1 Basic Management Commands

Command	Function
banner	Configure a prompt.
boot config	Modify the storage path and name of the startup configuration file.
calendar set	Configure the hardware time of the system.
checkpoint	Configure a checkpoint.
clear checkpoint database	Clear checkpoints and related data.
clear telnet ip-block	Clear entries about blocked IP addresses and authentication failures.
clock read-calendar	Configure the system to synchronize the software time with the hardware time.
clock set	Configure the software time of the system.
clock summer-time	Configure the DST.
clock timezone	Configure a time zone.
clock update-calendar	Configure the system to synchronize the hardware time with the software time.
configure	Enter the global configuration mode.
cpu high-watermark set	Configure the maximum threshold for the total CPU usage of all control cores and enable CPU usage monitoring.
disconnect	Close a suspended telnet client session.
do telnet	Log in to the telnet server.
enable	Enter the privileged EXEC mode or switch a role.
enable default role	Configure the default role for running the enable commands.
enable password	Configure passwords for different privilege levels.
enable secret	Configure secure encrypted passwords for different privilege levels.
enable service	Enable a specified service.

end	Exit the current mode and return to the privileged EXEC mode.
exec-banner	Enable EXEC prompt information display for a specific line.
exec-timeout	Set the connection timeout time of the device on a line.
execute	Run commands in the batch file.
exit	Exit the configuration mode and return to the upper-level mode or exit the command line interface (CLI) from the privileged EXEC mode.
Help	Display a brief description of the help system.
hostname	Specify or modify the host name of the device.
ip telnet access-class	Configure an access control list (ACL) for the telnet server.
ip telnet ip-block	Configure the maximum number of consecutive authentication failures, beyond which an IP address is blocked on the telnet server, and to specify the period for awakening the blocked IP address.
ip telnet source-interface	Specify the IP address of an interface as the source IP address of a telnet connection.
ipv6 telnet access-class	Configure an IPv6 ACL for a telnet server.
lock	Set a temporary password on a terminal to lock the terminal CLI to prevent access while keeping the session.
lockable	Enable the locking feature for terminals connected to the current line.
login	Configure simple login password verification for a line.
login access non-aaa	Enable non-AAA authentication for a line when the AAA service is enabled.
login local	Configure local user authentication for a line.
login privilege log	Configure the logging function for privilege level increase or role switching.
memory history clear	Clear historical memory usage records.

memory low-watermark set	Enable the monitoring of memory usage threshold.
motd-banner	Enable MOTD information display for a specific line.
password	Configure a password for line-based login.
prompt	Configure a CLI prompt.
reload	Restart the device immediately.
reload at	Configure the scheduled restart function.
reload cancel	Cancel scheduled restart.
reload in	Configure the countdown restart function.
rollback running-config checkpoint	Roll back the running configurations of the device to configurations of a checkpoint.
secret	Configure an MD5/SHA-256 irreversible encrypted password for line-based login.
session	Connect to a supervisor module or service card in a virtual switching unit (VSU) environment.
session-timeout	Configure the timeout time for sessions established to a remote terminal on the current line.
show boot config	Display the saving paths and names of startup configuration files.
show calendar	Display the hardware time of the system.
show checkpoint	Display information about a single checkpoint or a summary of all checkpoints.
show clock	Display the software time of the system.
show cpu	Display CPU usage information of system tasks on control cores and non-virtual cores.
show debugging	Check whether the debugging function of the device is enabled.
show hostname	Display the host name of the device.
show language character-set	Display the character set encoding format of the device.
show line	Display configurations of a line.
show memory	Display memory information.
show memory vsd	Display memory information.

show pci-bus	Display information about devices mounted on the Peripheral Component Interconnect (PCI) bus.
show processes cpu	Display system tasks.
show processes cpu detailed	Display details about a specific task.
show reload	Display system restart configuration.
show running-config	Display the running configurations of the device system or configurations of an interface.
show service	Display the service status (enabled/disabled).
show sessions	Display information about connected telnet clients.
show startup-config	Display device configurations stored in the non-volatile random-access memory (NVRAM).
show sysmon grpc info	Display information about the gRPC function registered in the system monitoring process.
show telnet ip-block	Display information about blocked IP addresses and authentication failures.
show this	Display effective system configurations in current mode.
show usb-bus	Display information about devices mounted on the USB bus.
show version	Display the system version.
telnet	Log in to the telnet server.
username	Configure a local user account and optional authorization information.
username export	Export user information to a text file.
username import	Import user information from a text file.
write	Save system configurations (running-config) to a specific position.

1.1 banner

Function

Run the **banner** command to configure a prompt.

Run the **no** form of this command to remove this configuration.

No prompt is configured by default.

Syntax

banner { **exec** | **incoming** | **login** | **motd** | **privilege-mode** | **prompt-timeout** | **slip-ppp** } *c message c*

no banner { **exec** | **incoming** | **login** | **motd** | **privilege-mode** | **prompt-timeout** | **slip-ppp** }

Parameter Description

exec: Configures a prompt for the access to the user EXEC mode of a line.

incoming: Configures a prompt for the establishment of reverse telnet connections.

login: Configures the login banner information.

motd: Configures the message of the day (MOTD) information.

privilege-mode: Configures a prompt for the access to the privileged EXEC mode.

prompt-timeout: Configures a prompt for login authentication timeout.

slip-ppp: Configures a prompt for SLIP/PPP line connection.

c: Configures a delimiter between the command keyword and the prompt.

message: Configures prompt content, which must contain no delimiters.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Any prompt configured by this command applies to all lines. Characters following the second delimiter are invalid and are discarded.

When a user logs in to the device, the MOTD information (configured using **banner motd**) and login banner information (configured using **banner login**) first appear. Upon login, the incoming prompt (**banner incoming**) is displayed in case of a reverse telnet connection and the EXEC prompt information (**banner exec**) is displayed in case of other connections.

Examples

The following example sets the prompt displayed when a user enters the user EXEC mode to **Welcome to use this device**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# banner exec $ Welcome to use this device. $
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **exec-banner**
- **motd-banner**

1.2 boot config

Function

Run the **boot config** command to modify the storage path and name of the startup configuration file.

Run the **no** form of this command to remove this configuration.

The startup configuration file is stored in **Flash:/** and named **config.text** by default.

Syntax

boot config { **flash:***filename* | **usb0:***filename* }

no boot config

Parameter Description

flash: Saves the startup configuration file to the extended flash memory.

usb0: Saves the startup configuration file to Universal Serial Bus (USB) 0. This option is supported only when the device has one USB port with a USB flash drive inserted.

filename: Name of the startup configuration file.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

- The name of the startup configuration file must follow a slash (/), for example, **flash:/Hostname.text** or **usb0:/Hostname.text**.
- The name of the startup configuration file can be a path. If the path does not exist, the **write** command fails to save the configurations. For example, if the name of the startup configuration file is set to **flash:/Hostname/Hostname.text** or **usb0:/Hostname/Hostname.text**, in which the folders **flash:/Hostname** and **usb0:/Hostname** must exist. In master-slave mode, the paths of all devices must exist.

- To save the startup configuration file to a USB flash drive, the device must offer a USB port with a USB flash drive inserted. Otherwise, the **write** command fails to save the configurations. In master-slave mode, all devices must have a USB flash drive inserted.

Examples

The following example sets the storage path of the startup configuration file to **flash:/Hostname.text**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# boot config flash:/Hostname.text
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.3 calendar set

Function

Run the **calendar set** command to configure the hardware time of the system.

The default hardware time of the device is **1970-01-01 00:00:00**.

Syntax

calendar set *hh:mm:ss* [*MM* [*DD* [*YY*]]]

Parameter Description

hh:mm:ss: Hardware time of the system. *hh* indicates hours, *mm* indicates minutes, and *ss* indicates -seconds.

MM: Month. The range is from 1 to 12. If it is not specified, the current month of the system is used.

DD: Day. The range is from 1 to 31. If it is not specified, the current day of the system is used.

YY: Year. The range is from 1970 to 2037. If it is not specified, the current year of the system is used.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

- The time parameter *hour* is a mandatory field. Even if the parameter value is modified, the hour value

consistent with the current hour needs to be entered. Other parameters can be omitted if they do not need to be modified. The current system values are used for omitted parameters. For example, if the current hardware time is "2012-02-29 09:33:44" and you want to change the month and hour but keep the values of other parameters, run the **calendar set** *12 5* command to change the current time to **2012-05-29 12:33:44**.

- The hardware time of the system is used as the Coordinated Universal Time (UTC), while the software time of the system refers to the local time of the device.
- This command is supported only by virtual switch device (VSD) 0 only. In multi-VSD mode, this command is invalid.

Examples

The following example sets the hardware time of the system to 2020-01-01 18:23:06.

```
Hostname> enable
Hostname# calendar set 18:23:06 1 1 2020
Set hardware time: 18:23:06 GMT Wed, Jan 1, 2020
Hostname#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.4 checkpoint

Function

Run the **checkpoint** command to configure a checkpoint.

Run the **no** form of this command to remove this configuration.

No checkpoint is configured by default.

Syntax

checkpoint [*checkpoint-name*] [**description** *description*]

no checkpoint *checkpoint-name*

Parameter Description

checkpoint-name: Checkpoint name. The value is a string of 1 to 80 characters.

description *description*: Configures checkpoint description. *description* indicates the description of the checkpoint, which cannot be longer than 80 characters.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

When a checkpoint is created, the system collects and saves a copy of the current configurations. Up to 10 rollback checkpoints can be created at the same system layer.

If no checkpoint name is specified in the command, the system automatically specifies a name.

Examples

The following example configures a checkpoint that uses the default name.

```
Hostname> enable
Hostname# checkpoint
.
user-checkpoint-1 created Successfully


Done
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- clear checkpoint database

1.5 clear checkpoint database

Function

Run the **clear checkpoint database** command to clear checkpoints and related data.

Syntax

clear checkpoint database

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to clear all checkpoints and their configuration file copies.

Examples

The following example clears data of all checkpoints.

```
Hostname> enable
Hostname# clear checkpoint database
```

Notifications

N/A

Platform Description

N/A

Related Commands

- **checkpoint**

1.6 clear telnet ip-block

Function

Run the **clear telnet ip-block** command to clear entries about blocked IP addresses and authentication failures.

Syntax

clear telnet ip-block { **all** | [*ipv4-address* | *ipv6-address*] }

Parameter Description

all: Clears all entries about blocked IP addresses and authentication failures.

ipv4-address: Entries about specific blocked source IPv4 addresses and authentication failures.

ipv6-address: Entries about specific blocked source IPv6 addresses and authentication failures.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

After entries about blocked IP addresses are cleared, these blocked IP addresses are awakened immediately and users using these IP addresses can log in to the device through the telnet client.

Examples

The following example clears all entries about blocked IP addresses and authentication failures.

```
Hostname> enable
Hostname# clear telnet ip-block all
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.7 clock read-calendar

Function

Run the **clock read-calendar** command to configure the system to synchronize the software time with the hardware time.

The system is not configured to synchronize the software time with the hardware time by default.

Syntax

clock read-calendar

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

After you run this command, the system will synchronize the software time with the current hardware time according to the time zone and daylight saving time (DST) configuration of the device.

Examples

The following example configures the system to synchronize the software time with the hardware time.

```
Hostname> enable
Hostname# clock read-calendar
Set the system clock from the hardware time.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.8 clock set

Function

Run the **clock set** command to configure the software time of the system.

The default software time is **1970-01-01 00:00:00**.

Syntax

clock set *hh:mm*:*ss* [*MM* [*DD* [*YY*]]]

Parameter Description

hh:mm:*ss*: Software time of the system. *hh* indicates hours, *mm* indicates minutes, and *s* indicates seconds.

MM: Month. The range is from 1 to 12. If it is not specified, the current month of the system is used.

DD: Day. The range is from 1 to 31. If it is not specified, the current day of the system is used.

