



USER MANUAL

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## Chapter 1 COMMANDS FOR SHOW

### 1.1 clear history all-users

- **Command:** clear history all-users
- **Function:** Clear the command history of all users saved by the switch.
- **Command Mode:** Admin mode
- **Usage Guide:** Using this command can clear the command history of all users.
- **Example:**
- Switch#clear history all-users

### 1.2 clear logging

- **Command:** clear logging {sdram | nvram}
- **Function:** This command is used to clear all the information in the log buffer zone.
- **Command Mode:** Admin Mode
- **Usage Guide:** When the old information in the log buffer zone is no longer concerned, we can use this command to clear all the information.
- **Example:** Clear all information in the log buffer zone sdram.
- Switch#clear logging sdram
- **Related Command:** show logging buffered

### 1.3 history all-users max-length

- **Command:** history all-users max-length <count>
- **Function:** Set the max command history of all users saved by the switch.
- **Parameter:** <count>: the command history number can be saved, ranging from 100 to 1000
- **Command Mode:** Global mode
- **Usage Guide:** The system can save 100 recent command history of all users at best by default, using this command can set the max command history number.
- **Example:**
- Switch(config)#history all-users max-length 500

### 1.4 logging

- **Command:** logging { <ipv4-addr> | <ipv6-addr> } [facility <local-number>] [level <severity>]
  - no logging { <ipv4-addr> | <ipv6-addr> } [facility <local-number>]
- **Function:** The command is used to configure the output channel of the log host. The “no” form of this command will disable the output at the log host output channel.

- **Parameter:** `<ipv4-addr>` is the IPv4 address of the host, `<ipv6-addr>` is the IPv6 address of the host; `<local-number>` is the recording equipment of the host with a valid range of local0~local7, which is in accordance with the facility defined in the RFC3164; `<severity>` is the severity threshold of the log information severity level. The rule of the log information output is explained as follows: only those with a level equal to or higher than the threshold will be outputted. For detailed description on the severity please refer to the operation manual.
- **Command Mode:** Global Mode
- **Default:** No log information output to the log host by default. The default recorder of the log host is the local0; the default severity level is warnings.
- **Usage Guide:** Only when the log host is configured by the logging command, this command will be available. We can configure many IPv4 and IPv6 log hosts.
- **Example 1:** Send the log information with a severity level equal to or higher than warning to the log server with an IPv4 address of 100.100.100.5, and save to the log recording equipment local1.
- Switch(config)# logging 100.100.100.5 facility local1 level warnings
  
- **Example 2:** Send the log information with a severity level equal to or higher than informational to the log server with an IPv6 address of 3ffe:506:1:2::3, and save to the log recording equipment local5.
- Switch(config)# logging 3ffe:506:1:2::3 facility local1 level informational

## 1.5 logging executed-commands

- **Command:** logging executed-commands {enable | disable}
- **Function:** Enable or disable the logging executed-commands.
- **Parameter:** None.
- **Command Mode:** Global mode.
- **Default:** Disable state.
- **Usage Guide:** After enable this command, the commands executed by user at the console, telnet or ssh terminal will record the log, so it should be used with the logging LOGHOST command.
- **Example:** Enable the command and send the commands executed by user into log host (10.1.1.1)
- Switch(Config)#logging 10.1.1.1
- Switch(Config)#logging executed-commands enable

## 1.6 logging loghost sequence-number

- **Command:** logging loghost sequence-number
  - no logging loghost sequence-number

- **Function:** Add the loghost sequence-number for the log; the no command does not include the loghost sequence-number.
- **Command Mode:** Port mode
- **Default:** Do not include the sequence-number.
- **Usage Guide:** Use logging command to configure the loghost before this command is set.
- **Example:** Open the loghost sequence-number.
- Switch(config)# logging loghost sequence-number

