Managed Multi-Service Rack

CLI User Manual

Version 01

Issue Date: 10/22/2019

Preface

The CLI User Manual has introduced this device:

- CLI 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
- Network Engineer

Text Format Convention

Format	Description
“”	Words with “” represent the interface words. Eg: "The port number".
>	Multi-level paths are 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. The font color is as follows: ‘Light Blue’.
About this chapter	The section ‘about this chapter’ provides links to various sections of this chapter, as well as links to the Principles Operations Section of this chapter.

Icon Convention

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	Conduct a necessary supplements and explanations for the description of operation content.

Format	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 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.

Revision Record

Version NO.	Revision Date	Revision Description
01	10/22/2019	Product release

Contents

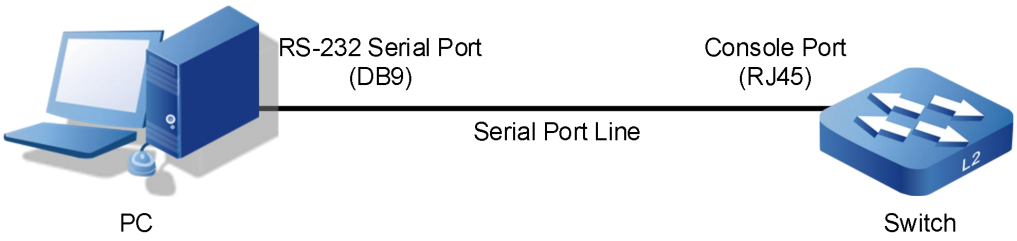
1 Login to the CLI Configuration Interface

1.1 Logging in to the Device via Console Port

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

Operation Steps

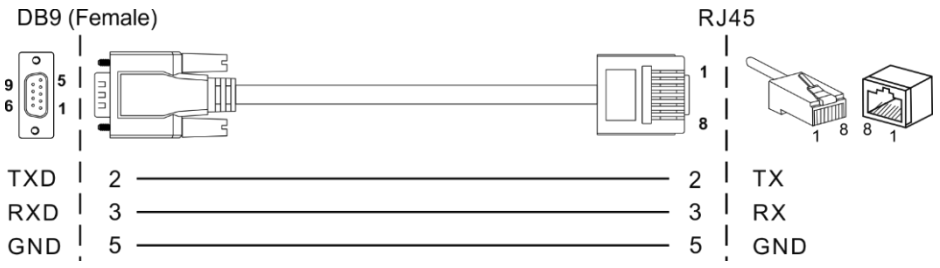
Step 1 Connect the serial port of the computer to the Console port of the device through the serial port line to establish a local configuration environment, as shown in the topology diagram below.



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.

Notes:

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



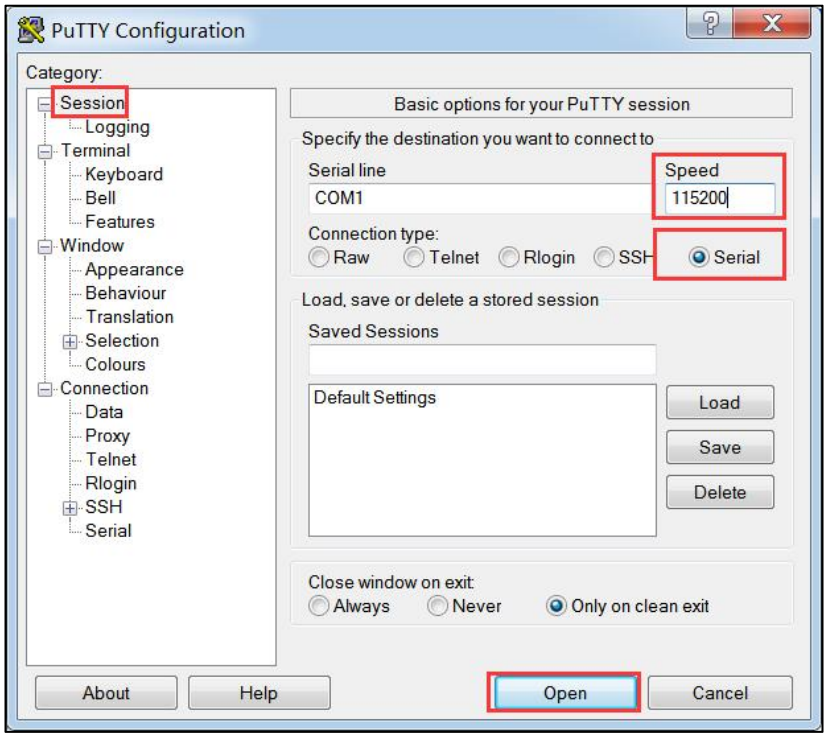
Step 2 Open the terminal simulation software on the PC, create a new connection, and set