YY: Year. The range is from 1970 to 2037. If it is not specified, the current year of the system is used.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

The time parameter *hour* is a mandatory field. Even if the parameter value is modified, the hour value consistent with the current hour needs to be entered. Other parameters can be omitted if they do not need to be modified. The current system values are used for omitted parameters. For example, if the current software time is "2020-02-29 09:33:44" and you want to change the month and hour but keep the values of other parameters, run the **clock set** *1 2 5* command to change the current time to **2020-05-29 12:33:44**.

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

Examples

The following example sets the software time of the system to **2020-01-02 18:23:06**.

```
Hostname> enable
```

```
Hostname# clock set 18:23:06 1 2 2020
Set system clock: 18:23:06 UTC Thu, Jan 2, 2020
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.9 clock summer-time

Function

Run the **clock summer-time** command to configure the DST.

Run the **no** form of this command to remove this configuration.

Syntax

clock summer-time *summer-time-zone* **start** *start-month* [*week* | **last**] *start-date hh:mm* **end** *end-month* [*week* | **last**] *end-date hh:mm* [**ahead** *hours-offset* [*minutes-offset*]]

no clock summer-time

Parameter Description

summer-time-zone: DST name. The value is a case-insensitive string of 3 to 31 characters containing only English letters.

start: Specifies the start time for the DST to take effect.

start-month: Start month of the DST. The value is **January**, **February**, **March**, **April**, **May**, **June**, **July**, **August**, **September**, **October**, **November**, or **December**. The value is case-insensitive, and you are allowed to enter an incomplete word, for example, **Febr** or **FebRu**.

week: Start week in the specified start month. The range is from 1 to 5.

last: Specifies the last week in a month.

start-date: Start day in the specified start month. The value is **Sunday**, **Monday**, **Tuesday**, **Wednesday**, **Thursday**, **Friday**, or **Saturday**. The value is case-insensitive, and you are allowed to enter an incomplete word, for example, **Wed** or **WeDne**.

hh:*mm*: Specified time.

end: Specifies the end time for the DST to take effect.

end-month: End month of the DST. The value is **January**, **February**, **March**, **April**, **May**, **June**, **July**, **August**, **September**, **October**, **November**, and **December**. The value is case-insensitive, and you are allowed to enter an incomplete word, for example, **Febr** or **FebRu**.

ahead: Specifies how much time that the DST is ahead of the standard time during the effective period of the DST. If it is not specified, the DST is one hour ahead of the standard time by default.

hours-offset: Hours ahead of the standard time. The range is from 0 to 12. You are not allowed to set it to **00:00**.

minutes-offset: Minutes ahead of the standard time. The range is from 0 to 59. If *hours-offset* is set to **0**, *minutes-offset* cannot be set to **0**.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

Examples

Assume that a time zone is named ABC and the standard time is 8:15 ahead of the UTC time, namely, GMT+08:15. The following example sets the DST to start from the first Saturday in February to the third Monday in May, and 01:20 ahead of the standard time. In this case, the DST is 09:35 ahead of the UTC time, but non-DST time is still 08:15 ahead of the UTC time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# clock timezone ABC 8 15
Set time zone name: ABC (GMT+08:15)
Hostname(config)# end
Hostname# show clock
16:39:16 ABC Wed, Feb 29, 2012
Hostname# show calendar
08:24:35 GMT Wed, Feb 29, 2012
Hostname# configure terminal
Hostname(config)# clock summer-time TZA start Feb 1 sat 2:00 end May 3 Monday
18:30 ahead 1 20
*May 10 03:45:58: %SYS-CLOCKUPDATE: Set summer-time: TZA from February the 1st
Saturday at 2:00 TO May the 3rd Monday at 18:30, ahead 1 hour 20 minute
Set summer-time: TZA from February the 1st Saturday at 2:00 TO May the 3rd Monday
at 18:30, ahead 1 hour 20 minute
Hostname(config)# end
Hostname# show clock
18:00:08 TZA Wed, Feb 29, 2012
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.10 clock timezone

Function

Run the **clock timezone** command to configure a time zone.

Run the **no** form of this command to remove this configuration.

The UTC time is set for all time zones by default.

Syntax

clock timezone *timezone hours-offset* [*minutes-offset*]

no clock timezone

Parameter Description

timezone: Time zone name. The value is a case-insensitive string of 3 to 31 characters containing only English letters.

hours-offset: Hours of the specified time difference. It indicates the time that the time zone is faster or slower than the hardware time (UTC time). The range is from –12 to 12. A negative number indicates that the time zone is slower than the hardware time, while a positive number indicates that the time zone is faster than the hardware time. If the time zone is slower than the UTC time, add "–" before *hours-offset*.

minutes-offset: Minutes of the specified time difference. The range is from 0 to 59.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

Examples

The following example sets the time zone name to **CST** and the software time to be 8 hours faster than the hardware time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# clock timezone CST 8
Set time zone name: CST (GMT+08:00)
Hostname# show clock
18:00:17 CST Wed, Dec 5, 2012
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.11 clock update-calendar

Function

Run the **clock update-calendar** command to configure the system to synchronize the hardware time with the software time.

The system is not configured to synchronize the hardware time with the software time by default.

Syntax

clock update-calendar

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

- This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.
- After you configure this command, the device will synchronize the hardware time with the current software time according to the time zone and DST configuration of the device.

Examples

The following example configures the device to synchronize the hardware time with the software time.

```
Hostname> enable
Hostname# clock update-calendar
Set the hardware time from the system clock.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.12 configure

Function

Run the **configure** command to enter the global configuration mode.

Syntax

configure [**terminal**]

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enters the global configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.13 cpu high-watermark set

Function

Run the **cpu high-watermark set** command to configure the maximum threshold for the total CPU usage of all control cores and enable CPU usage monitoring.

Run the **no** form of this command to disable CPU usage monitoring.

Run the **default** form of this command to restore the default configuration.

The default CPU usage range is from **75%** to **85%**.

Syntax

cpu high-watermark set [[**up** *up-value*] [**down** *down-value*]]

no cpu high-watermark set

default cpu high-watermark set

Parameter Description

watermark-up-value: Upper limit of the CPU usage. The range is from 1% to 99%.

watermark-down-value: Lower limit of the CPU usage. The range is from 1% to 99%.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

- This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.
- You can use this command to configure the maximum threshold for CPU usage and enable CPU usage monitoring. When detecting that the CPU usage exceeds the allowed threshold range, the system prints a prompt.

Examples

The following example enables CPU usage monitoring and sets the lower limit of the CPU usage to 70% and upper limit to 90%.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# cpu high-watermark set up 90 down 70
Open cpu watermark monitor
Set system cpu high-watermark up 90%, down 70%
```

Notifications

When the CPU usage range is from 85% to 91% and the CPU usage exceeds the upper limit, the following alarm information is printed:

```
*Mar 11 09:59:01: %SYSMON-4-CPU_WATERMARK_HIGH: Warning! System cpu usage above
high watermark(1%), current cpu usage 92%
```

```
*Mar 11 09:59:01: %SYSMON-4-CPU_WATERMARK_HIGH: TOP 1: pid is 7368, task name is
bcmL2X.0, run in core 0, cpu usage  4.2%
*Mar 11 09:59:01: %SYSMON-4-CPU_WATERMARK_HIGH: TOP 2: pid is 7369, task name is
bcmCNTR.0, run in core 1, cpu usage  2.7%
*Mar 11 09:59:01: %SYSMON-4-CPU_WATERMARK_HIGH: TOP 3: pid is 7561, task name is
monitor_procps, run in core 0, cpu usage  1.0%
*Mar 11 09:59:05: %SYSMON-4-CPU_WATERMARK_HIGH: (*2/0) Warning! System cpu usage
above high watermark(1%), current cpu usage 92%
*Mar 11 09:59:05: %SYSMON-4-CPU_WATERMARK_HIGH: (*2/0) TOP 1: pid is 7368, task
name is bcmL2X.0, run in core 0, cpu usage  4.2%
*Mar 11 09:59:05: %SYSMON-4-CPU_WATERMARK_HIGH: (*2/0) TOP 2: pid is 7369, task
name is bcmCNTR.0, run in core 1, cpu usage  2.7%
*Mar 11 09:59:05: %SYSMON-4-CPU_WATERMARK_HIGH: (*2/0) TOP 3: pid is 7561, task
name is monitor_procps, run in core 0, cpu usage  1.0%
```

When the CPU usage is below the lower limit, the following alarm clearance information is printed:

```
*Mar 11 10:01:12: %SYSMON-5-CPU_WATERMARK: Withdraw warning! System cpu usage
below high watermark(75%), current cpu usage 20%
*Mar 11 10:01:18: %SYSMON-5-CPU_WATERMARK: (*2/0) Withdraw warning! System cpu
usage below high watermark(75%), current cpu usage 20%
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

-

1.14 disconnect

Function

Run the **disconnect** command to close a suspended telnet client session.

Syntax

disconnect *session-id*

Parameter Description

session-id: ID of the suspended telnet client session.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

You can run this command with a telnet client session ID specified to close the specified telnet client session.

Examples

The following example closes telnet client session 1.

```
Hostname> enable
Hostname# disconnect 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show sessions**

1.15 do telnet

Function

Run the **do telnet** command to log in to the telnet server.

Syntax

do telnet [**oob**] { *hostname* | *ipv4-address* | *ipv6-address* } [*port-number*] [**/source** { **ip** *ipv4-address* | **ipv6** *ipv6-address* | **interface** *interface-type interface-name* }] [**via** *mgmt-name*]

Parameter Description

oob: Connects to a remote telnet server through out-of-band communication (over the MGMT port typically).

hostname: Host name of the telnet server.

ipv4-address: IPv4 host address of the telnet server.

ipv6-address: IPv6 host address of the telnet server.

port-number: TCP port number of the telnet server. The range is from 0 to 65535, and the default value is **23**.

/source: Specifies the source IP address or source interface used by the telnet client.

ip *ipv4-address*: Specifies the source IPv4 address used by the telnet client.

ipv6 *ipv6-address*: Specifies the source IPv6 address used by the telnet client.

interface *interface-type interface-name*: Specifies the source interface used by the telnet client. *interface-type interface-name* indicates the specified interface type and ID.

via *mgmt-name*: Specifies the MGMT port used by the telnet client for the **oob** parameter. *mgmt-name* indicates the MGMT port number.

Command Modes

User EXEC mode, privileged EXEC mode, and interface configuration mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example sets the IPv4 address of the telnet server to **192.168.1.1**, the TCP port number to the default value, the source interface to **Gi 0/1**, and the VRF table to **vpn1**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# do telnet 192.168.1.1 /source interface gigabitethernet 0/1
/vrf vpn1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.16 enable

Function

Run the **enable** command to enter the privileged EXEC mode or switch a role.

Syntax

enable [[*privilege-level*] | [**role** *role-name*]]

Parameter Description

privilege-level: Privilege level.

role-name: Role name.

Command Modes

User EXEC mode

Default Level

0

Usage Guidelines

This command is used to switch from the user EXEC mode to the privileged EXEC mode by default. If privilege level is specified, the current privilege level is raised to the specified level.

When the RBAC function is enabled, this command can be used to switch the terminal role. If no role is specified, the system switches to role **network-admin** by default.

Examples

The following example raises the current privilege level to level 14.

```
Hostname> enable 14
Password:
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show privilege** (Line)

1.17 enable default role

Function

Run the **enable default role** command to configure the default role for running the **enable** commands.

Run the **no** form of this command to restore the role for running the **enable** commands to the default role.

The default role for running **enable** commands is **network-admin**.

Syntax

enable default role *role-name*

no enable default role

Parameter Description

role-name: Role name.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

- The **enable** commands include **enable** (for role switching), **enable password**, and **enable secret**. If no role is specified, these three commands are used to set the role configured by this command.
- This command is set only when the RBAC function is enabled.