## 1.7 ping

- **Command:** ping [[src <source-address> ] { <destination-address> | host <hostname> }]
- **Function:** Issue ICMP request to remote devices, check whether the remote device can be reached by the switch.
- **Parameters:** <source-address> is the source IP address where the ping command is issued, with IP address in dotted decimal format. <destination-address> is the target IP address of the ping command, with IP address in dotted decimal format. <hostname> is the target host name of the ping command, which should not exceed 64 characters.
- **Default:** 5 ICMP echo requests will be sent. The default packet size and time out is 56 bytes and 2 seconds.
- **Command Mode:** Admin mode
- **Usage Guide:** When the ping command is entered without any parameters, interactive configuration mode will be invoked. And ping parameters can be entered interactively.
- **Example:**
  - **Example 1:** To ping with default parameters.
  - Switch#ping 10.1.128.160
  - Type ^c to abort.
  - Sending 5 56-byte ICMP Echos to 10.1.128.160, timeout is 2 seconds.
  - ...!!
  - Success rate is 40 percent (2/5), round-trip min/avg/max = 0/0/0 ms
  - In the example above, the switch is made to ping the device at 10.1.128.160. The command did not receive ICMP reply packets for the first three ICMP echo requests within default 2 seconds timeout. The ping failed for the first three tries. However, the last two ping succeeded. So the success rate is 40%. It is denoted on the switch “.” for ping failure which means unreachable link, while “!” for ping success, which means reachable link.
- **Example 2:** Use ping command with source address configuration, and leave other fields to default.
- Switch#ping src 10.1.128.161 10.1.128.160
- Type ^c to abort.

- Sending 5 56-byte ICMP Echos to 10.1.128.160, using source address 10.1.128.161, timeout is 2 seconds.
- !!!!!
- Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms
- In the example above, 10.1.128.161 is configured as the source address of the ICMP echo requests, while the destination device is configured to be at 10.1.128.160. The command receives all the ICMP reply packets for all of the five ICMP echo requests. The success rate is 100%. It is denoted on the switch “.” for ping failure which means unreachable link, while “!” for ping success, which means reachable link.
- **Example 3:** Ping with parameters entered interactively.
- Switch#ping
- VRF name:
- Target IP address: 10.1.128.160
- Use source address option[n]: y
- Source IP address: 10.1.128.161
- Repeat count [5]: 100
- Datagram size in byte [56]: 1000
- Timeout in milli-seconds [2000]: 500
- Extended commands [n]: n

Display Information	Explanation
VRF name	VRF name. If MPLS is not enabled, this field will be left empty.
Target IP address :	The IP address of the target device.
Use source address option[n]	Whether or not to use ping with source address.
Source IP address	To specify the source IP address for ping.
Repeat count [5]	Number of ping requests to be sent. The default value is 5.
Datagram size in byte [56]	The size of the ICMP echo requests, with default as 56 bytes.
Timeout in milli-seconds [2000]:	Timeout in milli-seconds, with default as 2 seconds.
Extended commands [n]:	Whether or to use other extended options.

## 1.8 ping6

- **Command:** ping6 [<dst-ipv6-address> | host <hostname> | src <src-ipv6-address> {<dst-ipv6-address> | host <hostname>}]
- **Function:** To check whether the destination network can be reached.
- **Parameters:** <dst-ipv6-address> is the target IPv6 address of the ping command. <src-ipv6-address> is the source IPv6 address where the ping command is issued. <hostname> is the target host name of the ping command, which should not exceed 64 characters.
- **Default:** Five ICMP6 echo request will be sent by default, with default size as 56 bytes, and default timeout to be 2 seconds.
- **Command Mode:** Normal user mode
- **Usage Guide:** When the ping6 command is issued with only one IPv6 address, other parameters will be default. And when the ipv6 address is a local data link address, the name of VLAN interface should be specified. When the source IPv6 address is specified, the command will fill the icmp6 echo requests with the specified source address for ping.
- **Example:**
  - To issue ping6 command with default parameters.
  - Switch>ping6 2001:1:2::4
  - Type ^c to abort.
  - Sending 5 56-byte ICMP Echos to 2001:1:2::4, timeout is 2 seconds.
  - !!!!!
  - Success rate is 100 percent (5/5), round-trip min/avg/max = 1/320/1600 ms
  - To issue the ping6 command with source IPv6 address specified.
  - switch>ping6 src 2001:1:2::3 2001:1:2::4
  - Type ^c to abort.
  - Sending 5 56-byte ICMP Echos to 2001:1:2::4, using src address 2001:1:2::3, timeout is 2 seconds.
  - !!!!!
  - Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
  - To issue the ping6 command with parameters input interactively.
  - switch>ping6
  - Target IPv6 address:fe80::2d0:59ff:feb8:3b27
  - Output Interface: vlan1
  - Use source address option[n]:y
  - Source IPv6 address: fe80::203:fff:fe0b:16e3
  - Repeat count [5]:
  - Datagram size in byte [56]:
  - Timeout in milli-seconds [2000]:



- Extended commands [n]:
- Type ^c to abort.
- Sending 5 56-byte ICMP Echos to fe80::2d0:59ff:feb8:3b27, using src address fe80::203:fff:fe0b:16e3, timeout is 2 seconds.
- !!!!!
- Success rate is 100 percent (5/5), round-trip min/avg/max = 1/4/16 ms

Display Information	Explanation
ping6	The ping6 command
Target IPv6 address	The target IPv6 address of the command.
Output Interface	The name of the VLAN interface, which should be specified when the target address is a local data link address.
Use source IPv6 address [n]:	Whether or not use source IPv6 address. Disabled by default.
Source IPv6 address	Source IPv6 address.
Repeat count[5]	Number of the ping packets.
Datagram size in byte[56]	Packet size of the ping command. 56 byte by default.
Timeout in milli-seconds[2000]	Timeout for ping command. 2 seconds by default.
Extended commands[n]	Extended configuration. Disabled by default.
!	The network is reachable.
.	The network is unreachable.
Success rate is 100 percent(8/8), round-trip min/avg/max = 1/1/1ms	Statistic information, success rate is 100 percent of ping packet.

## 1.9 show boot-files

- This command is not supported by the switch.

## 1.10 show debugging

- **Command:** `show debugging {bgp | dvmrp | igmp | ipv6 | mld | nsm | ospf | other | pim | rip | spanning-tree | vrrp}`
- **Function:** Display the debug switch status.
- **Usage Guide:** If the user needs to check what debug switches have been enabled, **show debugging** command can be executed.
- **Command mode:** Admin Mode
- **Example:** Check for currently enabled debug switch.
- Switch#show debugging ospf
- OSPF debugging status:
- OSPF all IFSM debugging is on
- OSPF packet Hello detail debugging is on
- OSPF packet Database Description detail debugging is on
- OSPF packet Link State Request detail debugging is on
- OSPF packet Link State Update detail debugging is on
- OSPF packet Link State Acknowledgment detail debugging is on
- OSPF all LSA debugging is on
- OSPF all NSM debugging is on
- OSPF all events debugging is on
- OSPF all route calculation debugging is on
- Switch#
- **Relative command:** `debug`

## 1.11 show fan

- This command is not supported by switch.

## 1.12 show flash

- **Command:** `show flash`
- **Function:** Show the size of the files which are reserved in the system flash memory.
- **Command Mode:** Admin Mode and Configuration Mode.
- **Example:** To list the files and their size in the flash.
- Switch#show flash
- boot.rom 329, 828 1900-01-01 00:00:00 --SH
- boot.conf 94 1900-01-01 00:00:00 --SH

- nos.img 2, 449, 496 1980-01-01 00:01:06 ----
- startup-config 2, 064 1980-01-01 00:30:12 ----

### 1.13 show history

- **Command:** show history
- **Function:** Display the recent user command history.
- **Command mode:** Admin Mode
- **Usage Guide:** The system holds up to 20 commands the user entered, the user can use the UP/DOWN key or their equivalent (ctrl+p and ctrl+n) to access the command history.
- **Example:**
  - Switch#show history
  - enable
  - config
  - interface ethernet 1/0/3
  - enable
  - dir
  - show ftp