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

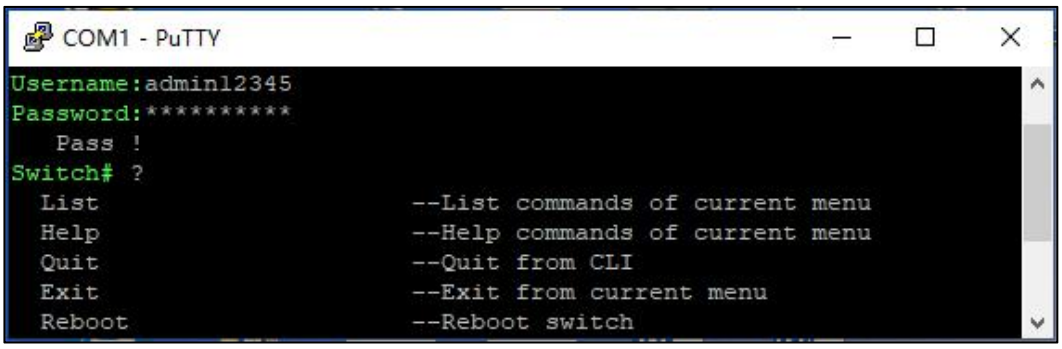
1. Open PuTTY and click “Session” on the menu bar.

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-PutTTY" command line edit dialog box pops up. Press enter key to enter user name and password. The user name and password are both “admin12345” by default, as shown below.



Step 3 End.

1.2 Login the Switch via Telnet

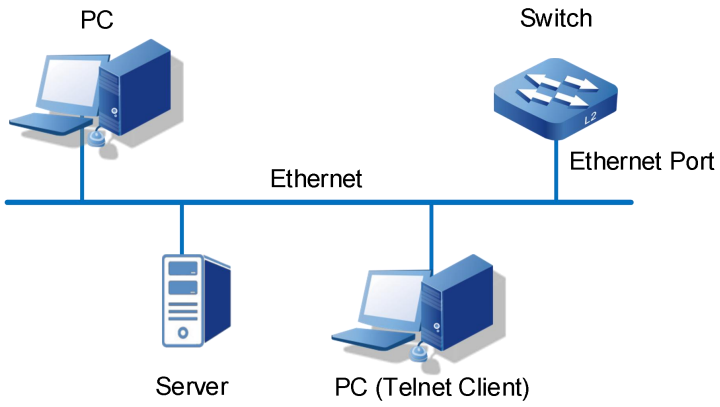
Through Telnet client login to the command line interface of the device, the client and the device should meet the following requires:

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.