Examples

The following example sets the role for running the **enable** commands to **network-operator**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# enable default role network-operator
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.18 enable password

Function

Run the **enable password** command to configure passwords for different privilege levels.

Run the **no** form of this command to remove this configuration.

Syntax

enable password { [**level** *password-level*] | [**role** *role-name*] } { [**0**] *password* | **7** *encrypted-password* }

no enable password { [**level** *password-level*] | [**role** *role-name*] }

Parameter Description

password-level: Privilege level of a user.

role-name: Role name.

0: Sets the entered password to a plaintext string.

password: Plaintext password used to enter the configuration layer of the privileged EXEC mode. The value is a string of 1 to 126 characters.

7 *encrypted-password*: Configures the entered password as a ciphertext string.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

A valid password is defined as follows:

- It contains 1 to 26 characters including uppercase letters, lowercase letters, and digits.
- Preamble spaces are allowed in front of the password, but are ignored. Intermediate and trailing spaces are recognized.

Generally, the encryption type is specified only when a password encrypted by the device is copied and pasted.

When the RBAC function is enabled and no role is specified, this command is used to set a password for role **network-admin** by default.

Caution

- Encrypted passwords cannot be restored but can be reconfigured.
- If you specify an encryption type but enter a plaintext password, you are not allowed to enter the privileged EXEC mode again.

Examples

The following example sets a password of role **network-operator** to the plaintext string **passwword10**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# enable password password10
Hostname(config)# enable password role network-operator
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.19 enable secret

Function

Run the **enable secret** command to configure secure encrypted passwords for different privilege levels.

Run the **no** form of this command to remove this configuration.

Syntax

enable secret { [**level** *secret-level*] | [**role** *role-name*] } { [**0**] *password* | **5** *encrypted-secret* }

no enable secret { [**level** *secret-level*] | [**role** *role-name*] }

Parameter Description

secret-level: Privilege level of a user.

role-name: Role name.

0: Sets the output password to a plaintext string.

password: Plaintext password used to enter the configuration layer of the privileged EXEC mode. The value is a string of 1 to 126 characters.

5 *encrypted-secret*: Configures the password encryption mode. **5** indicates that a password encrypted using the MD5 irreversible encryption algorithm is saved as an encrypted password.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

Authentication passwords configured using the **Enable** command are classified into passwords and secrets.

- Passwords are simple encrypted passwords set for privilege levels 1 to 15.
- Secrets are secure encrypted passwords set for privilege levels 1 to 15.

Passwords must be stored in encryption mode. Passwords are simply encrypted, and secrets are securely encrypted.

If a privilege level has both a password and a secret, the password does not take effect.

If you configure a password for a non-15 level, a warning is displayed and the password is automatically converted into a secret.

If the password and secret set for level 15 are the same, a warning is displayed.

When the RBAC function is enabled and no role is specified, this command is used to set a password for role **network-admin** by default.

Examples

The following example sets the secure encrypted password to the plaintext string **secret10**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# enable secret 0 secret10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.20 enable service

Function

Run the **enable service** command to enable a specified service.

Run the **no** form of this command to disable the specific service.

The Simple Network Management Protocol (SNMP) agent service is enabled and the telnet server, Secure Shell (SSH) server, and Web server services are disabled by default.

Syntax

enable service { **ssh-server** | **telnet-server** | **web-server** [**http** | **https** | **all**] | **snmp-agent** }

no enable service { **ssh-server** | **telnet-server** | **web-server** [**http** | **https** | **all**] | **snmp-agent** }

Parameter Description

ssh-server: Enables the SSH server service.

telnet-server: Enables the telnet server service.

web-server [**http** | **https** | **all**]: Enables the Web server service. **http** indicates that only the Hypertext Transfer Protocol (HTTP) service is enabled. **https** indicates that only the Hypertext Transfer Protocol Secure (HTTPS) service is enabled. **all** indicates that both the HTTP and HTTPS services are enabled.

snmp-agent: Enables the SNMP agent service.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the **ssh-server** command is run, both the IPv4 and IPv6 services of the SSH server are enabled.

When the **telnet-server** command is run, both the IPv4 and IPv6 services of the telnet server are enabled.

When the **web-server** [**http** | **https** | **all**] command is run, both the IPv4 and IPv6 services of the web server are enabled.

When the **snmp-agent** command is run, both the IPv4 and IPv6 services of the SNMP agent are enabled.

Examples

The following example enables the SSH server service.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# enable service ssh-server
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.21 end

Function

Run the **end** command to exit the current mode and return to the privileged EXEC mode.

Syntax

end

Parameter Description

N/A

Command Modes

All modes except the privileged EXEC mode

Default Level

0

Usage Guidelines

In any mode except the privileged EXEC mode, you can run the **end** command to exit the current mode and return to the privileged EXEC mode.

Examples

The following example exits from the line configuration mode and returns to the privileged EXEC mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
Hostname(config-line)# end
Hostname#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.22 exec-banner

Function

Run the **exec-banner** command to enable EXEC prompt information display for a specific line.

Run the **no** form of this command to remove this configuration.

EXEC prompt information display is enabled for all lines by default.

Syntax

exec-banner

no exec-banner

Parameter Description

N/A

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

If the **banner exec** command is configured on the device, EXEC prompts are displayed for all lines by default. To disable EXEC prompt information for a specific line, run the **no exec-banner** command.

⚠ Caution

This command does not support **banner incoming**. That is, if **banner incoming** is configured for the device, incoming prompts are displayed for reverse telnet connections of all lines. You cannot disable the incoming prompts on a specific line.

Examples

The following example disables welcome information display for line 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 1
```

```
Hostname(config-line)# no exec-banner
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- banner_banner_motd_1

1.23 exec-timeout

Function

Run the **exec-timeout** command to set the connection timeout time of the device on a line.

Run the **no** form of this command to remove this configuration.

The default connection timeout time of the device on a line is 10 minutes.

Syntax

exec-timeout *exec-timeout-minutes* [*exec-timeout-seconds*]

no exec-timeout

Parameter Description

exec-timeout-minutes: Timeout time, in minutes. The range is from 0 to 35791.

exec-timeout-seconds: Timeout time, in seconds. The range is from 0 to 2147483.

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

The connection timeout time of the device on a line is the sum of the configured minutes and seconds. If a connection does not have any input or output information within the timeout time, the device interrupts this connection and restores the line to the idle state.

Examples

The following example sets the connection timeout time of the device on VTY 0 to 5 minutes and 30 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
```

```
Hostname(config-line)# exec-timeout 5 30
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.24 execute

Function

Run the **execute** command to run commands in the batch file.

Syntax

execute { [**flash**:] *filename* }

Parameter Description

filename: Path where the batch file is stored.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

When the **execute** command is run, the device reads and executes character strings in the batch file line by line. When the file contains multiple commands, a line feed is required between different commands.

Examples

The following example uses the **execute** command to run commands in the batch file and sets the IP address of interface GigabitEthernet 0/1 to **192.168.21.158/24**.

```
Hostname> enable
Hostname# execute flash:mybin/config.text
executing script file mybin/config.text ......
executing done
Hostname# configure terminal
Hostname(config)# interface gigabitEthernet gigabitethernet 0/1
Hostname(config-if-gigabitethernet 0/1)# ip address 192.168.21.158 24
Hostname(config-if-gigabitethernet 0/1)# end
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.25 exit

Function

Run the **exit** command to exit the configuration mode and return to the upper-level mode or exit the command line interface (CLI) from the privileged EXEC mode.

Syntax

exit

Parameter Description

N/A

Command Modes

All modes

Default Level

0

Usage Guidelines

N/A

Examples

The following example exits the line configuration mode and returns to the upper-level mode (global configuration mode).

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
Hostname(config-line)# exit
Hostname(config)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.26 Help

Function

Run the **help** command to display a brief description of the help system.

Syntax

Help

Parameter Description

N/A

Command Modes

All modes

Default Level

1

Usage Guidelines

During configuration, you can use a question mark (?) to display all commands in the current configuration mode or keywords and variables of parameters carried in a command.

Examples

The following example displays brief description of the help system.

```
Hostname> enable
Hostname# help
Help may be requested at any point in a command by entering
a question mark '?'. If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)
```

The following example displays all commands that can be run in interface configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-gigabitethernet 0/1)# ?
Interface configuration commands:
  arp              ARP interface subcommands
  bandwidth        Set bandwidth informational parameter
  carrier-delay    Specify delay for interface transitions
  dampening        Enable event dampening
  default          Set a command to its defaults
  description      Interface specific description
  dldp             Exec data link detection command
  duplex           Configure duplex operation
  efm              Config efm for an interface
  end              Exit from interface configuration mode
  exit             Exit from interface configuration mode
  expert           Expert extended ACL
  flowcontrol      Set the flow-control value for an interface
  full-duplex      Force full duplex operation
  global           Global ACL
  gvrp             GVRP configure command
  half-duplex      Force half duplex operation
  help             Description of the interactive help system
  ip               Interface Internet Protocol config commands
  ipv6             Internet Protocol Version 6
  isis             Intermediate System - Intermediate System (IS-IS)
  l2               Config L2 attribute
  label-switching  Enable interface process mpls packet
  lacp             LACP interface subcommands
  lldp             Link Layer Discovery Protocol
  load-interval    Specify interval for load calculation for an interface
  mac              Mac extended ACL
  mac-address      Set mac-address
  mpls             Multi-Protocol Label Switching
  mtu              Set the interface Maximum Transmission Unit (MTU)
  no               Negate a command or set its defaults
  ntp              Configure NTP
  port-group       Aggregateport/port bundling configuration
  redirect         Redirect packets
  rmon             Rmon command
  security         Configure the Security
  show             Show running system information
  shutdown         Shutdown the selected interface
  snmp             Modify SNMP interface parameters
  speed            Configure speed operation
  switchport       Set switching mode characteristics
```

```
  vrf              Multi-af VPN Routing/Forwarding parameters on the interface
  vrrp             VRRP interface subcommands
  xconnect         Xconnect commands
```

The following example displays keywords and variables of parameters carried in the **access-list 1 permit** command.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# access-list 1 permit ?
  A.B.C.D  Source address
  any      Any source host
  host     A single source host
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.27 hostname

Function

Run the **hostname** command to specify or modify the host name of the device.

Run the **no** form of this command to restore the host name of the device to the default value.

The default host name is **Orion_B26Q**.

Syntax

hostname *hostname*

Parameter Description

hostname: Host name of the device. The value is a string of up to 63 characters containing only letters, digits, and hyphens (-).

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The host name is used to identify a device and acts as the username of the local device in dialing and Challenge-Handshake Authentication Protocol (CHAP) authentication scenarios.

Examples

The following example sets the host name of the device to **Beijing_Hostname**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# hostname Beijing_Hostname
Beijing_Hostname(config)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.28 ip telnet access-class

Function

Run the **ip telnet access-class** command to configure an access control list (ACL) for the telnet server.

Run the **no** form of this command to remove this configuration.

Syntax

ip telnet access-class { *acl-number* | *acl-name* }

no ip telnet access-class

Parameter Description

acl-number: ACL ID. Value range:

Standard ACLs for IP addresses: 1–99 or 1300–1999; extended ACLs for IP addresses: 100–199 or 2000–2699; extended ACLs for MAC addresses: 700–799; expert extended ACLs: 2700–2899

acl-name: ACL name. The value is a case-sensitive string of 1 to 99 characters.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In line configuration mode, an ACL applies only to a specific line. However, an ACL of the telnet server is effective to all connections to the telnet server.

Examples

The following example filters all connections to the telnet server by the keyword **testv4**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip telnet access-class testv4
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.29 ip telnet ip-block

Function

Run the **ip telnet ip-block** command to configure the maximum number of consecutive authentication failures, beyond which an IP address is blocked on the telnet server, and to specify the period for awakening the blocked IP address.

Run the **no** form of this command to remove this configuration.