### 1.14 show history all-users

- **Command:** show history all-users [detail]
- **Function:** Show the recent command history of all users.
- **Parameter:** [detail] shows user name of the executing command. IP address of the user will be shown when logging in the executing command through Telnet or SSH.
- **Command Mode:** Admin and configuration mode
- **Usage Guide:** This command is used to show the recent command history of all users, including time, logging type, executing command, etc.
- **Notice:** The user can only check the command history of other users whose purview should not be higher than oneself.
- **Example:**
  - Switch(config)#show history all-users detail

Time	Type	User	Command
0w 0d 0h 2m	Telnet/SSH	admin	show history all-users detail 192.168.1.2:1419
0w 0d 0h 1m	Telnet/SSH	admin	show history all-users 192.168.1.2:1419
0w 0d 0h 1m	Console	Null	show history all-users
0w 0d 0h 1m	Console	Null	end
0w 0d 0h 1m	Console	Null	ip address 192.168.1.1 255.255.255.0
0w 0d 0h 0m	Console	Null	in v 1
0w 0d 0h 0m	Console	Null	telnet-server enable

## 1.15 show logging buffered

- **Command:** `show logging buffered [level {critical | warnings} | range <begin-index> <end-index>]`
- **Function:** This command displays the detailed information in the log buffer channel. This command is not supported on low end switches.
- **Parameter:** `level {critical | warnings}` means the level of critical information. `<begin-index>` is the index start value of the log message, the valid range is 1-65535, `<end-index>` is the index end value of the log message, and the valid range is 1-65535. When only display logging buffered information of the line card must be added range parameter, but the main control has not the request.
- **Command Mode:** Admin and Configuration Mode.
- **Default:** No parameter specified indicates all the critical log information will be displayed.
- **Usage Guide:** Warning and critical log information is saved in the buffer zone. When displayed to the terminal, their display format should be: index ID time <level> module ID [mission name] log information.
- **Example 1:** Display the critical log information in the log buffer zone channel and related to the main control with index ID between 940 and 946.
- `Switch#show logging buffered level critical range 940 946`
- **Example 2:** Display all the information which level is warning in the log buffer zone channel.
- `Switch#show logging buffered level warning`

## 1.16 show logging executed-commands state

- **Command:** `show logging executed-commands state`
- **Function:** Show the state of logging executed-commands.
- **Parameter:** None.
- **Command Mode:** Admin mode.
- **Default:** None.
- **Usage Guide:** Use this command to display the state (enable or disable).
- **Example:**
- `Switch#show logging executed-commands state`
- Logging executed command state is enable

## 1.17 show logging source

- **Command:** `show logging source mstp`
- **Function:** Show the log information source of MSTP module.
- **Parameters:** None.
- **Default:** None.

- **Command mode:** Admin and configuration mode.
- **Usage Guide:** Check the log information source (include information channel, the information severity level) by **show logging mstp** command.
- **Example:** Show the log information source of MSTP.
- Switch#show logging source mstp
- system module log switch status:
- Channel    Onoff    Severity
- logbuff    on        warning
- loghost    on        warning
- terminal    on        warning

## 1.18 show memory

- **Command:** show memory [usage]
- **Function:** Display the contents in the memory.
- **Parameter:** usage means memory use information.
- **Command mode:** Admin Mode
- **Usage Guide:** This command is used for switch debug purposes. The command will interactively prompt the user to enter start address of the desired information in the memory and output word number. The displayed information consists of three parts: address, Hex view of the information and character view.
- **Example:**
- Switch#show memory
- start address : 0x2100
- number of words[64]:

```

• 002100: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002110: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002120: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002130: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002140: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002150: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002160: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*
• 002170: 0000 0000 0000 0000 0000 0000 0000 0000 * .....*

```

## 1.19 show running-config

- **Command:** show running-config
- **Function:** Display the current active configuration parameters for the switch.
- **Default:** If the active configuration parameters are the same as the default operating parameters, nothing will be displayed.

