5 and 7.

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

2) disable the alarm function.

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

## 15.2 Display Alarm Information

The user can view the alarm information using the following command.

Operation	Command	Note
Display relay output type	<b>Show type</b>	Execute in alarm view

Operation	Command	Note
Display power supply alarm information	<b>Show power</b> {1 2 all}	{1 2 all}: 1: represents the first power supply; 2: represents the second power supply; All: represents all the power supply
Displays alarm information of the port	<b>Show port</b> <portlist>	<portlist>: 1,2,3,.....or all

### Configuration Instance

View alarm information of the port

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

# 16 Mirroor Configuration Command

Enter port mirroring configuration view.

Operation	Command	Note
Enter port mirroring configuration view	<b>Mirror</b>	Execute in the system view

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

## 16.1 Port Mirroring Configuration/Delete

The user can configure/delete the port mirroring using the following command.

Operation	Command	Note
Configure port mirroring	<b>Config</b> {0 1 2} <mirror_port> <port>	{0 1 2}: <ul style="list-style-type: none"> <li>• 0: means collecting all data;</li> <li>• 1: means collecting ingress data</li> <li>• 2: means collecting data of egress</li> </ul> <mirror_port > : mirror port 1, 2, 3... Or all <portlist>: collect port 1,2,3,.....or all
Delete mirror information	<b>Close mirror</b>	Execute in port mirroring view

### Configuration Instance

Configure port 3 to collect all data from ports 1 and 2.

```
Switch(Mirror)#config 0 1,2 3  
[OK]
```

## 16.2 Displays port mirroring information

View mirror information command:

Operation	Command	Note
Display mirror information	<b>Show mirror</b>	Execute in port mirroring view

### Configuration Instance

View port mirroring information.

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



# 17 Manage Configuration Command

Enter system management view

Operation	Command	Note
Enter system management view	<b>Manage</b>	Execute in the system view

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

## 17.1 Network Diagnosis Setting

Enter system management view:

Operation	Command	Note
Network Diagnosis Setting	<b>Ping</b> <IP_address> <options> <content> <options> <content> <options>	<IP_address> : IP address, for example 192.168.1.254 <options>: <ul style="list-style-type: none"> <li>-t: Time To Live</li> <li>-l: Data size</li> <li>-n: Number of echo requests to send</li> </ul> <content> : the parameter that matches -t/-l/-n

### Configuration Instance

The Ping address of the device is 192.168.5.117, and the packet size is 64, 2 messages will be sent.

```
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
```

## 17.2 Display Device Network Address

View IP, subnet mask, default gateway and DNS address of the device.

Operation	Command	Note
Display IP, subnet mask, default gateway and DNS address of the device.	<b>show net_address</b>	Execute in system management view

### Configuration Instance

View IP, subnet mask, default gateway of the device.

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

## 17.3 IP Address, Default Gateway, DNS Address Settings

The user can set the device IP, the default gateway address with the following command.

Operation	Command	Note
Device IP address configuration	<b>IP</b> <IP_address> <mask>	<IP_address>: IP address <mask>: subnet mask

Operation	Command	Note
Default gateway configuration	<b>Gateway</b> <gateway>	<gateway>: gateway address
DNS server address configuration	<b>DNS</b> <Server>	<Server>: DNS address

### Configuration Instance

Configure the IP address of the device to 192.168.5.25, the subnet mask to 255.255.255.0 and the default gateway to 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.....
```

## 17.4 DHCP Automatic Acquisition of IP

Users can enable DHCP clients to automatically obtain the IP address assigned by DHCP server.

Operation	Command	Note
DHCP Enable Configuration	<b>DHCP</b> {enable disable}	{enable disable}: Enable or disable DHCP.

## 17.5 System Log Information

The user can set the device IP, the default gateway address with the following command.

Operation	Command	Note
Configure the server address information of the syslog	<b>Syslog</b> <ip_address> <port_num>	<ip_address>: syslog server IP address <port_num>: TCP port of syslog server

## 17.6 System Timeout Settings

The user can set the system timeout with the following command.

Operation	Command	Note
System Timeout Settings	<b>Set</b> <time_out>	<time_out> : system timeout, value range is [0-60], unit: min; 0 means to disable timeout function

### Configuration Instance

Set the system timeout to 10 minutes.

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



Note

The system timeout is used to define the timeout period without any operation after entering CLI configuration mode. After the system timeout, it will automatically back to user mode and re-authenticate the user name and password.

## 17.7 User Name and Password Settings

The user can set the user name and password with the following command.

Operation	Command	Note
User name configuration	<b>Hostname</b> <hostname>	<hostname>: username string
Password configuration	<b>Password</b> <password> <password>	<password> : password string

## 17.8 Restore Factory Settings

The user can restore the device to factory settings with the following command.

Operation	Command	Note
Restore the device to factory settings.	<b>Restore</b>	Execute in system management view

### Configuration Instance

Restore the device to factory settings.

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

# 18 EventLog Configuration Command

Enter log information view.

Operation	Command	Note
Enter log information view	<b>Eventlog</b>	Execute in the system view

```
Switch# eventLog
Switch(EventLog) #
```

## 18.1 Log Information Enable

Log information enable configuration.

Operation	Command	Note
Log information enable configuration	<b>EventLog</b> {Enable Disable}	Execute in log information view.

### Configuration Instance

Enable logging.