The IP address blocking function is enabled on the telnet server by default. The maximum number of consecutive authentication failures is 6, the period for resetting the authentication failure count is 5 minutes, and blocked IP addresses are awakened 5 minutes after their blocking.

Syntax

ip telnet ip-block { **disable** | **failed-times** *failed-times* **period** *period-time* | **reactive** *reactive-period-time* }

no ip telnet ip-block { **disable** | **failed-times** *failed-times* **period** *period-time* | **reactive** *reactive-period-time* }

Parameter Description

disable*:* Disables the IP address blocking function of the telnet server.

failed-times *failed-times*: Configures the maximum number of consecutive authentication failures, beyond which an IP address is blocked. The range is from 1 to 10. The default value is **6**.

period *period-time*: Configures the period for counting the number of consecutive authentication failures, in minutes. The range is from 1 to 120. The default value is **5**.

reactive *reactive-period-time*: Configures the period for awakening blocked IP addresses, in minutes. The range is from 1 to 1000. The default value is **5**.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the IP address blocking function is enabled and the number of consecutive authentication failures for telnet login reaches the configured limit in the authentication failure count period, the source IP address blocking is triggered. That is, the telnet client that uses this source IP address is not allowed to log in to the device to prevent the device from being attacked. Only after the period for awakening blocked IP addresses expires, the telnet client can log in to the device.

Examples

The following example sets the maximum number of consecutive authentication failures, beyond which an IP address is blocked on the telnet server to **3**, the period for resetting the authentication failure count to 3 minutes, and the period for awakening blocked IP addresses to 3 minutes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip telnet ip-block failed-times 3 period 3
Hostname(config)# ip telnet ip-block reactive 3
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.30 ip telnet source-interface

Function

Run the **ip telnet source-interface** command to specify the IP address of an interface as the source IP address of a telnet connection.

Run the **no** form of this command to remove this configuration.

Syntax

ip telnet source-interface *interface-type interface-name*

Parameter Description

source-interface *interface-type interface-name*: Specifies the IP address configured on an interface as the source IP address of a telnet connection. *interface-type interface-name* indicates the interface type and interface ID.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When you connect to a telnet server through telnet, the IP address configured by this command is used if no source interface or source IP address is specified for this connection.

Examples

The following example specifies the IP address of interface Loopback 1 as the source IP address of the global telnet connection.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip telnet source-interface Loopback 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.31 ipv6 telnet access-class

Function

Run the **ipv6 telnet access-class** command to configure an IPv6 ACL for a telnet server.

Run the **no** form of this command to remove this configuration.

Syntax

ipv6 telnet access-class { *acl-number* | *ipv6-acl-name* }

no ipv6 telnet access-class

Parameter Description

acl-number: ACL ID. Value range:

Standard ACLs for IP addresses: 1–99 or 1300–1999; extended ACLs for IP addresses: 100–199 or 2000–2699; extended ACLs for MAC addresses: 700–799; expert extended ACLs: 2700–2899

ipv6-acl-name: IPv6 ACL name.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command is used to configure an IPv6 ACL for all connections to a telnet server. In line configuration mode, an IPv6 ACL applies only to a specific line. However, an IPv6 ACL of a telnet server is effective to all connections to the telnet server.

Examples

The following example filters all connections to the telnet server by the keyword **testv6**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 telnet access-class testv6
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.32 lock

Function

Run the **lock** command to set a temporary password on a terminal to lock the terminal CLI to prevent access while keeping the session.

Syntax

lock

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

Before running this command, run the **lockable** command in line configuration mode to enable the terminal locking feature. After running this command, configure a temporary password for unlocking.

Examples

The following example sets the temporary password for locking the CLI of virtual terminal 1 to **<password>**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 1
Hostname(config-line)# lockable
Hostname(config-line)# end
Hostname# lock
Password: <password>
Again: <password>
Locked
Password: <password>
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **lockable**

1.33 lockable

Function

Run the **lockable** command to enable the locking feature for terminals connected to the current line.

Run the **no** form of this command to disable this feature.

The locking of terminals connected to the current line is disabled by default.

Syntax

lockable

no lockable

Parameter Description

N/A

Command Modes

Line configuration mode

Default Level

1

Usage Guidelines

After you enable the terminal locking feature for a line by running this command, you can run the **lock** command in EXEC mode to lock terminals.

Examples

The following example enables terminal locking on the console port and locks the console.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line console 0
Hostname(config-line)# lockable
Hostname(config-line)# end
Hostname# lock
Password: <password>
Again: <password>
Locked
Password: <password>
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **lock**

1.34 login

Function

Run the **login** command to configure simple login password verification for a line.

Run the **no** form of this command to remove this configuration.

The simple login password verification function is disabled for the console line and enabled for the virtual terminal lines by default.

Syntax

login

no login

Parameter Description

N/A

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

This command is used to configure simple password verification during login authentication, that is, the password configured for the virtual terminal or console port, only when the authentication, authorization, and accounting (AAA) service is disabled.

Examples

The following example configures login password verification for virtual terminal 0.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no aaa new-model
Hostname(config)# line vty 0
Hostname(config-line)# password 0 password10
Hostname(config-line)# login
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **no aaa new-model** (Security/AAA)

1.35 login access non-aaa

Function

Run the **login access non-aaa** command to enable non-AAA authentication for a line when the AAA service is enabled.

Run the **no** form of this command to disable non-AAA authentication.

When AAA is enabled, non-AAA authentication is disabled by default.

Syntax

login access non-aaa

no login access non-aaa

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To perform non-AAA authentication for a line when AAA is enabled, run this command. The configuration is valid for all terminals.

Examples

The following example configures local user authentication for virtual terminal 4 when AAA is enabled.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# login access non-aaa
Hostname(config)# aaa new-model
Hostname(config)# line vty 4
Hostname(config-line)# login local
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **aaa new-model** (Security/AAA)

1.36 login local

Function

Run the **login local** command to configure local user authentication for a line.

Run the **no** form of this command to remove this configuration.

When the AAA service is disabled, local user authentication is not configured for a line by default.

Syntax

login local

no login local

Parameter Description

N/A

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

This command is valid only when the AAA service is disabled. The local user refers to the user configured by running the **username** command.

Examples

The following example configures local user authentication for virtual terminal 0.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no aaa new-model
Hostname(config)# username test password 0 password10
Hostname(config)# line vty 0
Hostname(config-line)# login local
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **username**

1.37 login privilege log

Function

Run the **login privilege log** command to configure the logging function for privilege level increase or role switching.

Run the **no** form of this command to remove this configuration.

The prompt output function is disabled by default.

Syntax

login privilege log

no login privilege log

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

You can use this command to monitor privilege level increase or role switching of terminal users. The configuration is valid for all terminals.

Examples

The following example enables the logging function of privilege level increase.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# login privilege log
```

If the privilege level increase fails, the device prints the following log:

```
Hostname>enable 10
Password:
Password:
Password:
% Access denied
Hostname>
*Sep 10 11:34:19: %SYS-PRIV_AUTH_FAIL: Authentication to privilege level 10 from
console failed
```

If the privilege level increase is successful, the device prints the following log:

```
Hostname>enable 10
Password:
Hostname#
*Sep 10 11:34:20: %SYS-PRIV_AUTH_SUCCESS: Authentication to privilege level 10
from console success
```

If the logging and RBAC functions are enabled and role switching to **network-admin** fails, the device prints the following log

```
Hostname> enable
Hostname# enable role network-admin
Password:
Password:
Password:
```

```
% Access denied
Hostname>
*Sep 10 11:34:19: %SYS-PRIV_AUTH_FAIL: Authentication to role network-admin from
console failed
```

If the logging and RBAC functions are enabled and role switching to **network-admin** is successful, the device prints the following log:

```
Hostname> enable
Hostname# enable role network-admin
Password:
Hostname#
*Sep 10 11:34:20: %SYS-PRIV_AUTH_SUCCESS: Authentication to role network-admin
from console success
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.38 memory history clear

Function

Run the **memory history clear** command to clear historical memory usage records.

Syntax

memory history clear [**one-forth** | **half** | **all**]

Parameter Description

one-forth: Clears 25% of historical information.

half: Clears half of historical information.

all: Clears all historical information.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

N/A

Examples

The following example clears half of historical memory usage records.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# memory history clear half
2 out of 5 records in the history table to be cleared...
Clear done !
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.39 memory low-watermark set

Function

Run the **memory low-watermark set** command to enable the monitoring of memory usage threshold.

Run the **no** form of this command to disable this feature.

Run the **default** form of this command to restore the default configuration.

The default memory usage threshold is **90%**.

Syntax

memory low-watermark set *memory-threshold*

no memory low-watermark set

default memory low-watermark set

Parameter Description

memory-threshold: Memory usage threshold. The range is from 1% to 100%.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

N/A

Examples

The following example sets the memory usage threshold to **80%** and enables the monitoring function of memory usage.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# memory low-watermark set 80
```

Notifications

When the memory usage is higher than the threshold, the system prints the following alarm information:

```
*Mar 11 09:58:45: %SYSMON-4-MEM_HIGH: The current memory usage 90%
*Mar 11 09:58:45: %SYSMON-4-MEM_HIGH: (*2/0) The current memory usage 90%
```

When the memory usage is lower than the threshold, the system prints the following alarm clearance information:

```
*Mar 11 10:11:17: %SYSMON-5-MEM_RECOVER: The current memory usage 58%
*Mar 11 10:11:16: %SYSMON-5-MEM_RECOVER: (*2/0) The current memory usage 58%
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.40 motd-banner

Function

Run the **motd-banner** command to enable MOTD information display for a specific line.

Run the **no** form of this command to remove this configuration.

MOTD information display is enabled for all lines by default.

Syntax

motd-banner

no motd-banner

Parameter Description

N/A

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

If this command is configured on the device, MOTD information is displayed for all lines by default. To disable MOTD information display for a specific line, run the **no** form of this command.

This command is invalid for **banner incoming**. That is, if **banner incoming** is configured for the device, incoming prompts are displayed for reverse telnet connections of all lines. The incoming prompt display cannot be disabled for a specific line.

Examples

The following example disables MOTD information display for virtual terminal 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 1
Hostname(config-line)# no motd-banner
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **banner**

1.41 password

Function

Run the **password** command to configure a password for line-based login.

Run the **no** form of this command to remove this configuration.

Syntax

password { [**0**] *password* | **7** *encrypted-password* }

no password

Parameter Description

0: Configures a plaintext password.

password: Plaintext password for a line. The string length range is from 1 to 25.

7 *encrypted-password*: Configures the entered password as a ciphertext string.

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the password for line-based login to **password10**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
Hostname(config-line)# password password10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.42 prompt

Function

Run the **prompt** command to configure a CLI prompt.

Run the **no** form of this command to remove this configuration.

No CLI prompt is configured by default and the system name is used as the prompt. In this case, the prompt changes with the system name.

Syntax

prompt *prompt-string*

no prompt

Parameter Description

prompt-string: Command prompt. The value is a string of up to 32 characters.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

CLI prompts take effect only in EXEC mode.

Examples

The following example sets the CLI prompt to **CustomerA**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# prompt CustomerA
Hostname(config)# end
CustomerA
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.43 reload

Function

Run the **reload** command to restart the device immediately.

Syntax

reload

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

15

Usage Guidelines

If the device is in a cluster, all in-service devices in the cluster will be restarted immediately after this command is run.