- **Command mode:** Admin Mode
- **Usage Guide:** When the user finishes a set of configuration and needs to verify the configuration, show running-config command can be used to display the current active parameters.
- **Example:**
- Switch#show running-config

## 1.20 show running-config current-mode

- **Command:** show running-config current-mode
- **Function:** Show the configuration under the current mode.
- **Command mode:** All configuration modes.
- **Default:** None.
- **Usage Guide:** Enter into any configuration mode and input this command under this mode, it can show all the configurations under the current mode.
- **Example:**
- Switch(config-if-ethernet1/0/1)#show run c
- !
- Interface Ethernet1/0/1
- switchport access vlan 2
- !

## 1.21 show startup-config

- **Command:** show startup-config
- **Function:** Display the switch parameter configurations written into the Flash memory at the current operation; those are usually also the configuration files used for the next power-up.
- **Default:** If the configuration parameters read from the Flash are the same as the default operating parameter, nothing will be displayed.
- **Command mode:** Admin Mode
- **Usage Guide:** The **show running-config** command differs from **show startup-config** in that when the user finishes a set of configurations, **show running-config** displays the added-on configurations whilst **show startup-config** won't display any configurations. However, if **write** command is executed to save the active configuration to the Flash memory, the displays of **show running-config** and **show startup-config** will be the same.

## 1.22 show switchport interface

- **Command:** show switchport interface [ethernet <IFNAME>]

- **Function:** Show the VLAN port mode, VLAN number and Trunk port messages of the VLAN port mode on the switch.
- **Parameter:** <IFNAME> is the port number.
- **Command mode:** Admin mode
- **Example:** Show VLAN messages of port ethernet 1/0/1.
- Switch#show switchport interface ethernet 1/0/1
- Ethernet1/0/1
- Type :Universal
- Mac addr num : No limit
- Mode :Trunk
- Port VID :1
- Trunk allowed Vlan :ALL

Displayed Information	Description
Ethernet1/0/1	Corresponding interface number of the Ethernet.
Type	Current interface type.
Mac addr num	Numbers of interfaces with MAC address learning ability.
Mode: Trunk	Current interface VLAN mode.
Port VID :1	Current VLAN number the interface belongs.
Trunk allowed Vlan :ALL	VLAN permitted by Trunk.

### 1.23 show tcp

- **Command:** show tcp
- **Function:** Display the current TCP connection status established to the switch.
- **Command mode:** Admin Mode
- **Example:**
- Switch#show tcp
- LocalAddress LocalPort ForeignAddress ForeignPort State
- 0.0.0.0 23 0.0.0.0 0 LISTEN
- 0.0.0.0 80 0.0.0.0 0 LISTEN

Displayed information	Description
LocalAddress	Local address of the TCP connection.
LocalPort	Local port number of the TCP connection.
ForeignAddress	Remote address of the TCP connection.
ForeignPort	Remote port number of the TCP connection.
State	Current status of the TCP connection.

## 1.24 show tcp ipv6

- **Command:** show tcp ipv6
- **Function:** Show the current TCP connection.
- **Command mode:** Admin and configuration mode.
- **Example:**
- Switch#show tcp ipv6
- LocalAddress      LocalPort   RemoteAddress      RemotePort   State    IF   VRF
- ::                  80        ::                  0        LISTEN   0   0
- ::                  23        ::                  0        LISTEN   0   0

Displayed Information	Explanation
LocalAddress	Local IPv6 address of TCP connection
LocalPort	Local port of TCP connection
RemoteAddress	Remote IPv6 address of TCP connection
RemotePort	Remote Port of TCP connection
State	The current state of TCP connection
IF	Local port index of TCP connection
VRF	Virtual route forward instance