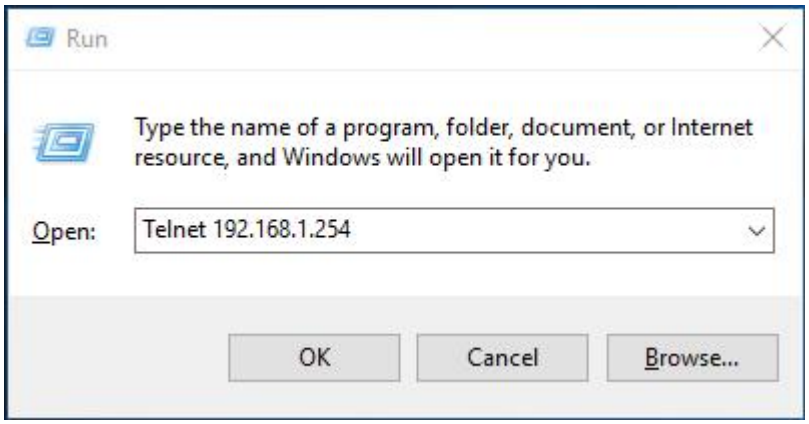
Operation Steps

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.



Notes:

- 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 and start the Telnet connection request. After successful connection, the interface displays "Please input hostname and password", as shown below.

Step 4 Enter the correct username and password. After the username and password are verified, "Pass!” will be displayed. As the picture below.

Notes:

Refer to the contents of Chapter “Login to the WEB Interface” of “User Manual” for device’s default username and password. The user name and password are generally admin by default,

and admin12345 for some industry-specific devices by default.

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?
  Manage          <dir>    --Enter system manage 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	Entered 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

Operation	Key	Result
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	Description
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(information)# exit
Switch#
```

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

```
Switch(information)# ?
  List                  --List commands of current menu
  Help                  --Help commands of current menu
  Quit                  --Quit from CLI
  Exit                  --Exit from current menu
  Reboot                --Reboot switch
  Show mac              --Show device MAC Address
  Show version          --Show device version
```

```
  Show others             --Show device type,name,etc
```

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 Manage Configuration Command

Enter system management view

Operation	Command	Description
Enter system management view	**Manage**	Execute in the system view

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

2.1 Network Diagnosis Setting

Enter system management view:

Operation	Command	Description
Network diagnosis setting	**Ping** <IP_address> <options> <content> <options> <content> <options>	<IP_address> : IP address, for example 192.168.1.254 <options>： • -t：Time To Live • -l：Data size • -n：Number of echo requests to send <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
```

2.2 Display Device Network Address

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

Operation	Command	Description
Display IP, subnet mask, default gateway of the device.	**show net_address**	Execute in system management view

Configuration Instance

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

```
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
```

2.3 IP Address, Default Gateway Settings

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

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
DNS server address.	**DNS** <Server>	<Server> : DNS server address, such as 202.96.134.133.
DHCP Automatic Acquisition of IP	**DHCP** {enable|disable}	{enable|disable}: • Enable • Disable：disable

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.........
DHCP
```

2.4 System Timeout Settings

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

Operation	Command	Description
System timeout settings	**Set** <time_out>	<time_out> : system timeout, value range is [0-60], 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.

2.5 User Name and Password Settings

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

Operation	Command	Description
User name configuration	**Hostname** <hostname>	<hostname>: username string

Operation	Command	Description
Password configuration	**Password** <password> <password>	<password> : password string

2.6 Factory Default

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

Operation	Command	Description
Restore the device to factory settings.	**Restore**	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.........
```

2.7 Upload and Download Configuration Files

Through the hyper terminal, the user can upload and download the configuration file with the following commands.

Operation	Command	Description
Upload Configuration	**Upload**	The file suffix is (.cfg)
Download configuration file	**Download**	The file suffix is (.cfg)

The steps to download the configuration file are as follows:

Step 1 Input command:

```
Switch(manage)# download
  Please select file path and ready to receive file .
  Or press [Esc] to quit .
```

Step 2 Configure the hyper terminal and select the folder where the files will be saved.