Examples

The following example restarts the device immediately.

```
Hostname> enable
Hostname# reload
Reload system?(Y/N) y
Hostname# [667365.374976] %SYS-0-REBOOT: Rebooting by job:
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.44 reload at

Function

Run the **reload at** command to configure the scheduled restart function.

The scheduled restart function is not configured by default.

Syntax

reload at *hh*:*mm*:*ss* [*MM* [*DD* [*YY*]]]

Parameter Description

hh:*mm*:*ss*: Scheduled restart time. *hh* indicates hours, *mm* indicates minutes, and *ss* indicates seconds.

MM: Month. The range is from 1 to 12. If it is not specified, the current month of the system is used.

DD: Day. The range is from 1 to 31. If a day does not exist in a month, the day is moved to the following day. If it is not specified, the current day of the system is used.

YY: Year. The range is from 1970 to 2037. If it is not specified, the current year of the system is used.

Command Modes

Privileged EXEC mode

Default Level

15

Usage Guidelines

If the device is in a cluster, all in-service devices in the cluster will be restarted at the scheduled time after this command is run.

Examples

The following example restarts the device at 12:00:00 August 21, 2019.

```
Hostname> enable
Hostname# reload at 12:00:00 8 21 2019
% Set reload ok.
% Reload scheduled for 12:00:00 Beijing Wed Aug 21 2019 (in 45 hours and 15
minutes), will be cancled after system halt.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.45 reload cancel

Function

Run the **reload cancel** command to cancel scheduled restart.

Syntax

reload cancel

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

15

Usage Guidelines

N/A

Examples

The following example cancels scheduled restart.

```
Hostname> enable
Hostname# reload cancel
*Aug 19 14:45:44: %SYSMON-RELOAD: Scheduled reload cancelled.
% Scheduled reload cancelled.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.46 reload in

Function

Run the **reload in** command to configure the countdown restart function.

The countdown restart function is not configured by default.

Syntax

reload in { [*hh* :] *mm*] }

Parameter Description

[*hh* :] *mm*: Countdown restart time. *hh* indicates hours. If it is not specified, it is set to **0** by default. *mm* indicates minutes.

Command Modes

Privileged EXEC mode

Default Level

15

Usage Guidelines

If the device is in a cluster, all in-service devices in the cluster will be restarted according to the countdown timer after this command is run.

Examples

The following example configures the device to restart after 1 hour and 20 minutes.

```
Hostname> enable
Hostname# reload in 1:20
% Set reload ok.
% Reload scheduled for 16:05:38 Beijing Mon Aug 19 2019 (in 1 hour and 20
minutes), will be cancled after system halt.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.47 rollback running-config checkpoint

Function

Run the **rollback running-config checkpoint** command to roll back the running configurations of the device to configurations of a checkpoint.

Syntax

rollback running-config checkpoint *checkpoint-name* [**display-differences** | **ignore-results**]

Parameter Description

checkpoint-name: Checkpoint name. The value is a string of 1 to 80 characters.

display-differences: Displays configuration differences upon rollback. Configuration differences are displayed by default.

ignore-results: Ignores the execution results without configuration differences displayed upon rollback.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to roll back the running configurations of the device to configurations of a specific checkpoint. Only one user can create checkpoints and roll back configurations on a device at a time. When the **display-differences** and **ignore-results** parameters are not configured, configuration differences are displayed.

Before rollback, you can run the **show running-config** command to display the current configurations. After rollback, you can run the **show running-config** command to check whether the checkpoint configurations are applied.

If an "Increased configuration:" message is displayed after rollback, configurations increase from the checkpoint configurations. This is because some commands cannot be reversed or fail to be reversed. For details, see the command manuals of specific functions, and manually reserve these commands.

If a "Decreased configuration:" message is displayed after rollback, configurations decrease from the checkpoint configurations. This is because some commands fail to be executed during rollback. For details, see the command manuals of specific functions, and manually run these commands.

Examples

The following example rolls back the running configurations to configurations of checkpoint user-1.

```
Hostname> enable
Hostname# rollback running-config checkpoint user-checkpoint-1 ignore-results
...
Rollback configuration successfully.
```

Notifications

If configuration rollback is successful, the following notification is displayed:

```
...
Rollback configuration successfully.
```

If configuration differences exist upon rollback, the following notification is displayed:

```
..
Rollback configuration completed.

Increased configuration:
+ spanning-tree mode rstp            //The plus sign (+) indicates increased
configuration commands from the checkpoint configurations.
Decreased configuration:
- username admin password admin      // The minus sign (-) indicates decreased
configuration commands from the checkpoint configurations.
```

If configuration rollback fails, the following notification is displayed:

```
...
Rollback configuration failed.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show running-config**

1.48 secret

Function

Run the **secret** command to configure an MD5/SHA-256 irreversible encrypted password for line-based login.

Run the **no** form of this command to remove this configuration.

No encrypted password is configured for line-based login by default.

Syntax

secret { [**0**] *password* | **5** *encrypted-secret* }

no secret

Parameter Description

0: Specifies a plaintext password. After it is configured, MD5 irreversible encryption is used.

password: Plaintext password for line-based login. The value is a string of 1 to 25 characters.

5 *encrypted-secret*: **5** specifies a password encrypted using the MD5 irreversible encryption algorithm. The password is saved as an encrypted password after configuration.

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

This command is used to configure an MD5/SHA-256 irreversible encrypted password for authenticating remote users who attempt to log in to the device through a line. When both a password and secret are configured for a line, the secret is preferentially matched during user login. If secret matching fails, the password is matched. If the matching of both the secret and password fails, the login fails.

Caution

- If the value **5** is selected for the encryption type, the entered ciphertext password must contain 24 characters with the 1st, 3rd, and 8th characters set to the dollar sign ($).

Examples

The following example configures an MD5 irreversible encrypted password for login through virtual terminal 0.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
Hostname(config-line)# algorithm-type md5
Hostname(config-line)# secret secretvty0
```

Notifications

After this password is configured, virtual terminal 0 uses MD5 irreversible encryption for the password and the effect is as follows:

```
secret 5 $1$X834$wvx6y794uAD8svzD
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **algorithm-type**

1.49 session

Function

Run the **session** command to connect to a supervisor module or service card in a virtual switching unit (VSU) environment.

Syntax

session { **master** | **device** *device-number* }

session { **device** *device-number* | **master** }

Parameter Description

master: Specifies the slave device to connect to the master device or the slave supervisor module to connect to the master supervisor module.

device *device-number*: Specifies the device ID. *device-number* indicates the device ID.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

This command is used in a multi-node VSU environment.

Examples

The following example specifies the slave device to connect to the master device in a VSU environment.

```
Hostname> enable
Hostname# session master
```

The following example connects sessions to device 1 in a multi-node VSU environment.

```
Hostname> enable
Hostname# session device 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.50 session-timeout

Function

Run the **session-timeout** command to configure the timeout time for sessions established to a remote terminal on the current line.

Run the **no** form of this command to remove this configuration.

The default session timeout time is 0 minute for remote terminals. That is, the sessions never time out.

Syntax

session-timeout *session-timeout-time* [**output**]

no session-timeout

Parameter Description

session-timeout-time: Timeout time of sessions to a remote terminal in minutes. The range is from 0 to 35791. **0** indicates that a session never times out.

output: Specifies output data as a timeout criterion.

Command Modes

Line configuration mode

Default Level

14

Usage Guidelines

If a session established to a remote terminal on a line does not have any input or output within the specified time upon configuration of this command, the device closes this session and restores the line to the idle state.

Examples

The following example sets the timeout time of sessions on virtual terminal 0 to 5 minutes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# line vty 0
Hostname(config-line)# session-timeout 5 output
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.51 show boot config

Function

Run the **show boot config** command to display the saving paths and names of startup configuration files.

Syntax

show boot config

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the saving path and name of startup configuration file.

```
Hostname> enable
Hostname# show boot config
Boot config file: [flash:/Hostname.text]
```

Table 1-1 Output Fields of the show boot config Command

Field	Description
Boot config file	Specifies the saving path and name of startup configuration file.

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.52 show calendar

Function

Run the **show calendar** command to display the hardware time of the system.

Syntax

show calendar

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays the hardware time of the system.

```
Hostname> enable
Hostname# show calendar
21:57:48 GMT Sun, Feb 28, 2012
```

Table 1-1 Output Fields of the show calendar Command

Field	Description
21:57:48	Hours, minutes, and seconds
GMT	Time zone
Sun	Week
Feb 28	Month and day
2012	Year

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.53 show checkpoint

Function

Run the **show checkpoint** command to display information about a single checkpoint or a summary of all checkpoints.

Syntax

show checkpoint { *checkpoint-name* [**all**] | **summary** }

Parameter Description

checkpoint-name: Checkpoint name. The value is a string of 1 to 80 characters.

all: Displays all information about a specified checkpoint.

summary: Displays a summary of all checkpoints.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays a summary of all checkpoints.

```
Hostname> enable
Hostname# show checkpoint summary
User Checkpoint Summary
--------------------------------------------------------------------------------
1) clo:
Created at 11:12:33  6 Feb 2020
Size is 287713 bytes
Description: None

2) user-checkpoint-1:
Created at 16:54:18 15 Sep 2020
Size is 7647 bytes
Description: None

3) user-checkpoint-2:
Created at 16:54:49 15 Sep 2020
Size is 7647 bytes
```

Table 1-1 Output Fields of the show checkpoint summary Command

Field	Description
user-checkpoint-1	Checkpoint name.
Created at 16:08:30 30 May 2014	Checkpoint creation time.
Size is 3,566 bytes	Size of the checkpoint configurations.
Description: None	Checkpoint description. This example indicates that no description is provided.

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.54 show clock

Function

Run the **show clock** command to display the software time of the system.

Syntax

show clock

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays the software time of the system.

```
Hostname> enable
Hostname# show clock
```

```
18:22:20 UTC Tue, Dec 11, 2012
```

Table 1-1Output Fields of the show clock Command

Field	Description
18:22:20	Hours, minutes, and seconds
UTC	Time zone
Tue	Week
Dec 11	Month and day
2012	Year

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.55 show cpu

Function

Run the **show cpu** command to display CPU usage information of system tasks on control cores and non-virtual cores.

Syntax

show cpu [**core**]

Parameter Description

core: Displays CPU usage information of each core on all boards.

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

- This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.
- If the system is equipped with a virtual core, you can run the **show processes cpu** command to display

the CPU usage of the virtual core.

Examples

The following example displays CPU usage of system tasks on control cores and non-virtual cores.

```
Hostname> enable
Hostname# show cpu
=============================================
CPU Using Rate Information
CPU utilization in five seconds:  4.80%
CPU utilization in one minute:  4.10%
CPU utilization in five minutes:  4.00%
NO      5Sec    1Min    5Min Process
    1   0.00%   0.00%   0.00% init
    2   0.00%   0.00%   0.00% kthreadd
    3   0.00%   0.00%   0.00% ksoftirqd/0
    4   0.00%   0.00%   0.00% events/0
--More--
```

Table 1-1Output Fields of the show cpu Command

Field	Description
CPU utilization in five seconds	Average CPU usage in five seconds
CPU utilization in one minute	Average CPU usage in one minute
CPU utilization in five minutes	Average CPU usage in five minutes
NO	No.
5Sec	Average CPU usage in five seconds
1Min	Average CPU usage in one minute
5Min	Average CPU usage in five minutes
Process	Process name

The following example displays the CPU usage information of each core on all boards.

```
Hostname> enable
Hostname# show cpu core
=============================================
[Slot 2: M18000-16XS-CB, Cpu 0]
Core   5Sec   1Min   5Min
   0  11.9%  11.7%  23.4%
   1   0.0%   0.0%   0.0%
=============================================
[Slot 3: M18000-16XS-CB, Cpu 0]
Core   5Sec   1Min   5Min
```

```
   0  11.2%  11.4%  23.7%
   1   0.0%   0.0%   0.0%
==========================================
[Slot M1: M7800E-CM]
Core   5Sec   1Min   5Min
   0  15.9%  21.0%  29.7%
   1   1.5%   1.5%   1.4%
```

Table 1-2Output Fields of the show cpu core Command

Field	Description
Slot	ID of the board slot
Cpu	ID of the board CPU slot
Core	Core ID
5Sec	Average CPU usage in five seconds
1Min	Average CPU usage in one minute
5Min	Average CPU usage in five minutes

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.56 show debugging

Function

Run the **show debugging** command to check whether the debugging function of the device is enabled.