## 1.25 show telnet login

- **Command:** show telnet login
- **Function:** List information of currently available telnet clients which are connected to the switch.
- **Command Mode:** Admin Mode and Configuration Mode.
- **Usage Guide:** This command used to list the information of currently available telnet clients which are connected to the switch.
- **Example:**
  - Switch#show telnet login
  - Authenticate login by local.
  - Login user:
  - aa

## 1.26 show temperature

- **Command:** show temperature
- **Function:** Show the temperature of the CPU.
- **Parameters:** None.
- **Command Mode:** Any modes
- **Usage Guide:** This command can be used to monitor the CPU temperature of the switch.
- **Example:** Show the temperature of the CPU of the switch.
  - Switch(Config)#show temperature
  - Temperature: 47.0625 °C

## 1.27 show tech-support

- **Command:** show tech-support
- **Function:** Display various information about the switch and the running tasks. This command is used to diagnose the switch by the technical support specialist.
- **Command Mode:** Admin mode and configuration mode
- **Usage Guide:** When failure occurred on the switch, this command can be used to get related information, in order to diagnose the problems.
- **Example:**
  - Switch#show tech-support

## 1.28 show udp

- **Command:** show udp
- **Function:** Display the current UDP connection status established to the switch.
- **Command mode:** Admin Mode

- **Example:**
- Switch#show udp
- LocalAddress LocalPort ForeignAddress ForeignPort State
- 0.0.0.0 161 0.0.0.0 0 CLOSED
- 0.0.0.0 123 0.0.0.0 0 CLOSED
- 0.0.0.0 1985 0.0.0.0 0 CLOSED

Displayed information	Description
LocalAddress	Local address of the UDP connection.
LocalPort	Local port number of the UDP connection.
ForeignAddress	Remote address of the UDP connection.
ForeignPort	Remote port number of the UDP connection.
State	Current status of the UDP connection.

## 1.29 show udp ipv6

- **Command:** show udp ipv6
- **Function:** Show the current UDP connection.
- **Command mode:** Admin and configuration mode.
- **Example:**
- LocalAddress LocalPort RemoteAddress RemotePort State
- :: 69 :: 0 CLOSED
- :: 1208 :: 0 CLOSED

Displayed Information	Explanation
LocalAddress	Local IPv6 address of UDP connection
LocalPort	Local port of UDP connection
RemoteAddress	Remote IPv6 address of UDP connection
RemotePort	Remote Port of UDP connection
State	The current state of UDP connection

### 1.30 show version

- **Command:** show version
- **Function:** Display the switch version.
- **Command mode:** Admin Mode
- **Usage Guide:** Use this command to view the version information for the switch, including hardware version and software version.
- **Example:**
- Switch#show version

### 1.31 traceroute

- **Command:** traceroute [source <ipv4-addr> ] { <ip-addr> / host <hostname> } [hops <hops> ] [timeout <timeout> ]
- **Function:** This command is tests the gateway passed in the route of a packet from the source device to the target device. This can be used to test connectivity and locate a failed sector.
- **Parameter:** <ipv4-addr> is the assigned source host IPv4 address in dot decimal format. <ip-addr> is the target host IP address in dot decimal format. <hostname> is the hostname for the remote host. <hops> is the maximum gateway number allowed by Traceroute command. <timeout> Is the timeout value for test packets in milliseconds, between 100 -10000.
- **Default:** The default maximum gateway number is 30, timeout in 2000 ms.
- **Command mode:** Admin Mode
- **Usage Guide:** Traceroute is usually used to locate the problem for unreachable network nodes.

### 1.32 traceroute6

- **Command:** traceroute6 [source <addr>] {<ipv6-addr> | host <hostname>} [hops <hops>] [timeout <timeout>]
- **Function:** This command is for testing the gateways passed by the data packets from the source device to the destination device, so to check the accessibility of the network and further locating the network failure.
- **Parameter:** <addr> is the assigned source host IPv6 address in colonned hex notation. <ipv6-addr> is the IPv6 address of the destination host, shown in colonned hex notation; <hostname> is the name of the remote host; <hops> is the max number of the gateways the traceroute6 passed through, ranging between 1-255; <timeout> is the timeout period of the data packets, shown in millisecond and ranging between 100~10000.
- **Default:** Default number of the gateways passes by the data packets is 30, and timeout period is defaulted at 2000ms.