```
Switch(EventLog) # eventLog enable
[OK]
```

## 18.2 Log Information Type

Log information type configuration.

Operation	Command	Note
日志信息类型配置	<b>LogType</b> {0 1 2 3}	{0 1 2 3}: <ul style="list-style-type: none"> <li>• 0: all messages</li> <li>• 1. Startup information</li> <li>• 2: operation information</li> <li>• 3: link information</li> </ul>
Delete log record	<b>ClearEventLog</b>	Execute in log information view.

### Configuration Instance

Log device connection information.

```
Switch(EventLog)# logType 3
[OK]
```

## 18.3 Log Information Status Display

Log information status display.

Operation	Command	Note
Log information status	<b>Show EventLog</b>	Execute in log information view.

### Configuration Instance

Display the logging information status.

```
Switch(EventLog)# show EventLog
Log Record : Enable
Display Type : Connection
```

# 19 Multicast Configuration Command

Enter the static multicast filter view.

Operation	Command	Note
Enter the static multicast view	<b>Multicast</b>	Execute in the system view

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

## 19.1 Display Multicast Filter List

Display command of static multicast address.

Operation	Command	Note
Displays static multicast filter address	<b>Show multicast</b>	Execute in the multicast view

### Configuration Instance

Displays information of the static address table.

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



## 19.2 Add Static Multicast Address

Multicast address adding command

Operation	Command	Note
Add multicast address	<b>Add</b> <macaddress> <portlist>	<macaddress>: multicast address in 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 Instance

Add a multicast address of 01-22-33-44-55-66 with member ports of 1,2,3.

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

## 19.3 Delete Static Multicast Address

Command of deleting multicast address

Operation	Command	Note
Delete multicast address	<b>Delete</b> <1-15>	<1-15> : entry 1-15 or all of multicast address

### Configuration Instance

Delete entry 1 of static multicast address.

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

# 20 Information Configuration Command

Enter device information view:

Operation	Command	Note
Enter device information view	<b>information</b>	Execute in the system view

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

## 20.1 Display Device Information

Display device information command.

Operation	Command	Note
Display system version	<b>show version</b>	Executable in the device information view
Display device MAC address	<b>show mac</b>	Executable in the device information view
Display model, name of the device	<b>show others</b>	Executable in the device information view

## 20.2 Configure Device Information

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

Operation	Command	Note
Configure Device Information	<b>Config</b> <options> <string>	<options>: <ul style="list-style-type: none"> <li>• -t: device type</li> <li>• -n: device name</li> <li>• -p: device description</li> <li>• -c: contact information</li> </ul> <string>: parameter



Notice

Input type should conform to GB2312 code type, otherwise display error will occur.

## 20.3 Clean Device Information

Clean up device information, including type, name, number, description of the device and contact information.

Operation	Command	Note
Clean Device Information	<b>Clean</b> <options>	<options>: <ul style="list-style-type: none"> <li>• -t: device type</li> <li>• -n: device name</li> <li>• -p: device description</li> <li>• -c: contact information</li> </ul>

# 21 Time Configuration Command

Enter time configuration view.

Operation	Command	Note
Enter time configuration view	<b>Time</b>	Execute in the system view

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

## 21.1 Time Configuration

Time Configuration Command

Operation	Command	Note
Enable time configuration	<b>enable</b>	Execute in time configuration view
Disable time configuration	<b>close</b>	Execute in time configuration view
SNTP time synchronization period	<b>Interval</b> <Time>	<Time>: time interval, unit: seconds.
World time zone selection	<b>Zone</b> <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	<b>Server</b> <serveraddr>	<serveraddr>: NTP server address

### Configuration Instance

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

```
Switch(Time)# zone +8, 1
```

```
[OK]
```

## 21.2 Displays the Time Configuration View

Displays the time configuration information.

Operation	Command	Note
Displays the time configuration information	<b>Show</b>	Execute in the time view

### Configuration Instance

Displays the time configuration information.

```
Switch(Time)# show
Time Configuration:Enable
The World TimeZone:(GMT+08:00) China, Hong Kong, Australia
Western
The NTP server:time-a.nist.gov
The SNTP Synchronization interval:10 (s)
The system time:2020-12-29,01:08:47, Tue
```

# 22 TFTP Configuration Command

Enter TFTP Configuration View.

Operation	Command	Note
Enter TFTP configuration view	<b>TFTP</b>	Execute in the system view

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

## 22.1 TFTP Configuration

TFTP configuration command

Operation	Command	Note
The address of TFTP server	<b>Server</b> <ip_address>	<ip_address> : TFTP server IP address, for example 192.168.1.254
Upload configuration file or update program	Get <File_name>	<File_name> : program name, such as XXXX. cfg.
Download configuration file	Put <File_name>	<File_name> : program name, such as XXXX. cfg.

## 22.2 Display TFTP Configuration Information

Display TFTP configuration information.

Operation	Command	Note
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Operation	Command	Note
Display TFTP Configuration Information	<b>Show TFTP_config</b>	Execute in the TFTP view

### Configuration Instance

Display TFTP configuration information.

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

# 3onedata



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