Syntax

show debugging

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

N/A

Examples

The following example checks whether the debugging function of the device is enabled.

```
Hostname> enable
Hostname# show debugging
mstp ha debug:
mstp ha debugging is on
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.57 show hostname

Function

Run the **show hostname** command to display the host name of the device.

Syntax

show hostname

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

N/A

Examples

The following example displays the host name of the device.

```
Hostname> enable
Hostname# show hostname
Hostname
Hostname#
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.58 show language character-set

Function

Run the **show language character-set** command to display the character set encoding format of the device.

Syntax

show language character-set

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays the character set encoding format of the device.

```
Hostname> enable
Hostname# show language character-set
Current language character set encode: UTF-8
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.59 show line

Function

Run the **show line** command to display configurations of a line.

Syntax

show line { **console** *console-line-number* | **vty** *vty-line-number* | *line-number* }

Parameter Description

console *console-line-number*: Displays configurations of the console line. *console-line-number* indicates the console line ID. The value is **0**.

vty *vty-line-number*: Displays configurations of a virtual terminal line. *vty-line-number* indicates the virtual terminal line ID. The range is from 0 to 35.

line-number: ID of the specified line . The range is from 0 to 5.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays configurations of the console line.

```
Hostname> enable
Hostname# show line console 0
CON     Type    speed   Overruns
* 0     CON     9600    45927
Line 0, Location: "", Type: "vt100"
Length: 24 lines, Width: 79 columns
Special Chars: Escape  Disconnect  Activation
               ^^x     none        ^M
Timeouts:      Idle EXEC    Idle Session
               never        never
History is enabled, history size is 10.
Total input: 53564 bytes
Total output:  395756 bytes
```

```
Data overflow:  27697 bytes
stop rx interrupt:  0 times
```

Table 1-1Output Fields of the show line Command

Field	Description
CON	Terminal type. **CON** indicates the console. **0** indicates the terminal line ID. The ID with an asterisk (*) indicates the terminal line that is being used.
Type	Terminal type, including **CON**, **AUX**, **TTY**, and **VTY**.
speed	Asynchronous speed
Overruns	Count of overrun errors received by the driver
Line 0	Terminal line ID
Location: ""	Line location
Type: "vt100"	Compatible terminal standard of a line
Special Chars	Special characters of a terminal, including the **Escape**, **Disconnect**, and **Activation** characters
Timeouts	Timeout time of a terminal session. **never** indicates that a session never times out.
History	Historical command recording function and the maximum number of recorded historical commands.
Total input	Count of data received from the driver
Total output	Count of data sent to the driver
Data overflow	Count of received data that overflows
stop rx interrupt	Count of RX interrupts of the driver

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.60 show memory

Function

Run the **show memory** command to display memory information.

Syntax

show memory [**history** | **low-watermark** | *process-id* | *process-name* | **slot** | **sorted total**]

Parameter Description

history: Displays historical memory usage records.

low-watermark: Displays the memory usage lower threshold.

process-id: Task ID.

process-name: Task name.

slot: Displays the memory usage information of all in-service devices in the system (without process usage information).

sorted total: Sorts tasks based on the memory usage.

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

Each time the **show memory history** command is run, the number of displayed entries increases by one. Up to 10 entries are displayed. You can run the **memory history clear** command to clear historical entries.

Examples

The following example displays the memory usage of each task and its ranking by total memory usage.

```
Hostname> enable
Hostname# show memory sorted total
System Memory: 508324K total, 481560K used, 26764K free, 348200K available, 50.5%
used rate
Swap:          128000K total, 128000K free
Used detail:   149112K active, 247776K inactive, 30460K mapped, 50460K slab,
3752K others
PID     Text(K) Rss(K)  Data(K)         Stack(K) Total(K)        Process
807     1568    4584    264728          84       270028          tcpip.elf
854     40      1436    246076          84       248840          cli-filesystem
1237    52      1492    123260          84       126036          cli-memory
803     56      1104    74064           84       76920           ping.elf
727     84      1276    33812           84       36640           rg_syslogd
733     84      796     33536           84       36364           rg_syslogd
776     224     1416    16896           84       19800           lsmdemo
858     40      1324    16844           84       19612           Oriontty-admin
769     40      3600    11052           84       13812           skbdemo
--More--
```

Table 1-1Description of Keywords in the Output of the show memory sorted total Command

Field	Description
total	Total memory size of the system
used	Size of the used memory
free	Size of the remaining memory
available	Size of the remaining available memory, including the idle memory size and idle swap area size
used rate	Memory usage in percentage For devices that use a swap area, the memory usage includes the swap area usage.
Swap	Total size and idle size of the swap area
Active	Active page
inactive	Inactive page
mapped	Mapped memory
slab	Memory consumed by the slab
others	Size of the used memory excluding the memory occupied by active and inactive pages, mapped memory, and slab memory.

Table 1-2Output Fields of the show memory sorted Command

Field	Description
PID	Process ID
Text	Code segment size
Rss	Resident memory size
Data	Data segment size
Stack	Stack size
Total	Total used memory
Process	Task name

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- memory history clear

1.61 show memory vsd

Function

Run the **show memory vsd** command to display memory information.

Syntax

show memory vsd *vsd_id*

Parameter Description

vsd_id: ID of the specified VSD. The range is from 0 to 16.

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

You can run the **show vsd** command to display the ID of each VSD.

Examples

The following example displays the memory usage of tasks under VSD 1.

```
Hostname> enable
Hostname# show memory vsd 1
PID     Text    Rss     Data    Stack   Total   Process
1408    244     1192    25400   84      32164   tty_secu_enable
1385    104     16288   648     84      18648   gvpd
1384    304     3872    17084   84      24728   wbamain
1382    376     17708   33656   84      53308   snooping.elf
1381    84      2156    16736   84      22956   password_policy
1380    72      1096    404     84      3848    dns_client.elf
1379    168     2580    472     84      5352    Orionrmond
1378    652     3504    9768    84      15964   Orionsnmpd
1376    208     1452    10672   84      14872   Orionfsui
1375    116     2020    33464   84      37288   Oriontelnetc
1373    24      844     220     84      2824    Oriontelnetd
1372    724     2364    17016   84      24380   Orionsshd
1371    244     2996    35780   84      42544   Oriontty-admin
```

```
1365    132     2168    9004    84      13796   vrrp_plus.elf
1364    312     16944   764     84      20368   vrrp.elf
1363    124     16988   500     84      19744   lacp.elf
1358    24      1380    320     84      3536    ftpc_cli.elf
1357    124     1944    8552    84      14976   ftp_server.elf
1352    340     3032    74704   84      80768   dhcp6.elf
1351    312     1960    988     84      6116    dhcp.elf
1350    388     17808   920     84      21600   mstp.elf
1349    240     3876    976     84      9536    rpi.elf
1348    1316    4656    1004    84      10764   isis.elf
1347    212     4220    872     84      9368    ripng.elf
1345    460     4284    876     84      9656    rip.elf
1344    1800    5568    1572    84      12156   bgp.elf
1340    1084    4700    1024    84      10928   ldp.elf
1339    288     17684   556     84      21472   msf.elf
1338    208     3604    42712   84      47708   Orionsyslogd
--More--
```

Table 1-1Output Fields of the show memory vsd Command

Field	Description
PID	Process ID
Text	Code segment size
Rss	Resident memory size
Data	Data segment size
Stack	Stack size
Total	Total used memory
Process	Task name

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.62 show pci-bus

Function

Run the **show pci-bus** command to display information about devices mounted on the Peripheral Component Interconnect (PCI) bus.

Syntax

show pci-bus

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays information about devices mounted on the PCI bus.

```
Hostname> enable
Hostname# show pci-bus
NO:0
Vendor ID             : 0x1131
Device ID             : 0x1561
Domain:bus:dev.func   : 0000:00:05.0
Status / Command      : 0x2100000
Class / Revision      : 0xc031030
Latency               : 0x0
first 64 bytes of configuration address space:
00: 31 11 61 15 00 00 10 02 30 10 03 0c 20 00 80 00
10: 00 00 00 f0 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 31 11 61 15
30: 00 00 00 00 dc 00 00 00 00 00 00 00 29 01 01 2a
NO:1
Vendor ID             : 0x1131
Device ID             : 0x1562
Domain:bus:dev.func   : 0000:00:05.1
Status / Command      : 0x2100156
Class / Revision      : 0xc032030
Latency               : 0x30
First 64 bytes of configuration address space:
00: 31 11 62 15 56 01 10 02 30 20 03 0c 20 30 80 00
```

```
10: 00 10 00 f0 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 31 11 62 15
30: 00 00 00 00 dc 00 00 00 00 00 00 00 29 01 02 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.63 show processes cpu

Function

Run the **show processes cpu** command to display system tasks.

Syntax

show processes cpu [**history** [**table**] | [**5sec** | **1min** | **5min** | **15min**] [**nonzero**]]

Parameter Description

history: Displays the CPU usage of control core tasks within the last 60 seconds, 60 minutes, and 72 hours in histogram.

table: Displays the CPU usage of control core tasks within the last 60 seconds, 60 minutes, and 72 hours in table.

5sec: Displays tasks in descending order of the CPU usage within the last 5 seconds.

1min: Displays tasks in descending order of the CPU usage within the last 1 minute.

5min: Displays tasks in descending order of the CPU usage within the last 5 minutes.

15min: Displays tasks in descending order of the CPU usage within the last 15 minutes.

nonzero: Not displays information about the tasks whose CPU usage is 0.

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

Examples

The following example displays tasks in ascending order of their IDs.

```
Hostname> enable
Hostname# show processes cpu
System Uptime: 19:08.6
CPU utilization for five seconds:1.2%; one minute:0.8%; five minutes:0.8%
set system cpu watermark (open): high 80%(85%~75%)
Tasks Statistics: 375 total, 10 running, 365 sleeping, 0 stopped, 0 zombie
  Pid Vsd S    PRI  P       5Sec       1Min       5Min      15Min Process
    1   0 S     20  0   0.0(0.0)   0.0(0.0)   0.0(0.0)   0.0(0.0) init
    2   0 S     20  1   0.0(0.0)   0.0(0.0)   0.0(0.0)   0.0(0.0) kthreadd
    3   0 S   -100  0   0.0(0.0)   0.0(0.0)   0.0(0.0)   0.0(0.0) migration/0
    4   0 S     20  0   0.0(0.0)   0.0(0.0)   0.0(0.0)   0.0(0.0) ksoftirqd/0
    5   0 S   -100  1   0.0(0.0)   0.0(0.0)   0.0(0.0)   0.0(0.0) migration/1
--More--
```

Table 1-1Output Fields of the show processes cpu Command

Field	Description
System Uptime	Total running time of the device, accurate to seconds
CPU Utilization	Total CPU usage of control core tasks within the last 5 seconds, 1 minute, and 5 minutes
Virtual CPU usage	Total CPU usage of virtual core tasks within the last 5 seconds, 1 minute, and 5 minutes
Tasks Statistics	Task statistics, including the total number of tasks and the task status
set system cpu watermark	CPU usage threshold and status of the control core tasks

Table 1-2Description of the Task Running Status in the Output of the show processes cpu Command

Task Running Status	Description
running	Running task
sleeping	Suspended task
stopped	Stopped task
zombie	Terminated task, but not reclaimed by the system

Table 1-3Description of Task Information in the Output of the show processes cpu Command

Field	Description
Pid	Task ID
Vsd	VSD ID
S	Task statuses, including **R** (running), **T** (stopped), **S** (sleeping), **D** (waiting), and **Z** (zombie)
PRI	Task priority
P	CPU core on which a task runs
5sec/1min/5min/ 15min	CPU usage of a task within the last 5 seconds, 1 minute, 5 minutes, and 15 minutes. The value in the round brackets is the CPU usage that is not divided by the total number of cores of the same type as the core where the task runs.
Process	Task name. Only the first 15 characters are displayed. The remaining characters are truncated.