- **Command Mode:** Admin Mode
- **Usage Guide:** Traceroute6 is normally used to locate destination network inaccessible failures.
- **Example:**
- Switch# traceroute6 2004:1:2:3::4
- **Relevant Command:** ipv6 host

## Chapter 2 COMMANDS FOR RELOAD SWITCH AFTER SPECIFIED TIME

### 2.1 reload after

- **Command:** reload after {[<HH:MM:SS>] [days <days>]}
- **Function:** Reload the switch after a specified period of time.
- **Parameters:** <HH:MM:SS> the specified time, HH (hours) ranges from 0 to 23, MM (minutes) and SS (seconds) range from 0 to 59.
  - <days> the specified days, unit is day, range from 1 to 30.
  - time and day may be configured at the same time or configured solely.
- **Command Mode:** Admin mode
- **Usage Guide:** With this command, users can reboot the switch without shutdown its power after a specified period of time, usually when updating the switch version. The switch can be rebooted after a period of time instead of immediately after its version being updated successfully. This command will not be reserved, which means that it only has one-time effect. After this command is configured, it will prompt the reboot information when user logging in the switch by telnet.
- **Example:** Set the switch to automatically reload after 2 days, 10 hours and 1 second.
- Switch#reload after 10:00:01 days 2
- Process with reboot after? [Y/N] y
- **Related Commands:** reload, reload cancel, show reload

### 2.2 reload cancel

- **Command:** reload cancel
- **Function:** Cancel the specified time period to reload the switch.
- **Parameters:** None
- **Command Mode:** Admin mode.
- **Usage Guide:** With this command, users can cancel the specified time period to reload the switch, that is, to cancel the configuration of command “reload after”. This command will not be reserved.
- **Example:** Prevent the switch to automatically reboot after the specified time.
- Switch#reload cancel
- Reload cancel successful.
- **Related Commands:** reload, reload after, show reload

### 2.3 show reload

- **Command:** show reload
- **Function:** Display the user’s configuration of command “reload after”.
- **Parameters:** None.
- **Command Mode:** Admin and configuration mode

- **Usage Guide:** With this command, users can view the configuration of command “reload after” and check how long a time is left before rebooting the switch.
- **Example:** View the configuration of command “reload after”. In the following case, the user set the switch to be rebooted in 10 hours and 1 second, and there are still 9 hours 59 minutes and 48 seconds left before rebooting it.
- Switch#show reload
- The original reload after configuration is 10:00:01.
- System will be rebooted after 09:59:48 from now.
- **Related Commands:** reload, reload after, reload cancel

## Chapter 3 COMMANDS FOR DEBUGGING AND DIAGNOSIS FOR PACKETS RECEIVED AND SENT BY CPU

### 3.1 clear cpu-rx-stat protocol

- **Command:** clear cpu-rx-stat protocol[ <protocol-type> ]
- **Function:** Clear the statistics of the CPU received packets of the protocol type.
- **Parameter:** <protocol-type> is the type of the protocol of the packet, including dot1x, stp, snmp, arp, telnet, http, dhcp, igmp, ssh, bgp, bgp4plus, rip, ripng, ospf, ospfv3, pim, pimv6, unknown-mcast, unknow-mcast6, mld
- **Command Mode:** Global Mode
- **Usage Guide:** This command clear the statistics of the CPU received packets of the protocol type, it is supposed to be used with the help of the technical support.
- **Example:** Clear the statistics of the CPU receives ARP packets.
- Switch(config)#clear cpu-rx-stat protocol arp

### 3.2 cpu-rx-ratelimit channel

- This command is not supported by the switch.

### 3.3 cpu-rx-ratelimit enhanced

- This command is not supported by the switch.