[transfer] →[receive file] →[browse] →[select folder] →[folder that user stores downloads] →[confirm] → [use receive protocol] →[Xmodem] →[receive] →[reveive file name] →[file name that user stores, the suffix is .cfg] →[confirm]

The steps to upload the configuration file are as follows:

Step 1 Input command:

```
System_manage# upload
   Please send configuration file, or press [Esc] to quit .
CCCCCCCCCCC
```


Notice

From the upload command input and the first C appears, if no operation within 2 minutes, and the system will automatically exit.

Step 2 Configure the hyper terminal and select the configuration file that will be uploaded with the suffix.cfg.

[transfer] →[send file] →[browse] →[select folder] →[profile that user uploads] →[open] → [use receive protocol] →[Xmodem] →[send]

Step 3 End.

2.8 System Upgrade

Through the hyper terminal, the user can upgrade the system file with the following command (please confirm the correctness of the file before upgrading).

Operation	Command	Description
System upgrade	**Upgrade**	The file suffix is (.bin)

The steps to upgrade system files are as follows

Step 1 Input command:

```
Switch(manage)# upgrade
   Please send upgrade file, or press [Esc] to quit .
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

Step 2 Configure the hyper terminal and select the upgrade file that will be uploaded with the suffix.bin.

[transfer] →[send file] →[browse] →[select folder] →[profile that user upgrades] →[open] → [use receive protocol] →[Xmodem] →[send]

Step 3 End.

3 Information Configuration Command

Enter device information view:

Operation	Command	Description
Enter device information view	**Information**	Execute in the system view

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

3.1 Display Device Information

Display device information command.

Operation	Command	Description
Display system version	**show version**	Executable in the device information view
Display device MAC address	**show mac**	Executable in the device information view
Display model, name of the device	**show others**	Executable in the device information view

4 Local Card Configuration Command

Enter local card configuration view:

Operation	Command	Description
Enter local card configuration view	**Local_Card**	Execute in the system view

```
Switch# Local_Card
Switch(Local_Card)#
```

4.1 Display Local Card Information

Display device local card information command.

Operation	Command	Description
Display the link status of local card	**Show state** <cardlist>	<cardlist>：slot 1, 2, 3, …, 18 or all.
Display local card configuration information	**Show config** <cardlist>	

Check the status information of the local card on Slot 6.

```
Switch(Local_Card)# show state 6
Local_Card_ 6: 1000M-2Fx-1Tx
Fx1: LOS          Fx2: Link
Tx : Link
Transmit: Store
Speed   : 1000M-F
Fx1_radio: 0     Fx2_radio: 0
```

Check the configuration information of the local card on Slot 6.

```
Switch(Local_Card)# show config 6
Local_Card_ 6: 1000M-2Fx-1Tx
Jumbo   : Disable
Transmit: Store
Speed   : Auto
Ingres  : Auto    Egress  : Auto
```

5 Remote Card Configuration Command

Enter remote card configuration view:

Operation	Command	Description
Enter remote card configuration view	**Remote_Card**	Execute in the system view

```
Switch# Remote_Card
Switch(Remote_Card)#
```

5.1 Display Remote Card Information

Display device remote card information command.

Operation	Command	Description
Display remote card connection status	**Show state** <cardlist>	<cardlist>：slot 1, 2, 3, …, 18 or all.
Display remote card configuration information	**Show config** <cardlist>	

Check the status information of the remote card that corresponds to local card on Slot 6.

```
Switch(Remote_Card)# show state 6
Remote_ 6
Remote_Card_1 is not exist !
Remote_Card_2: 1000M-1Fx-1Tx
FX : Link
TX : Link
Transmit: Store
```

```
Speed   : 10M-H
Fx_radio: 0
```

Check the configuration information of the remote card that corresponds to local card on Slot 6.

```
Switch(Remote_Card)# show config 6
Remote_ 6
Remote_Card_1 is not exist !
Remote_Card_2: 1000M-1Fx-1Tx
Jumbo   : Disable
Transmit: Store
Speed   : 10M
Ingress : Auto   Egress : Auto
```