The following example displays the CPU usage of a control core task within the last 60 seconds, 60 minutes, and 72 hours in histogram.

```
Hostname> enable
Hostname# show processes cpu history
              system cpu percent usage(%) [last 300 second]

    _
  100|
   95|
   90|
   85|
   80|
   75|
   70|
   65|
   60|
   55|
   50|
   45|
   40|*********
   35|||||||||||
   30|||||||||||*
   25||||||||||||
   20||||||||||||
   15||||||||||||
   10||||||||||||
    5||||||||||||***************
```

```
    0|||||||||||||||||||||||||
     #=========#=========#=====*==>
     0         50        100      second
         system cpu percent usage(%) per 5second (last 125 second)
--------------------------------------------------------------------------------
              system cpu percent usage(%) [last 60 minute]

     _
  100|
   95|
   90|
   85|
   80|
   75|
   70|
   65|
   60|
   55|
   50|
   45|
   40|
   35|
   30|*
   25||
   20||
   15||
   10||
    5||*
    0|||
     #==*==>
     0     minute
         system cpu percent usage(%) per 1minute (last 2 minute)
--------------------------------------------------------------------------------
```

In the preceding output information:

The first histogram displays the CPU usage of the control core tasks within 300 seconds. Each segment on the x-coordinate indicates 5 seconds, and each segment on the y-coordinate indicates 5%. "*" indicates the CPU usage at the moment of a second. The first segment nearest to 0 on the x-coordinate indicates the CPU usage within the last 5 seconds, in percentage (%).

The second histogram displays the CPU usage of the control core tasks within the last 60 minutes, in percentage (%). Every segment on the x-coordinate indicates 1 minute.

The third histogram displays the CPU usage of the control core tasks within the last 72 hours, in percentage (%). Every segment on the x-coordinate indicates 1 hour.

The following example displays the CPU usage of tasks on core 0 within the last 60 seconds, 60 minutes, and 72 hours in table.

```
Hostname> enable
```

```
Hostname # show processes cpu history table
              system cpu percent usage(%) [last 300 second]
#-------------------------#
|      |    1|    2|    3|    4|    5|    6|    7|    8|    9|   10|
#-------------------------#
#-------------------------#
|      0|  2.0|  2.4|  2.3|  2.3|  2.8|  3.0|  2.7|  3.2|  2.6|  2.4|
#-------------------------#
|      1|  2.7|  2.5|  2.7|  2.2|  2.4|  2.6|  2.2|  2.7|  2.3|  2.5|
#-------------------------#
|      2|  2.9|  2.0|  2.4|  2.5|  2.7|  2.4|  2.4|  2.6|  2.6|  2.5|
#-------------------------#
|      3|  2.7|  2.8|  2.8|  3.2|  2.5|  3.2|  3.1|  4.0|  2.7|  2.7|
#-------------------------#
|      4|  4.0|  2.3|  2.1|  2.2|  2.7|  2.4|  2.5|  2.6|  2.4|  2.6|
#-------------------------#
|      5|  2.4|  3.2|  2.5|  2.3|  2.3|  3.6|  2.8|  2.5|  2.2|  2.4|
#-------------------------#
              system cpu percent usage(%) [last 60 minute]
#-------------------------#
|      |    1|    2|    3|    4|    5|    6|    7|    8|    9|   10|
#-------------------------#
#-------------------------#
|      0|  2.6|  2.5|  3.0|  2.4|  2.6|
#-------------------------#
```

In the preceding output information:

The first table lists the CPU usage within 300 seconds. The first segment indicates the CPU usage within the last 5 seconds, in percentage (%). Each segment indicates 5 seconds.

The second table lists the CPU usage within the last 60 minutes, in percentage (%). Each segment indicates 1 minute.

The third table lists the CPU usage within the last 72 hours, in percentage (%). Each segment indicates 1 hour.

The following example displays the CPU usage of control core tasks every 5 minutes in the last week that exceeds the CPU usage threshold.

```
Hostname> enable
Hostname# show processes cpu record
CPU watermark high up 9%, down 6%
1970-01-07 01:20:13     system(11.0%)   ssa_process(9.1%)  ssd_process(0.6%)
ssc_process(0.3%)  ham(0.3%)  rl-con/0(0.2%)
 1970-01-07 01:25:26     system(10.8%)   ssa_process(9.1%)  ssd_process(0.6%)
ham(0.3%)  ssc_process(0.3%)  lsm.elf(0.2%)
 1970-01-07 01:30:39     system(10.5%)   ssa_process(9.0%)  ssd_process(0.6%)
ssc_process(0.3%)  ham(0.3%)  Orionsysmon(0.2%)
 1970-01-07 01:35:52     system(10.5%)   ssa_process(9.0%)  ssd_process(0.6%)
ham(0.3%)  ssc_process(0.3%)  Orionsysmon(0.2%)
```

```
 1970-01-07 01:41:05     system(10.7%)   ssa_process(9.1%)  ssd_process(0.6%)
ssc_process(0.3%)  ham(0.3%)  lsm.elf(0.2%)
 1970-01-07 01:46:18     system(10.7%)   ssa_process(9.1%)  ssd_process(0.6%)
ham(0.3%)  ssc_process(0.3%)  Orionsysmon(0.2%)
 1970-01-07 01:51:31     system(10.8%)   ssa_process(9.1%)  ssd_process(0.6%)
Orionsysmon(0.3%)  ssc_process(0.3%)  ham(0.3%)
 1970-01-07 01:56:45     system(10.9%)   ssa_process(9.1%)  ssd_process(0.6%)
ham(0.3%)  ssc_process(0.3%)  Orionsysmon(0.3%)
 1970-01-07 02:01:58     system(11.0%)   ssa_process(9.1%)  ssd_process(0.7%)
Orionsysmon(0.4%)  ssc_process(0.3%)  ham(0.3%)
 1970-01-07 02:07:11     system(11.0%)   ssa_process(9.1%)  ssd_process(0.7%)
Orionsysmon(0.4%)  ham(0.3%)  ssc_process(0.3%)
 1970-01-07 02:12:24     system(11.0%)   ssa_process(9.1%)  ssd_process(0.7%)
Orionsysmon(0.4%)  ssc_process(0.3%)  ham(0.3%)
 1970-01-07 02:17:37     system(11.0%)   ssa_process(9.0%)  ssd_process(0.6%)
Orionsysmon(0.4%)  ham(0.3%)  ssc_process(0.3%)
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.64 show processes cpu detailed

Function

Run the **show processes cpu detailed** command to display details about a specific task.

Syntax

show processes cpu detailed { *process-id* | *process*-name }

Parameter Description

process-id: ID of a specified task.

process-name: Name of a specified task.

Command Modes

All modes except the user EXEC mode

Default Level

15

Usage Guidelines

This command is supported by VSD 0 only. In multi-VSD mode, this command is invalid.

Examples

The following example displays details about a task with the specified name.

```
Hostname> enable
Hostname# show processes cpu detailed demo
Process Id    : 1820
Process Name  : demo
Vsdid         : 0
Process Ppid  : 1
State         : R(running)
On CPU        : 0
Priority      : 20
Age Time      : 24:06.5
Run Time      : 00:01.0
Cpu Usage     :
    Last  5 sec    0.3%(0.6%)
    Last  1 min    0.3%(0.6%)
    Last  5 min    0.3%(0.6%)
    Last 15 min    0.3%(0.6%)
Tty           : ?
Code Usage    : 209.6KB.
```

If the specified task name is not unique, the system displays the following information:

```
Hostname> enable
Hostname# show processes cpu detailed demo
duplicate process, choose one by id not name.
name: demo, id: 1089, state: S(sleeping)
name: demo, id: 1091, state: R(running)
process name: monitor_procps, do NOT exist, or NOT only one.
```

The following example displays details about a task with the specified ID.

```
Hostname> enable
Hostname# show process cpu detailed 1715
Process Id    : 130
Process Name  : crypto
Vsdid         : 0
Process Ppid  : 2
State         : S(sleeping)
On CPU        : 0
Priority      : 0
Age Time      : 03:41:09.9
Run Time      : 00:00.0
Cpu Usage     :
    Last  5 sec    0.0%(  0.0%)
```

```
    Last  1 min    0.0%(  0.0%)
    Last  5 min    0.0%(  0.0%)
    Last 15 min    0.0%(  0.0%)
Tty           : ?
Code Usage    : 0.0KB.
```

Table 1-1Output Fields of the show processes cpu detailed Command

Field	Description
Process Id	Task ID
Vsdid	ID of the VSD to which the task belongs
Process Name	Task name
Process Ppid	Parent process task ID
State	Task running status
On CPU	CPU where the task is running
Priority	Task priority
Age Time	Duration of the task from startup to now
Run Time	Execution duration of the task from startup to now
Cpu Usage	CPU usage of the task within the last 5 seconds, 1 minute, 5 minutes, and 15 minutes The value in the round brackets is the CPU usage that is not divided by the total number of cores of the same type as the core where the task runs. For example, the demo task is running on core 0, which is a control core and the system has two control cores. In this case, the CPU usage is 0.3% (0.6%).
Tty	TTY ID, in the format of "Master device ID, slave device ID". If the TTY ID is **0**, a question mark (?) is displayed.
Code Usage	Size occupied by the task code segment

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.65 show reload

Function

Run the **show reload** command to display system restart configuration.

Syntax

show reload

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays system restart configuration.

```
Hostname> enable
Hostname# show reload
System reload state: Warm
```

Table 1-1 Output Fields of the show reload Command

Field	Description
System reload state	System restart status

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.66 show running-config

Function

Run the **show running-config** command to display the running configurations of the device system or configurations of an interface.

Syntax

show running-config [**interface** *interface-type interface-number*]

Parameter Description

interface *interface-type interface-number*: Specifies the interface type and ID.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays configurations of interface GigabitEthernet 0/1.

```
Hostname> enable
Hostname# show running-config interface gigabitethernet 0/1

Building configuration...
Current configuration: 31 bytes

interface gigabitethernet 0/1
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.67 show service

Function

Run the **show service** command to display the service status (enabled/disabled).

Syntax

show service

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays the service status (enabled/disabled).

```
Hostname> enable
Hostname# show service
web-server   : disabled
web-server(https): disabled
snmp-agent    : enabled
ssh-server    : enabled
telnet-server : disabled
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.68 show sessions

Function

Run the **show sessions** command to display information about connected telnet clients.

Syntax

show sessions

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays information about connected telnet clients.

```
Hostname> enable
Hostname# show sessions
Conn  Address
*1    127.0.0.1
*2    192.168.21.122
```

Table 1-1Output Fields of the show sessions Command

Field	Description
Conn	ID of a connected telnet client
Address	IP address of the connected telnet client

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.69 show startup-config

Function

Run the **show startup-config** command to display device configurations stored in the non-volatile random-access memory (NVRAM).

Syntax

show startup-config

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

The configurations stored in the NVRAM, namely, startup-config, are executed during device startup.

startup-config indicates configurations in the default configuration file **/config.text** embedded in the flash memory of the device by default.

Examples

The following example displays device configurations stored in the NVRAM.

```
Hostname> enable
version B26Q_NOS 12.4(1)B0101, Release(07210415)
hostname Hostname
!
vlan 1
 max-dynamic-mac-count 32767
!
vlan 2
 remote-span
!
vlan range 10,12,30,4094
!
sysmac 8005.883f.d00a
!
redundancy
 --More--
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.70 show sysmon grpc info

Function

Run the **show sysmon grpc info** command to display information about the gRPC function registered in the system monitoring process.