### 3.4 cpu-rx-ratelimit protocol

- **Command:** cpu-rx-ratelimit protocol <protocol-type> <packets>
- **no cpu-rx-ratelimit protocol <protocol-type>**
- **Function:** Set the max rate of the CPU receiving packets of the protocol type, the no command set the max rate to default.
- **Parameter:** <protocol-type> is the type of the protocol, including dot1x, stp, snmp, arp, telnet, http, dhcp, igmp, ssh, bgp, bgp4plus, rip, ripng, ospf, ospfv3, pim, pimv6, unknown-mcast, unknow-mcast6, mld; <packets> is the max rate of CPU receiving packets of the protocol type, its range is 1-2000 pps.
- **Command Mode:** Global Mode
- **Default:** A different default rate is set for the different type of protocol.
- **Usage Guide:** The rate limit set by this command have an effect on CPU receiving packets, so it is supposed to be used with the help of the technical support.
- **Example:** Set the rate of the ARP packets to 500pps.
- Switch(config)#cpu-rx-ratelimit protocol arp 500

### 3.5 cpu-rx-ratelimit queue-length

- This command is not supported by the switch.

### 3.6 cpu-rx-ratelimit total

- **Command:** `cpu-rx-ratelimit total <packets>`
- **no** `cpu-rx-ratelimit total`
- **Function:** Set the total rate of the CPU receiving packets, the `no` command sets the total rate of the CPU receiving packets to default.
- **Parameter:** `<packets>` is the max number of CPU receiving packets per second.
- **Command Mode:** Global Mode
- **Default:** 1200pps.
- **Usage Guide:** The total rate set by the command have an effect on CPU receiving packets, so it is supposed to be used with the help of the technical support.
- **Example:** Set the total rate of the CPU receive packets to 1500pps.
- `Switch(config)#cpu-rx-ratelimit total 1500`

### 3.7 debug driver

- **Command:** `debug driver {receive | send} [interface {<interface-name> | all}] [protocol {<protocol-type> | discard | all}] [detail]`
  - `no debug driver {receive | send}`
- **Function:** Turn on the on-off of showing the information of the CPU receiving or sending packets, the “`no debug driver {receive | send}`” command turns off the on-off.
- **Parameter:** `receive | send` show the information of receiving or sending packets;
- **interface {<interface-list> | all}:** `interface-list` is the Ethernet port number, `all` indicate all the Ethernet ports.
- **protocol {<protocol-type> | discard | all}:** `protocol-type` is the type of the protocol of the packet, including `snmp`, `telnet`, `http`, `dhcp`, `igmp`, `hsrp`, `arp`, `bgp`, `rip`, `ospf`, `pim`, `ssh`, `vrrp`, `ripng`, `ospfv3`, `pimv6`, `icmpv6`, `bgp4plus`, `unknown-mcast`, `unknown-mcast6`, `ttl0-2cpu`, `isis`, `dot1x`, `gvrp`, `stp`, `lacp`, `cluster`, `mld`, `vrrpv3`, `ra`, `uldp`, `lldp`, `eapou` `all` means all of the protocol types, `discard` means all the discarded packets. `Detail` show detail information.
- **Command Mode:** Admin Mode
- **Usage Guide:** This command is used to debug, it is supposed to be used with the help of the technical support.
- **Example:** Turn on the on-off for showing the receiving packets.
- `Switch#debug driver receive`

### 3.8 show cpu-rx protocol

- **Command:** `show cpu-rx protocol [ <protocol-type> ]`
- **Function:** Show the statistics of the CPU received packets of the specified protocol type.
- **Parameter:** `<protocol-type>` is the protocol type of the packets, if do not input parameters, show all statistic packets.
- **Command Mode:** Admin and configuration mode
- **Default:** None.



- **Usage Guide:** This command is used to debug, it is supposed to be used with the help of the technical support.
- **Example:** Show the statistics of CPU receiving ARP packets.
- Switch#show cpu-rx protocol arp
- Type           Rate-limit   TotPkts    CurState
- arp            500        3         allowed