Syntax

show sysmon grpc info

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays information about the gRPC function registered in the system monitoring process of the device.

```
Hostname> enable
Hostname#show sysmon grpc info
% Sysmon grpc init state     : Success
% Sysmon grpc subscribe state: False
```

Table 1-1Output Fields of the show sysmon grpc info Command

Field	Description
Sysmon grpc init state	Initialization status of the Sysmon service process
Sysmon grpc subscribe state	gRPC subscription status of the Sysmon service process

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.71 show telnet ip-block

Function

Run the **show telnet ip-block** command to display information about blocked IP addresses and authentication failures.

Syntax

show telnet ip-block { **all** | **list** }

Parameter Description

all: Displays information about all blocked IP addresses and authentication failures.

list: Displays information about blocked IP addresses.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display information about all blocked IP addresses and authentication failures, including the source IPv4 or IPv6 addresses, IP address status, and number of authentication failures

or IP address blocking information, including the source IPv4 or IPv6 addresses and remaining time for awakening the blocked IP addresses.

Examples

The following example displays information about all blocked IP addresses and authentication failures.

```
Hostname> enable
Hostname# show telnet ip-block all
------------------------------------------------------------------------------
IP Address                                      State       Auth-fail Count
------------------------------------------------------------------------------
172.30.31.16                                    AUTH FAILED     3
172.30.31.17                                    BLOCKED         6
------------------------------------------------------------------------
```

Table 1-1Output Fields of the show telnet ip-block all Command

Field	Description
IP Address	Source IPv4 or IPv6 address
State	Status ● **AUTH FAILED**: Authentication fails but the blocking conditions are not met. ● **BLOCKED**: Blocking conditions are met.
Auth-fail Count	Number of authentication failures

The following example displays information about blocked IP address.

```
Hostname> enable
Hostname# show telnet ip-block list
------------------------------------------------------------------------------
IP Address                                      UnBlock Interval (Seconds)
------------------------------------------------------------------------------
172.30.31.17                                    296
------------------------------------------------------------------------------
```

Table 1-2Output Fields of the show telnet ip-block list Command

Field	Description
IP Address	Source IPv4 or IPv6 address
UnBlock Interval (Seconds)	Remaining time for awakening blocked IP addresses, in seconds

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.72 show this

Function

Run the **show this** command to display effective system configurations in current mode.

Syntax

show this

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

In range mode, this command can be used to display configurations in current mode. For example, after you perform the following operations, you can run this command to display effective configurations in the current mode.

- Run the **line** *first-line last-line* command to specify a line scope and enter the line configuration mode.
- Run the **vlan range** command to configure multiple Virtual Local Area Networks (VLANs) and enter the VLAN range configuration mode.
- Run the **vlan range** command to configure multiple interfaces and enter the interface range configuration mode.

Note

If the number of VLANs or interfaces exceeds 50 in VLAN range configuration mode or interface range configuration mode, this command only displays configurations of the first 50 VLANs or interfaces.

Examples

The following example displays effective configurations of GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-gigabitethernet 0/1)# show this
Building configuration...
 !
 spanning-tree link-type point-to-point
 spanning-tree mst 0 port-priority 0
 !
end
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.73 show usb-bus

Function

Run the **show usb-bus** command to display information about devices mounted on the USB bus.

Syntax

show usb-bus

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays information about devices mounted on the USB bus.

```
Hostname> enable
Hostname# show usb-bus
Device: Linux Foundation 2.0 root hub
  Bus 001 Device 001: ID 1d6b:0002
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.74 show version

Function

Run the **show version** command to display the system version.

Syntax

show version

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example displays the system version.

```
Hostname> enable
Hostname# show version
System description      : Orion_B26Q 10G Ethernet Switch By Orion_B26Q Networks
System start time       : 2021-12-22 15:16:51
System uptime           : 12:19:26:38
```

```
System hardware version : 1.00
System software version : B26Q_NOS 12.4(1)B0101, Release(07210415)
System patch number     : NA
System serial number    : 1234942570033
System boot version     : 1.4.17(Master) 1.4.3(Slave)
System rboot version    : 1.1.12
Module information:
  Slot 0 : OrionB26Q
    System uptime       : 12:19:26:38
    Hardware version    : 1.00
    Boot version        : 1.4.17(Master) 1.4.3(Slave)
    Rboot version       : 1.1.12
    Software version    : B26Q_NOS 12.4(1)B0101, Release(07210415)
    Serial number       : 1234942570033
```

Table 1-1Description of Keywords in the Output of the show version Command

Field	Description
System description	Product description
System starttime	System startup time
System uptime	System running time
System hardware version	System hardware version
System software version	System software version
System patch number	System patch version number
System serial number	Product SN
System boot version	System boot version
System rboot version	System rboot version
Module information	System module information

Table 1-2Description of Module Information in the Output of the show version Command

Field	Description
Slot	Slot ID
System uptime	Running time of the board
Hardware version	Hardware version of the board
Boot version	Boot version of the board
Rboot version	Reboot version of the board

Field	Description
Software version	Software version of the board
Serial number	SN of the board

Notifications

- System start time: Indicates the startup time of cluster devices. The time is not reset before all management devices in the cluster are restarted at the same time.
- System uptime: Indicates the cluster running time. The time is not reset before all management devices in the cluster are restarted at the same time.

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.75 telnet

Function

Run the **telnet** command to log in to the telnet server.

Syntax

telnet [**oob**] { *hostname* | *ipv4-address* | *ipv6-address* } [*port-number*] [**/source** { **ip** *ipv4-address* | **ipv6** *ipv6-address* | **interface** *interface-type interface-name* }] [**via** *mgmt-name*]

Parameter Description

oob: Connects to a remote telnet server through out-of-band communication (over the MGMT port typically).

hostname: Host name of the telnet server.

ipv4-address: IPv4 host address of the telnet server.

ipv6-address: IPv6 host address of the telnet server.

port-number: TCP port number of the telnet server. The range is from 0 to 65535, and the default value is **23**.

/source: Specifies the source IP address or source interface used by the telnet client.

ip *ipv4-address*: Specifies the source IPv4 address used by the telnet client. *ipv4-address* indicates an IPv4 address.

ipv6 *ipv6-address*: Specifies the source IPv6 address used by the telnet client. *ipv6-address* indicates an IPv6 address.

interface *interface-type interface-name*: Specifies the source interface used by the telnet client. *interface-type interface-name* indicates the specified interface type and ID.

via *mgmt-name*: Specifies the MGMT port used by the telnet client for the **oob** parameter. *mgmt-name* indicates the MGMT port number.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example sets the IPv4 address of the telnet server to **192.168.1.1**, the TCP port number to the default value, the source interface to **Gi 0/1**, and the VRF table to **vpn1**.

```
Hostname> enable
Hostname# telnet 192.168.1.1 /source interface gigabitethernet 0/1 /vrf vpn1
```

The following example sets the IPv6 address of the telnet server to **2AAA:BBBB::CCCC**.

```
Hostname> enable
Hostname# telnet 2AAA:BBBB::CCCC
```

The following example sets the IPv4 address of the telnet server to **192.168.1.1** and uses MGMT 0 for the **oob** parameter.

```
Hostname> enable
Hostname# telnet oob 192.168.1.1 via mgmt 0
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.76 username

Function

Run the **username** command to configure a local user account and optional authorization information.

Run the **no** form of this command to remove this configuration.

No local user account or authorization information is configured by default.

Syntax

username *username* [**login mode** { **console** | **ssh** | **telnet** | **ftp** }] [**online amount** *amount-number*] [**permission** *oper-mode path*] { [**privilege** *privilege-level*] | [**role** *text-string*] } [**reject remote-login**] [**web-auth**] [**pwd-modify**] [**nopassword** | **password** [**0** | **7**] *text-string* | **secret** [**0** | **5** | **8**] *text-string*]

no username *name*

Parameter Description

username: Account username.

login mode { **console** | **ssh** | **telnet** | **ftp** }: Restricts the account login method. **console** indicates that the account login method is restricted to console. **ssh** indicates that the account login method is restricted to SSH. **telnet** indicates that the account login method is restricted to telnet. **ftp** indicates that the account login method is restricted to FTP.

online amount *amount-number*: Configures the number of concurrently online accounts. *amount-number* indicates the number of concurrently online accounts. The range is from 0 to 1586. The default value is **0**, that is, the number of concurrently online accounts is not limited.

permission *oper-mode path*: Configures the operation permission of an account on a specific file. *oper-mode* indicates the operation mode. **n** indicates no operation behavior. **r** indicates the read permission. **w** indicates the write permission. **x** indicates the execution permission. **rw** indicates the read and write permissions. **rx** indicates the read and execution permissions. **wx** indicates the write and execution permissions. **rwx** indicates the read, write, and execution permissions. *path* indicates the path of the file or directory, on which an operation permission takes effect.

privilege *privilege-level*: Configures the privilege level of an account. *privilege-level* indicates the privilege level of an account. The range is from 0 to 15.

reject remote-login: Bans remote login.

web-auth: Allows only Web authentication.

pwd-modify: Allows the Web authentication user who uses this account to change the password. This parameter is available only after **web-auth** is configured.

nopassword: Configures no password for the account.

password [**0** | **7**] *text-string*: Configures a simple password for the account. **0** indicates that a plaintext password is entered. **7** indicates that a ciphertext password is entered. No plaintext password is entered by default. *text-string* indicates the password text.

secret [**0** | **5** | **8**] *text-string*: Configures a secure password for the account. The password configured by this command is stored as a ciphertext password after irreversible encryption. **0** indicates that a plaintext password is entered, **5** indicates that a password encrypted using the MD5 algorithm is entered, **8** indicates that a password encrypted using the SHA-256 algorithm is entered. A plaintext password is entered by default.

role *text-string*: Adds roles to the local user when the RBAC mode is enabled. A maximum of 64 roles can be added.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

- This command is used to create a local user database for authentication.
- The encryption type **7** is specified only when encrypted passwords are copied and pasted.
- If the value **7** is specified as the encryption type, the entered ciphertext string must consist of an even number of characters.

Examples

The following example configures a username and password and binds the account to privilege level 15.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# username test privilege 15 password 0 pw15
```

The following example configures a dedicated username and password for Web authentication.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# username user1 web-auth password 0 pw
```

The following example configures user **test** to have the permissions to read and write all files and directories.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# username test permission rw /
```

The following example configures user **test** to have the permissions to read, write, and execute all files and directories except the **config.text** file.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# username test permission n /config.text
Hostname(config)# username test permission rwx /
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.77 username export

Function

Run the **username export** command to export user information to a text file.

Syntax

username export *filename*

Parameter Description

filename: Name of the file used to save exported user information.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example exports user information to the **user.csv** file.

```
Hostname> enable
Hostname# username export user.csv
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.78 username import

Function

Run the **username import** command to import user information from a text file.

Syntax

username import *filename*

Parameter Description

filename: Name of the file to be imported.

Command Modes

Privileged EXEC mode

Default Level

1

Usage Guidelines

N/A

Examples

The following example imports user information from the **user.csv** file.

```
Hostname> enable
Hostname# username import user.csv
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.79 write

Function

Run the **write** command to save system configurations (running-config) to a specific position.

Syntax

write [**auto-save interval** *interval-time* | **memory** [**auto-save interval** *interval-time*] | **terminal**]

Parameter Description

auto-save interval *interval-time*: Sets the interval for automatic saving in seconds. The range is from 600 to 86400. The default value is **3600**.

memory: Writes system configurations to the NVRAM. It is equivalent to the **copy running-config startup-config** command.

terminal: Displays system configurations. It is equivalent to the **show running-config** command.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If there is a device to save the configuration file, the system automatically creates a specified file and writes system configurations to the file.

In the absence of such a device, for example, as the startup configuration file is specified to be in a portable storage device, such as a USB flash drive or SD card but the device is not loaded during the execution of the **write** [**memory**] command, the system asks you whether to save the current configurations to the default startup configuration file **config.text** and performs corresponding operations.

Examples

The following example saves system configurations to the device.

```
Hostname> enable
Hostname# write
Building configuration...
[OK]
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A